comes rubbed more readily than that of papers made in the European manner from linen and cotton rags.

It is always difficult to decide upon the proper paper for a specific book or piece of printing and there are no set rules to follow precisely. The decision should rest largely upon the typography of the book and the purpose of the volume. Both handmade and machine-made papers have their places in modern printing, and the typographical designer should study carefully the utilitarian and artistic requirements of a book before the final selection of the paper. While handmade paper from a reliable mill may be stronger and more durable than any paper made on a machine, it would not be practical to use it to any extent in modern book work. Handmade paper should never be used merely for its appearance of luxury and splendour, without any thought as to its artistic appropriateness or requirements from a utilitarian point of view.
Chronology of Papermaking, Paper, and the Use of Paper

It would be presumptuous to bring forth a chronology of papermaking without generous reference to the work of that interesting old typographer of Albany, Joel Munsell. It is indeed a tribute to this American printer and publisher that his Chronology of the Origin and Progress of Paper and Papermaking, first issued in 1856, has so long endured and remains an interesting, but not always accurate, compilation to the present day. Joel Munsell was the only American chronicler of the middle of the nineteenth century possessing sufficient vision and foresight to record the happenings in the field of papermaking that occurred during his own lifetime. In many instances he assembled useful and worth-while contemporary information that otherwise would have remained unrecorded.

Joel Munsell was born in Northfield, Massachusetts, in April 1808. His earliest work in the printing craft was as an apprentice in the office of the Franklin Post and Christian Freeman, a newspaper in Greenfield, a thriving town ten or twelve miles south of his birthplace. In 1827, at the age of nineteen, young Munsell, ambitiously seeking a more likely field for his endeavours, crossed the Hudson river to the growing city of Albany. Here he worked as a journeyman printer until 1836, by which time he had acquired sufficient capital to enable him to set up his own printing business. Through diligent work, saving, and a keen interest in and appreciation of the art of typography, rare at that time, Mr. Munsell gradually developed his printing office into one of the most successful concerns in Albany. In 1839, when Munsell was but thirty-one years of age, he wrote his first book, Outline of the History of Printing, followed in 1850 by his Typographic Miscellany. Six years later came his well-known Chronology of Paper (1856), with enlarged editions in 1857, 1864, 1870, and 1876. Mr. Munsell
died on January 15, 1880, aged seventy-two. His extensive collection of books on the subjects of printing and local history were acquired by the State Library.

Joel Munsell's *Chronology of Paper* in its various editions has to a limited degree influenced the form of the present chronology, and, after verification, a few of his entries, especially covering his own period, have been incorporated. For the most part, however, this compilation has not drawn upon Munsell or any other chronology, but is the result of personal research in books, pamphlets, contemporary newspaper and magazine files, patent records, local histories, manuscripts, letters, and documents; also through many years of correspondence with old-time American and European papermakers whose memories have retained interesting information and anecdotes relative to their beloved craft.

The present chronology does not profess to be complete in all phases of papermaking; the foremost intention has been to enumerate the important steps in the development of this craft without resorting to incidental material that has little relation to papermaking technique, paper history, and the use of paper. To a great extent the material comprising this chronology has been suggested by the foregoing text in this book; where many of the entries will be found enlarged upon in accordance with their individual importance.

**B.C.**

2700 Chinese characters conceived; Ts'ang Chieh credited with the invention.

2200 Prisse manuscript on papyrus, probably the oldest Egyptian document. *The Great Harris Papyrus*, in the British Museum, measuring 133 feet in length and 16 inches in breadth, is one of the largest in the world. It is dated in the XXXIIIrd year of Ramses III, Epiph 6 (April 14). Papyrus is a built-up, laminated material and should not be confused with true paper, which was not invented until about A.D. 105.

1400-1300 The earliest actual evidence of writing in China is the incised divination bones discovered in Hunan Province.

**A.D.**

82 The Chinese philosopher Wang Ch'ung wrote: "Bamboo is cut into cylinders, which are split into tablets. When brush
and ink marks are added we have writing—the classics being inscribed on long tablets, the historical records on shorter ones. The long bamboo tablets measured about twenty inches.

The Chinese dictionary, Shuo-wén, described books written upon narrow strips of wood held together by cords, in the manner of a Venetian blind. The third-century lexicon Shih ming likens the arrangement of the strips of wood to the teeth of a comb.

During the period of Chien-chu, T’sai Lun was made one of the Imperial Guard. Later Ho Ti (A.D. 89–105) appointed him privy councillor and it was during his reign that T’sai Lun, A.D. 105, announced the invention of papermaking to the Emperor. The paper was made from mulberry and other barks, fish nets, hemp, and rags.

Paper used in lieu of metal coins for placing in the tombs of the dead; the beginning of the use of “spirit-paper,” used to the present day in Chinese ceremonial and religious rites.

According to a work compiled by Yu Shih-nan (A.D. 558–638), a scholar, T’sui Yuan, A.D. 142, wrote: “I send you the works of the Philosopher Hsi in ten scrolls—unable to afford a copy on silk I am obliged to send you one on paper.” This would suggest that by thirty-seven years after the invention of paper this substance was cheaper than silk, a writing material previously used.

Papermaking improved by Tso Tzu-yi, after its invention by T’sai Lun.

Paper dating from this period found in the Great Wall of China by Sir Aurel Stein. Made from rags.

Text of Chinese classics cut in stone, which later gave impetus to the stone rubbings, a form of printing.
A.D. 470 The History of the Later Han Dynasty (A.D. 25-221), written about A.D. 470, states: "From this time on it [paper] was used universally." Other references likewise attest that the making and use of paper spread rapidly throughout China.

575 Introduction of Taoist seal charms, or temple blocks, used in the same manner as the smaller seals. This was the second step in the art of printing following the use of the small seals. Genuine wood-block printing remained to be conceived.

610 Papermaking introduced into Japan from China, the country from which Japan received all of her cultural and artistic development.

627-49 Between these dates was made the earliest inscription extant from a stone monument. Found in 1901 at Tun-huang by M. Paul Pelliot. This rubbing on paper dates from the period of T'ai Tsung of the T'ang Dynasty.

650 Chinese Buddhist monks experimented with the duplication of images by the use of rubbings, charm blocks, stencils, and textile prints. These experiments were the forerunner of true block printing in the ninth century.

Earliest use of paper in Samarkand, the paper imported from China, the world's most highly developed Empire.

674 A Chinese edict made it compulsory to use a toxic substance rendered from the berries of the Phellodendron amurense, commonly known as the Amoor cork tree, for the colouring of certain types of Chinese paper. Paper so treated was immune to the ravages of insects.

700 About this time a few papers began to be sized: first with gypsum, followed in succession with glue or gelatine made from lichen, then starch flour and other sizing agents rendered from grains.

A.D. 707 Earliest use of paper in Mecca, the material brought from the seat of its invention, China.

751 In this year paper was made in Samarkand, the first place outside China to understand the secrets of the craft, revealed by Chinese prisoners of war.

770 The earliest instance of text printing upon paper, the million printed dhārāni of the Empress Shōtoku. The paper was made from hemp and the blocks used in the printing may have been of wood, metal, stone, or porcelain. A number of the dhārāni are still extant, but no printing block used in this work has ever been found. While the work was actually executed in Japan, it was accomplished under Chinese influence and therefore this earliest of all text printing upon paper should be regarded as almost purely of Chinese origin.

793 Paper fabricated for the first time in Baghdad, introduced by Harūn-al-Rashid (766-809), who acquired skilled artisans from China for the purpose.

800 Earliest use of paper in Egypt, probably imported from Samarkand or Baghdad.

Egyptian paper of the Erzherzog collection, Vienna, dating from A.D. 800-1388, examined in 1935 by Dr. Karabacek and Dr. Weisner, found to contain rags. Until the discovery of Chinese rag paper in 1904 by Dr. Stein it was generally believed that the use of rags in papermaking was originated by the Arabs of Samarkand.

807 Paper made for the first time in Kyōto, the art centre of Japan.

About this time, during the reign of Emperor Hsien Tsung of the T'ang Dynasty, it is recorded in Chinese texts that paper money was used, termed "flying-money." No genuine
notes of this issue are known; there is nothing to indicate that the notes were produced by printing and it is possible they may have been in manuscript, if they actually existed.

The earliest printed book, the Diamond Sutra, printed by Wang Chieh. The book was found at Tun-huang by Sir Aurel Stein. The roll, the original form of true Chinese book, is sixteen feet in length. The Diamond Sutra was first printed in Japan in 1157.

Arab travellers in China report having seen toilet paper in use in that country during the ninth century.

An Egyptian letter of thanks dating between this year and 885 closes with these words: "Pardon the papyrus." Inasmuch as the letter is written on a handsome piece of papyrus it is inferred that the apology was made for not making use of paper, this substance having but lately been introduced into Egypt.

For the first time block prints are mentioned in literature, by Liu Pin, who had examined specimens of wood-block printing in Szechwan.

True paper made in Egypt for the first time, the methods of the Chinese employed.

Feng Tao began his large-scale printing of the Chinese classics.

Earliest use of paper in Spain.

About this time the Chinese made use of the first folded books. Previous to this period only rolled books had been used in China.

The block printing of Confucian classics as ordered by Feng Tao completed after twenty-one years of labour. With this impetus the craft of printing began on a much larger scale than at any previous time.

During the Sung Dynasty (A.D. 960–1126) the highest development of printing took place, with a perfection of technical excellence never surpassed. All forms of literature were printed and much of this fine work remains in public and private collections.

Earliest recorded mention of playing cards, China.

The printing of the Buddhist Canon, comprising 130,000 pages. This was the Tripitaka, the three divisions or "baskets" of Buddhist scriptures: Discipline, Discourses, Metaphysics (China).

Printing of the great dynastic histories, during the period of the Sung Dynasty.

By this date the amount of paper money in circulation in China had reached a total of 1,130,000 tao. A tao was a string of 1,000 cash, equivalent to about thirty cents in United States money, but having a far greater buying power. In 1022 there was an additional issue of 1,130,000 tao.

The manuscripts Charibiu-el-Hadith and Umdet-el-Kuttab and others were written from the ninth to the twelfth century and are probably the earliest compilations to deal with paper. The material in these ancient manuscripts throws but little light on the actual technique of early paper-making.

The Persian traveller Nasiri Khosrau, on a visit to Cairo, was astonished to see "sellers of vegetables, spices, hardware, provided with paper in which all they sold was im-
mediately wrapped up, if it were not so already." Probably the earliest recorded instance of "packaging," so much in evidence today.

About this time waste paper was repulped and again used as material for papermaking. In Japan the paper made from this material was known as Kamiya-gami.

1041–9 Invention of movable type in China by Pi Shêng. The Chinese language with its myriad characters did not lend itself to the use of movable type and therefore the invention had but little use in China.

1100 Su Tung-p’o (A.D. 1036–1101) recorded that bamboo was used as a papermaking material in China.

The earliest instance of papermaking in Morocco, having been introduced from Egypt.

First use of paper in Constantinople.

1102 Earliest use of true paper in Sicily.

1109 Earliest existing European manuscript on paper, a deed of King Roger, written in Arabic and Greek, Sicily.

1116 The Chinese made use of the first stitched books, printed on one side of the paper with "French fold," sewed with linen and cotton thread.

Earliest of the Buddhist printed books in Chinese and Tangut, found at Kara-Khoto, Mongolia.

1140 A physician of Baghdad writes of the source of the wrapping paper used by the grocers: "The Bedouins and fellahs search the ancient cities of the dead to recover the cloth bands in which mummies were swathed, and when these cannot be used for their own clothes, they sell them to the

mills, which make of them paper destined for the food markets." (See: 1855.)

1147 According to legend Jean Montgolfier on the Second Crusade was taken prisoner by Saracens and forced to labour in a Damascus paper mill. He is supposed to have returned to France and in 1157 set up a papermaking establishment in Vidalon. (See: 1189.)

1150 El-Edrisi said of the Spanish city of Xàtiva (now Jávea or S. Felipe de Játiva): "Paper is there manufactured, such as cannot be found anywhere else in the civilized world, and is sent to the East and to the West."

1151 A stamping-mill for the maceration of rags for papermaking was put in operation in Xàtiva, Spain. This type of mill was adopted from the Orient and was used in Europe until the invention of the Hollander. (See: 1650.)

1154 First use of paper in Italy, in the form of a register written by Giovanni Scriba, dated 1154 to 1166. It is thought that this particular paper had been imported from the East. No other specimens of paper are found in Italy until 1276, the date of the first mention of the Fabriano paper mills.

1189 The date usually given as the commencement of papermaking in France, in the town of Lodève, in the department of Hérault. This assertion is now considered an error and was based on an incorrect translation and a mistaken date. (See: 1348.)

1221 Emperor Frederick II (A.D. 1194–1250), King of Naples and Sicily, prohibited the use of paper for public documents, but the edict was not entirely effective.

1228 Earliest use of paper in Germany.

1250 Block printing executed in Egypt. The existing prints show Chinese influence.
1276 First mention of the Fabriano, Italy, paper mills.

1282 Watermarks used in Europe for the first time. They consisted of simple crosses and circles (Italy).

1285 Earliest use of the fleur-de-lis as a watermark in paper. Shortly after this date initials of the papermakers appeared in watermarks.

1293 First paper mill in Bologna, Italy.

1294 Paper money issued at Tabriz, Persia, in Chinese and Arabic texts.

1298 After visiting China, Marco Polo wrote regarding the paper money he had seen in use in that country. Paper money was the first form of printing seen by European travellers, and at least eight pre-Renaissance European writers mentioned it. The description given by Marco Polo was the most comprehensive and most widely read.

1300 Use of wood type near the borders of Turkestan by Uigur Turks. A font of type of this kind in the Uigur language was found in Tun-huang by M. Pelliot.

1309 First use of paper in England.

1319-27 Earliest use of paper money in Japan. The Japanese notes were smaller than those of China, being about 2 by 6 inches. This paper money was secured by a gold or silver or other metallic reserve.

1322 Usually given as the date of the first use of paper in Holland. According to J. H. de Stroppelaar (Het Papier in de Nederlanden Gedurende de Middeleeuwen, Inzonderheid in Zeeland, Middelburg, 1889), the oldest paper found in the archives of Holland is dated 1346, and is preserved at The Hague.

1337 Probably the earliest use in Europe of animal (gelatine) sizing for paper.

1348 Under this date it is recorded that a paper mill was established in the Saint-Julien region near Troyes, perhaps the earliest mill in France.

1368 Many specimens of Chinese paper money of this period (Hung Wu, Ming Dynasty, 1368-98) are in American collections, as this was apparently the most abundant issue. These notes measure 8% by 13% inches.

1390 The King of Korea ordered the establishment of a typefoundry.

First paper mill in Germany, established by Ulman Stromer, Nürnberg. A woodcut of this mill is given in Schedel's Nürnberg Chronicle, 1493. The watermarks of the Stromer mill consisted of the letter "S" and the arms of Nürnberg. Before the commencement of this mill the paper used in Germany was imported from Italy. The first recorded labour strike in the paper industry took place in the Stromer mill. The earliest recorded labour strikes in the printing industry occurred in France, dating from 1339.

1403 Movable type produced in the royal typefoundry, Korea. Specimens of this type are in the museum in Seoul.

1405 In Flanders a papermaker named Jean L'Espagnol mentioned at Huy, probably the first maker of paper in this locality.

1409 Earliest known book printed in Korea from movable type.

1420-70 Papermaking introduced into Kashmir, India, from Samarkand, by King Zanulabin, popularly known as Buhshah.
1420 The second fount of movable type produced in Korea.

1423 The beginning of block printing in Europe, by use of the ancient Chinese technique. Image prints and playing cards were printed from wood-blocks and coloured by hand.

1434 The third fount of movable type produced in Korea.

1450 The earliest known use of an “ex libris,” a bookplate or label printed upon paper and pasted in the front of books to show ownership.

1465 Earliest mention of blotting paper in the English language. The following reference to blotting paper appears in Horman’s Vulgaria: “Blotting paper serveth to drye wette wrytyng, lest there be made blotts or blurris” (1519).

1470 A bookseller’s advertisement issued by Peter Schöffer is considered to be the first printed poster upon paper to be produced in Europe.

1482 Venetian papermakers separated the initials of the papermaker from the device or symbol of the watermark; introduced in France about 1567.

1486 The unknown schoolmaster printer of St. Albans issued the first English book printed on paper in which coloured inks were used in the illustrations: The Bokys of Hauking and Huntyn by Juliana Berners.

The earliest European book to use folding plates was probably Breydenbach’s Peregrinationes, the woodcuts by Erhart Reuwich, Mainz.

1487 By this year almost every country of Europe had adopted printing, and large quantities of paper were consumed in the printing of books.

1491 The first paper mill in Poland, in Prądnik Czerwony, near Kraków. The finest paper of Poland was made by Frédéric Szaling in Prądnik Duchacki about 1495; another mill was located in Poland’s second capital, Wilno, in 1522. The first Warsaw paper mill was set up in 1534 on the river Dona in Caj Králewski, near the present Powazki, a Warsaw cemetery. By the year 1546 there were thirty-five paper mills in Poland. (Lucia Merecki Borski.)

1493 Nürnberg Chronicle issued by Schedel, a pictorial history of the world embracing 645 woodcuts of 1,809 subjects. In the double-page delineation of the city of Nürnberg is shown a small picture of the Ulman Strome paper mill (lower right corner). This was the first picture of a paper mill to be used in a European book. (See: 1390.)

1495 First paper mill established in England, by John Tate, in Hertfordshire. The first printer to make use of Tate paper was Wynken de Worde in the English edition of Bartholomaeus: De proprietatibus rerum, 1496.
CHRONOLOGY OF PAPER AND ALLIED SUBJECTS

A.D.

1497 Paper used for the first time in producing a guide-book, Mirabilia Romei, printed in Rome by Stephen Plancck, the most prolific printer of Rome in the fifteenth century.


1521 The earliest recorded use of rice straw in Chinese papermaking.

1535 The first complete Bible in English, Myles Coverdale’s translation, probably printed in Zürich by Christopher Froschover. In an examination of eleven copies of this Bible ten different watermarks are found: seven forms of a large crown, one small crown, and two bull’s-heads, one with snake and the other surmounted by a rose of bliss. The first Bible to be actually printed in England dates from 1537.

1540 The glazing- or pressing-hammer introduced in Germany, taking the place of the old method of burnishing the paper by hand in the Oriental manner.

1545 The earliest use of paper in issuing a book catalogue, Bibliotheca Universalis, printed by Christopher Froschover, Zürich.

1549 The Spanish missionary Diego de Landa, of the Monastery of Izamal, Yucatán, burned the library of the Mayas in Mani. According to Dr. Victor Wolfgang von Hagen (The Aztec and Maya Papermakers, New York, 1944), the Mayas were making a sort of bark paper as early as the ninth century of our era.

1550 Earliest use of “smalts” in colouring paper blue. Prussian blue was discovered by Diesbach in 1704; ultramarine has been made since 1790, and synthetic ultramarine was first made commercially by Guimet in 1828.

1565 Jacques Besson in his book dealing with mathematical instruments shows for the first time in Europe a theoretical design of a stamping-mill for the maceration of paper stock.

1568 The date of the first delineation of a papermaker at work to appear in Europe, the picture by Jost Amman with a short poem by Hans Sachs. This book of trades was published in Frankfurt in 1568, with an edition in Latin in 1574. The first edition (German) contains 115 cuts of trades and callings and the later edition 192 woodcuts.

1570 About this time the earliest extra-thin papers were produced in Europe.

1575–80 According to Relación del pueblo de Culhuaçán desta Nueva España, written January 17, 1580, the first paper mill in Mexico was established in Culhuaçán, it being “a mill with a hammer in which paper was made.” This reference was probably made to the concession granted by royal deed to Hernán Sánchez de Muñón and Juan Cornejo, and dated at the Forest of Segovia on June 8, 1575, to “manufacture paper in New Spain, utilizing material they had found.” A twenty-year privilege was granted these papermakers. The location of the village of Culhuaçán is southeast of Mexico City in the Federal District at the foot of Estrella Hill. At the present time nothing remains of the first paper mill of Mexico.

1576 The first paper mill in Russia was probably established in Moscow this year.
1580 First commercial pasteboard manufactured in Europe. In China and Persia, board of this kind had been made centuries earlier.

1586 The earliest mention of national papermaking in Holland was contained in a decree authorizing Hans van Aelst and Jan Luipart to manufacture paper near Dordrecht.

1588 John Spilman, a German, one of the goldsmiths to Queen Elizabeth, established a paper mill in Dartford, Kent, England. In 1589 Spilman was granted a patent which gave him a monopoly in the collecting of rags and the making of paper in the Kingdom.

1589 European printing introduced into China by Jesuit priests. In 1591 Japan received printing from the West for the first time.

1590 Approximate date of the introduction of Persian marbled papers into Europe. The first papers were of the “fine-combed” variety.

1591 Newly discovered records show that the first paper mill in Scotland was established at Dalry, near Edinburgh, by Mungo Russell and his son Gideon, assisted by Michael Keysar and John Seilgar, Germans, probably papermakers.

1592 Paper used in printing the earliest typefounder’s specimen sheet in Europe, issued by Egenolf-Berner foundry, Frankfurt am Main.

1593 Earliest European type printing in the Philippine Islands, two books issued by the Dominicans. The paper came from Spain.

1595 About this time the first “paste papers” (papers decorated by the use of coloured rice paste) were in use in Germany, France, and Italy. Paste papers made their initial appearance in America about 1750.

1597 Mitsumata (Edgeworthia papyrifera) first recorded used in Japan as a fibre for making paper.


1609 The earliest newspaper with regular publication dates, Avisa Relation oder Zeitung, published in Germany. The first English newspaper was issued in London in 1622. The earliest Russian newspaper appeared in 1703.

1610 Papermaking at Wookey Hole, Wells, Somerset, recorded for the first time. The W. S. Hodgkinson and Company mill, one of the five surviving handmade-paper mills in England, is an outgrowth of this original establishment.

1630 Paper cartridges first used by Gustavus Adolphus (1594–1632), King of Sweden from 1611 to 1632.

1634 The first book to appear in China in which the art of papermaking is treated in both text and illustrations: T'ien kung k'ai wu, by Sung Ying-hsing.

1636 E. and R. Greenbury granted the first English patent for the decorating of “paper for hanging.”

England visited by a plague thought to have been brought into the country through linen and cotton rags imported by the papermakers.

1650 Printed papers of the "all-over" pattern in various colours and used in the binding of books were in use in Germany and Italy.

1661 First New Testament printed in America, John Eliot’s translation into Algonquin, printed at Cambridge, Massachusetts, by Samuel Green and Marmaduke Johnson. The Old Testament was issued in 1663, the two making the first Bible printed in this country. The paper was of European manufacture.

1662 The publication in England of Thomas Fuller’s The History of the Worthies of England, in which the author outlines his unique observations relative to English, Dutch, and Italian papers. (The reference to paper will be found on pages 144 and 149, the latter number being a misprint for 145.) The great work on machinery issued by Georg Andreae Böckler, Nürnberg, gives a delectable engraving of a papermaker at work and a good rendering of a stamping-mill operated by water-power, the latter founded on the Zonic engraving of 1607.

1665 The first English patent pertaining to papermaking was granted Charles Hildeyard: “The way and art of making blew paper used by sugar-bakers and others.” The second English patent was given Eustace Burney in 1675, the specification reading: “The art and skill of making all sorts of white paper for the use of writing and printing, being a new manufacture and never practiced in any way in our kingdoms or dominions.”

1666 To save linen and cotton for the papermakers a decree was issued in England prohibiting the use of these materials for the burial of the dead; only wool could be used for this purpose. In England at this time 200,000 pounds of linen and cotton were saved annually in this manner.

1678 William Rittenhouse, who established the first paper mill in America, was working as a papermaker in Amsterdam, Holland, at this time.

1679 The first “Dutch gilt” papers, originated in Germany, imported to the New World.

1680 The “Hollander,” or beater, used in the maceration of materials for making into paper, invented in the Netherlands.

1682 Johann Joachim Becher recorded for the first time a brief description of the “Hollander” as he had seen it used in Serndamm, Holland.

1683 The earliest treatise on typefounding, Mechanick Exercises, by Joseph Moxon (1627–1700), published in London.

Birth of René Antoine Ferchault de Réaumur, the French scientist who first suggested (1719) the use of wood as a papermaking fibre. Réaumur’s observations were made after a study of the wasp in making its nest, a form of paper. Réaumur died in 1757.

1687 Earliest use of ochres, umbers, and vermilion in the colouring of European paper.

1690 First paper money in the colonies, issued by Massachusetts Bay Colony. The next locality to issue paper currency was South Carolina, in 1703; followed by New York, New Jersey, and Connecticut, 1709; Pennsylvania, Delaware, and New Hampshire, 1723; Maryland, 1733; North Carolina, 1748; Georgia, 1749. The first “greenback” paper money appeared February 25, 1862.

William Rittenhouse established the first paper mill in British America, near Germantown, Philadelphia, Pennsylvania. (See text for description.)
On November 6 a patent was granted to Nathaniel Gifford, England, for "a new, better, and cheaper way of making all sorts of blue, purple, and other coloured paper." The first English patent pertaining to the colouring of paper.

The earliest reference to the Rittenhouse paper mill appeared this year, a poem of twenty-six lines compiled by Richard Frame, published in Philadelphia by William Bradford, a partner in the establishment of the mill.

Father J. Imberdis, Claromonti, a Jesuit priest, wrote his curious observations on papermaking as carried on in Ambert in Auvergne: Papyrus sive Ars conficiendi Papyri.

According to the Case of the Paper Traders there was produced in England 28,000 pounds' worth of paper; at this time there were 100 paper mills in England as recorded in the same report.

John Holme wrote twelve lines of verse about the art of papermaking in America; the verse was not published until 1847.

At this time William Bradford, Philadelphia printer, arranged to purchase paper from the Rittenhouse mill at ten shillings sterling a ream. This price prevailed in this country until as late as 1750.

The Boston News Letter established in Boston by John Campbell, the earliest permanent newspaper in America.

The second paper mill in the colonies set up by William De Wees, an outgrowth of the original Rittenhouse mill, established in 1690 near Philadelphia. (See text.)

In Bavaria the Hollander superseded the old stamping-mill for the maceration of rags for papermaking.

Peter the Great (1672–1725), Czar of Russia, visited Dresden and after seeing paper being made in the Schuchart mill procured workmen in Germany and returned to Moscow, where he established the first extensive paper mill in Russia. By 1801 there were twenty-three paper mills in the Russian Empire.

Invention and patent of a typewriter for "transcribing of letters, one after another, as in writing on paper." The patent was issued in England, January 7, to Henry Mill.

Death brought to a close the unworthy pursuits of John Bagford (1675–1715), who, during his day, was supposed to be the greatest authority on paper who had ever lived. Bagford gathered his specimens of early paper and printing by mutilating books and documents in public and private libraries. In 1707 he proposed a history of papermaking and printing, but his work was not published. Some of the material that this "wicked old biblioclast" had filed is now in the British Museum under the title of "Bagford's Collectanea," numbered 5891–5988.

Birth of Jacob Christian Schäffer, the German clergyman who between 1765 and 1772 was destined to make use of more than eighty different vegetable fibres in the fabrication of paper. Schäffer died 1790.

The first illustration of the Hollander to appear, in the work by Leonhardt Christoph Sturm, Vollständige Mühlen Baukunst, published in Augsburg. The first Hollander used in Germany was set up in this year.

First coloured printing (red and black) accomplished in America, by Andrew Bradford, Philadelphia.

Establishment of American Weekly Mercury, Philadelphia, the first newspaper in Pennsylvania.
Pressing-hammers gave way to wooden glazing-rolls for finishing paper with a smooth surface.

During this year Great Britain produced 300,000 reams of paper, averaging 2 pounds 10 shillings a ream.

First English patent for "staining, vaining, spotting, and clouding paper in imitation of marble, tortoiseshell, etc.," granted to R. Redrich and T. Jones.

From this year to the present day Messrs. Portal have manufactured the paper upon which the Bank of England notes are printed.

Between this year and 1730 Ernst Brückmann, a German, published his work on geology in which part of the paper used was made from asbestos.

The beginning of papermaking in the state of New Jersey is more obscure than that of any other Eastern state, but the first paper was probably made in Elizabethtown between this year and 1738. The owner of the Elizabethtown mill was William Bradford (1663–1752), the son of a London printer, also named William. The younger William did not learn the trade of printing in his father's shop, but in the London establishment of Andrew Soule, a Quaker, who during young Bradford's apprenticeship printed a book entitled The Frame of the Government of Pennsylvania in America. It was probably the influence of reading this book that led young Bradford, when nineteen years of age, to join William Penn's group in emigrating to the New World. Bradford evidently laid his plans well, for after a few years in America he returned to London and married Soule's daughter Elizabeth; he and his bride came to the country of his adoption in 1655. This same year William Bradford, when but twenty-two, executed the first printing in Pennsylvania. It was only natural that young Bradford, being engaged in printing, became associated with William Rit-
1728 The year of the establishment of the first paper mill in the state of Massachusetts. This mill was located in the town of Milton on the bank of the Neponset River, near Boston. The mill building used in this undertaking had originally been the Joseph Belcher textile mill, constructed about 1717. The paper company, composed of prominent Boston men, secured a lease on this mill, and after it had been equipped with appliances for papermaking, operations commenced under a "grant for the encouragement of a Paper Mill," passed by the General Court of Massachusetts, September 13, 1728. The five men who made up the company were Daniel Henchman, Gillam Phillips, Benjamin Faneuil, Thomas Hancock, and Henry Deering. Henchman, the leader of the group, was a well-known bookseller and publisher, with a shop in Cornhill, Boston. Hancock was also in the bookselling and publishing trades, with his headquarters in Anne Street. He had served his apprenticeship with Henchman and had learned the craft of bookbinder, but what was probably more important, he married Henchman's daughter, Lydia. Of the other members of this papermaking company, Benjamin Faneuil was the father of Peter, who built Faneuil Hall in 1740 and presented the building to the town of Boston; Gillam Phillips was a brother-in-law of Peter Faneuil. Henry Deering was the superintendent and agent of the mill, but nothing is known of his previous experience in making paper. The foreman of the mill was Henry Woodman, who had learned his trade in his native England. This newly established company was given the sole right to manufacture paper in Massachusetts provided the proprietors lived up to certain productions of paper that were set down in the agreement. The mill continued without interruption until 1737, when Woodman, the foreman, severed his connection with the company. Also, Deering, the superintendent, wished to engage in other work, so the owners of the mill secured Jeremiah Smith, an Irishman, to become overseer, although Smith was not an experienced papermaker. In the place of Henry Woodman, an Englishman named John Hazleton was made foreman. By diligent work and perseverance Jeremiah Smith eventually became sole owner of the mill as he, little by little, acquired the interests of Henchman, Hancock, Phillips, and Faneuil. In 1741 Smith was able to purchase the mill building and real estate from the heirs of Joseph Belcher. It would appear that Smith acquired the title to the mill and equipment, as well as ownership of the company, through prudent management rather than from any great financial success of the undertaking. For the most part only coarse paper of a common kind had been produced, as the early printers of Massachusetts relied upon the more developed paper industry of Pennsylvania, also Europe, for their book-printing. The greatest difficulty experienced by Smith was in procuring adept papermakers who could mould even sheets of usable paper. It was not until about 1760 that Richard Clark, a skilled English worker, was induced to take over the management of the Milton mill, and with the making of better paper than had previously been produced, the mill commenced to enjoy considerable prosperity. In 1768 Daniel Vose, a son-in-law of Jeremiah Smith, was permitted to purchase a half interest in the mill, and six years later Vose acquired the other half, Jeremiah Smith retiring on a substantial fortune he had amassed through almost forty years' connection with the paper mill.

The invention by Claude Genoux, a French printer, of the papier-maché, or wet-mat, stereotyping process.


1731 The renowned James Whatman paper mill established in Kent this year. Many of the original mill properties along the river Lea had been used as cloth mills, but when the cloth trade ceased to be profitable, the buildings were taken over for the making of paper. As early as 1719 one of these converted mills was used for making brown paper, another
for the production of white paper; both mills belonged to William Gill, who in 1731 sold them to James Whatman and W. Brookes. Eight years later Whatman became the sole owner and it was not many years before the watermark "J Whatman" was known throughout the world. Whatman rebuilt the mills and gave them the name "Turkey Mills," a trademark that he took from the old fulling cloth mill, which made a richly coloured cloth, called Turkey red. In 1830 this mill was operating nine cats, but on November 14, 1849 the old hand process was abandoned and the Turkey Mills were devoted exclusively to making paper by machine. The Turkey handmade-paper trade was then carried on at the Springfield mill, near Maidstone, Kent, where the number of vats increased from twelve in 1860 to sixteen in 1880. At the present time the well-known "J Whatman" drawing, engineering, water-colour, writing, and account-book papers are made by W. and R. Balston, and about four hundred workers are employed at this handmade-paper mill, the largest in England.

Samuel Pope granted an English patent, May 20, for "a new art for marbling paper with a margent [margin] never practiced by any person whatsoever before he invented it."

1733 The discovery of China clay by William Cooksworthy, England. Clay was first used in "loading" paper about the year 1807; by 1870 this method of "loading" was a common practice.

1734 The Hollander pictured for the first time in the country of its invention, in Groot Volkomen Moolenboek, published in Amsterdam.

The probable beginning of papermaking in the state of Maine. Between 1731 and 1734 Jonathan Belcher (1681–1737), colonial Governor, reported to the Lords of Trade that a paper mill had been established at Falmouth, in Casco Bay, now Portland, Maine. Samuel Waldo and Thomas Westbrook no doubt supplied the capital for the enterprise, and Richard Fry, who had learned the craft of papermaking in his native England, was in charge of technical operation. The workers were also English, probably friends of Fry. The mill was either located "across the Presumpscot River" or on the banks of the Stroudwater, a small brook near Falmouth, according to latter-day records. The work of this pioneer paper mill of Maine is obscure and for the most part the only contemporary records that exist are documents relating to lawsuits that were brought about by debts contracted by the papermaker, Richard Fry. In 1734 Waldo and Westbrook leased the mill to Fry for twenty-one years at an annual rental of forty pounds. Richard Fry continued to operate the mill until 1736, but in lieu of rent he delivered to the mill-owners fifty reams of paper, valued at ten pounds, sufficient to pay the rent for only a quarter year. The non-payment of rent brought on a lawsuit against Fry, which resulted in the English papermaker spending the following several years in a debtor's prison. After this incarceration he apparently took up business in or near Boston, as is evidenced by advertisements for rags. Richard Fry died in 1745, and in administering his estate his wife, Martha, described herself as a "papermaker," so we may assume that Fry was engaged in this craft until his death. No watermarks that can be identified as having been used by the pioneer paper mill of Maine can be found. A search through the personal papers of Samuel Waldo from 1731 to 1750 reveals no watermarks of local origin; most of the marks are of English and Dutch paper mills.

Between this date and 1765, there was published in Amsterdam a four-volume set of books by Albert Seba (1665–1736), Flemish writer on natural history, in which he suggested the use of Alga marina (seaweed) as a material for making into paper.

1735 The original English patent for the fireproofing and waterproofing of paper, granted Obadiah Wyld, March 17.
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1736 The fourth paper mill in Pennsylvania, established by a branch of the Pietists of Germany, at Ephrata, Lancaster County. (See text for description.)

1737 The earliest advertisement for foreign wallpaper to appear in America; the material was termed "stained-paper" and sold by the booksellers. Previous to this date wallpaper was not commonly used in this country. In 1763 decorated wallpaper of domestic manufacture was presented to the Society of Arts, Manufactures, and Commerce, New York. Twenty years later there were wallpaper printers in Pennsylvania and New Jersey; the large output of Boston supplied Massachusetts as well as other states. In 1789 Philadelphia was making 10,000 pieces a month. The first patterns with glazed grounds were produced in the United States in 1824. Previous to the invention and introduction of the paper-machine which made paper in a continuous web, all wallapers were printed on individual sheets as formed in the hand-mould, or the sheets were pasted together at the edges to form larger sheets.

1740 The first papermaking moulds produced in the colonies, the work of Isaac Langle, an immigrant from Germany, living in Pennsylvania. Langle died 1744.

French laws set down the sizes and weights, also the watermarks, of paper to be sold. The list embraced 53 different names, and with additions like Large, Small, Medium, etc., the total amounted to 85 sizes of paper.

First use of the Hollander in France, at Montargis.

1741 Jean Etienne Guettard (1715-56), French scientist, suggested the use of coniferous (swamp moss) and other forms of vegetation as suitable material for papermaking.

1743 America's earliest complete Bible in a European language published in German by Christopher Sauer, Germantown.

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Pennsylvania. It is thought that at least a portion of the paper used in this printing was made in the mill conducted by the Seventh-Day Baptist brotherhood at Ephrata, Lancaster County, Pennsylvania, established about 1736.

1744 The date of the establishment of the first paper mill in the state of Virginia. The earliest mention that paper should be a product of this colony was in a book by the Reverend Hugh Jones, published in London in 1724, entitled Present State of Virginia. Jones wrote: "Paper-Mills I believe would answer well there; for there are good Runs of Water with Timber for nothing for building them, and I am sure the Negroes would supply them with Rags enough for Trifles; to which add the Advantage of Water Carriage; these need not interfere with the English Paper-Mills, but only supply us with such Quantities of Paper, as we buy from foreign Countries." It was not until 1742, however, that plans for the building of a Virginia mill were actually commenced, for in the Pennsylvania Gazette, September 23, 1742, we find the following advertisement: "An honest and diligent Person, that is capable of building a good Paper-mill, and another that understands the Making of Paper, are wanted to undertake and carry on that Business in a neighbouring Colony. Any such Persons that want Employment, will meet with a Person who will give good Encouragement, if they apply to the Printer of this Paper on the 25th Instant." The Pennsylvania Gazette was founded by Samuel Keimer during the month of December 1728, but by October 1729 Benjamin Franklin had become owner and editor of this influential newspaper. It was no doubt Benjamin Franklin who inserted the "help wanted" advertisement in the Gazette with the hope of finding a papermaker who was capable of erecting a paper mill in Williamsburg, Virginia; the mill was to make paper for Franklin's friend William Parks, who established printing in the colony in 1730. The notice in the Gazette (September 23, 1742) was answered by a member of a well-known Pennsylvania papermaking family, Johann Conrad Scheetz (Schultz or Shütz), who
eventually travelled to Williamsburg and built the first paper mill in Virginia. Inasmuch as Schetz had returned to Pennsylvania by March 1744, it may be assumed that he had built the mill and placed it in charge of local workers whom he had trained as papermakers. Benjamin Franklin apparently gave considerable attention to the setting up of the Parks mill and during September 1744 he credited the Williamsburg mill with £5.5s. 12d. for delivery of paper, which it may be assumed was produced in the newly established Virginia paper mill. In the Virginia Almanack, for the year 1749, printed and sold by William Parks, the following advertisement for rags appeared: "The Printer thereof; having a Paper-Mill, now at work near this City, desires all Persons to save their old Linen Rags, for making Paper. All Sorts are useful, from the coarsest Crockus or Sail-Cloth, to the finest Holland or Cambric; and he will give a Price in Proportion to the Fineness, from a Half-penny to Three half-pence, per Pound. Old Thread stockings, which can be used no other way, will make good Paper. As this is the first Mill of the Kind, that ever was erected in this Colony, and has cost a very considerable Sum of Money, he hopes to meet with Encouragement suitable to such an Undertaking. Persons who will save their Rags, and send them to the . . . with their Tobacco, may have ready Money for them of the Inspectors, who are requested to take them in." The watermarks used by this paper mill were the arms of Virginia, a harp within a crowned escutcheon, and the initials "W P" either alone or under a crown.

So-called "India" paper first brought to Europe from China during this year. Probably the earliest use of the "India" paper for Bible printing was in 1841, by the Oxford University Press. Paper of this kind was made in England by machine in 1755. Science and Health was first printed on English-made "India" Bible paper in 1894 in an edition of twenty-five copies, by John Wilson and Company, Cambridge, Massachusetts.

Marbled papers, invented in Persia, used in American bookbindings.

1750 First use of cloth-backed paper in Europe, used for maps, charts, etc.

1754 The polishing of paper by the old glazing-stone prohibited in Austria, the pressing-hammer being recommended as a better means of "finishing" paper.

1755 The earliest English printing of gold upon paper for the making of wall hangings. A patent was granted Joachim Andreas Böhre, July 22, for his method of sizing paper to be printed upon in gold and silver.

First definite date of the establishment of the Eynsford paper mill, Eynsford, Kent, England. Here the well-known "Unbleached Arnold" papers are made. A mould-machine was introduced in 1885, one of the earliest machines in England for the manufacturing of imitation handmade papers. The large-size genuine handmade paper used by William Dana Orcutt in printing the monumental edition of Science and Health (1941) was a product of this mill, the sheets measuring 28 by 40 inches.

1757 "Wove" paper used for the first time in European bookprinting. John Baskerville, Birmingham, England, printed his Virgil using the newly conceived type of paper, but paper of this kind had been made in China hundreds of years previous to the rediscovery in Europe.
First forgery of English bank-notes.

It is recorded that Jacob Rittenhouse, of the first American papermaking family, invented slanting plates in the heater for macerating rags. The information is meagre and lacking in technical detail.

On December 2 was born in Paris Nicholas-Louis Robert, the inventor (1798) of the paper-machine.

The first Bible to be printed in America in which American-made paper was extensively employed. This was the Germantown, Pennsylvania, Bible printed by Christopher Sauer, Jr.; the paper was made in the Williamsburg, Virginia, mill of William Parks and is watermarked with "W P" and crown and the arms of Virginia. The page size is 8 by 10 inches and 2,000 copies were printed.

The second great work on typesetting, Manuel Typographique, by Pierre Simon Fournier (1712-68) published in France. (See: 1653.)

John Strange, an English diplomat living in Italy, suggested the use of broom, a fabaceous shrub, and other plants, for papermaking fibre.

George Cummings granted an English patent for the coating of paper. The "coating" was composed of white lead, plaster of Paris, stone lime, mixed with water in such consistency "as to lay on with a brush." This would seem to be the first instance of coating paper in Europe, a method first used by the Chinese.

On March 25, 1764, articles of partnership were signed by John Waterman, printer, his father-in-law, Jonathan Olney, Jonathan Ballou, and William Goddard, printer, for the establishment and operation of the first paper mill in Rhode Island. A mill was built on the Woonasquatucket River, near the present Olneyville, and the making of paper began in 1765. John Waterman, operator of the mill, used as a watermark in the paper the single word "PROVIDENCE" in outline letters. This mark appears in the paper of William Goddard’s Providence Gazette. The Waterman management of the mill eventually passed to the Olney family, and about 1788 Christopher Olney used the watermark "C O L N E Y" in outline lettering. A few years later the paper-mark "C O L N E Y" (Christopher C. Olney) with a foul anchor on a shield (the arms of the state) appeared in the paper made at the mill. In 1790 Samuel and Martin Thurber set up a rival mill in Providence, on the banks of the Moshassuck River. In 1791 the Thurburs were using as a watermark a foul anchor, without a stock, and the initials "S T & Co" in outline letters. (Rhode Island Historical Society.)

The monumental work dealing with vegetable fibres for papermaking was begun by Dr. Jacob Christian Schäffer, and between this year and 1772 his six-volume treatise was issued in Regensburg, Germany.

"A method, entirely new, of dicing, flowering, colouring, or marking playing cards so as to render them easily distinguishable from the white cards now in use"; the earliest English patent pertaining to the decoration of playing cards.

By this year the first paper mill in Connecticut was in operation. The mill, on the Yantic River, Norwich, was owned by Christopher Leffingwell. Apparently the mill did not
prosper, for in 1769 the Connecticut government granted a bounty of twopence a quire on all writing paper and one penny a quire on all printing paper that Leffingwell was able to manufacture. After three years the bounty was discontinued. From the recorded production of this mill it may be assumed that two sets were in operation. Leffingwell, a man of considerable prominence in the state of Connecticut, was also engaged in the weaving of stockings, gloves, and purses. The watermarks used in the Leffingwell paper were the simple initials “C L” in the regulation outline lettering, and a more elaborate watermark with the initials

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C L

NORWICH
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“C L” and “NORWICH” with a floral ornament, all enclosed in a double-line elliptical border measuring 3/4 inches in width. In a Connecticut deed dated 1777 we note the initials had been applied to the mould on which the paper was formed in reverse, making the watermark read: “L C NORWICH,” but this was no doubt a mistake, which was corrected before much paper had been made. Christopher Leffingwell took his son-in-law, Thomas Hubbard, into partnership with him in the operation of the Norwich paper mill. This family later established the firm of R. and A. H. Hubbard, papermakers, and upon the site of the original Leffingwell mill the Hubbard concern set in motion the first Fourdriner paper-machine to be built in America.

1769–73 The precise commencement of the actual making of paper within the state of New York is a subject of controversy. Two different mills claim priority in this manufacture: the paper mill of Hugh Gaine, Hendrick Onderdonk, and Henry Rensel at Hempstead Harbour, Long Island, and the mill of John Keating located in New York City. According to Dr. Lawrence C. Wroth in his excellent book The Colonial Printer (1938), the first proposed plan for a mill in New York State was that of William Bradford, who established a paper mill in New Jersey between 1726 and 1728. On pages 129–30 Dr. Wroth says: “Bradford’s need for paper in the later years of his career as a New York printer was not satisfied by the supplies he continued to obtain from the Rittenhouse and De Wees mills. In 1724, he petitioned the New York Assembly for the sole privilege of making paper in that colony, but adverse to the encouragement of local manufacturers, the Governor and Council refused to admit to a third reading the bill for the establishment of Bradford’s mill that had already passed the Lower House. Bradford was forced to turn his attention elsewhere. . . .” The earliest mention in contemporary New York newspapers of the possibility of papermaking in New York State we find in the New-York Mercury, March 7, 1768, as follows: “This is to give Notice, that there is come to the Place, last Month from England, a Person that knows the Preparation and making of all sorts of Paper, and it appearing to him that that Branch of Business will answer to good Profit in this Place; any Gentleman that has a good and constant Stream of fresh Water, and will erect a Paper-Mill thereon; that the Proposer will go half with him; the Gentleman to receive all the Profits, only subsistence Money, ’till the Proposer’s Half of the Building shall be discharged, also an Allowance for the Water. He may be heard of at Mr. Anneyley’s Gun-Smith, in New-York.” From the tone of this notice it could be inferred that there was no paper mill in the immediate locality at that time. In the New-York Gazette and Weekly Mercury, August 15, 1768, we find this notice: “Thomas Shaw and Nathaniel Sedgefield, lately arrived from England, takes this method of acquainting the public, that they are capable of building most sorts of mills, as grist-mills, paper, and oil-mills. . . .” In the same newspaper for October 31, 1768 an advertisement appears which further shows that there were men in the vicinity capable of erecting paper mills. This advertisement
reads in part: "Dominicus Andler, Wheelwright, from Germany, Acquaints the public, That he can make most sorts of mills, such as grist, oil, fulling, paper, and saw-mills. . . ."

The earliest "save rags" advertisement to appear in a New York newspaper was that of Hugh Gaine in the New-York Mercury for December 17, 1764. This notice, however, makes no mention of paper mills in actual operation and it is possible that the rags were desired for use in New Jersey or Pennsylvania mills. The first "save rags" advertisement of John Keating appeared in the New-York Journal or the General Advertiser, February 18, 1768. Neither the advertisement of Hugh Gaine nor that of John Keating makes any reference to having paper mills in actual operation. It was not until August 17–24, 1769 that John Keating in the New-York Chronicle definitely mentions having a paper mill in operation. This advertisement reads: "The New-York Paper Manufactory. John Keating, Takes this Method to inform the Public, that he manufactures, and has for sale, Sheathing, packing, and several Sorts of printing paper. Clean Linen Rags, are taken in (for which ready Money will be given) by said Keating, at his Store, between the Fly and Burling's slip; and by Alexander and James Robertson, at their Printing-Office. . . ." The first intimation in a New York newspaper that the Long Island mill of Hendrick Onderdonk was in actual operation appeared in the New-York Gazette and the Weekly Mercury, October 11, 1773, as follows: "The printer of this paper [Hugh Gaine], in conjunction with two of his friends [Hendrick Onderdonk and Henry Remsen], have lately erected a Paper-Mill at Hempstead Harbour, on Long-Island, at a very great expense, the existence of which entirely depends on a supply of Rags, which at present are very much wanted; He therefore most humbly intreats the assistance of the good people of this province, and city in particular, to assist him in this undertaking, which, if attended with success, will be a saving of some hundreds per annum in the colony, which has been constantly sent out of it for Paper of all sorts, the manufacturing of which has but very lately origi-
all enclosed within a circle, with the lettering “A Onder
donk” in outline underneath. By the latter quarter of the
eighteenth century, papermaking in and near New York
City had developed to such an extent that it was appar-
etly profitable for wire-drawing firms to advertise that
they were able to supply papermaking appliances. In the July
10, 1775 issue of the New-York Gazette and the Weekly
Mercury we are informed that Richard Lightfoot, from
Dublin, at the Crown and Cushion, makes “. . . pins for
linen printers and paper stampers; laying and sewing wire
for paper makers. . . .” Also, in the Constitutional Gazette
for June 22, 1776, Joseph Ploeman, pinnmaker, in Water-
Street, advertised that he “. . . makes moulds for paper
makers with sewing wire. . . .”

1770 About this time came into use the first machine for the rul-
ing of music paper and paper for account-books. An English
patent was granted John Tetlow on June 15 of this year.
Previous to this time all music and account-book paper was
ruled by hand.

An abridged edition of Dr. Schäffer's great work was issued
in Amsterdam, in one thin volume, now the rarest of all
the books compiled by this German scientist.

The second maker of papermaking moulds in North Amer-
ica was Nathan Sellers, a metal-worker living in Philadel-
phia. Previous to the time of Isaac Langle (see: 1740) and
Nathan Sellers all moulds used by the papermakers had
been imported from Europe.

1772 First use of paper in Europe for building coaches, sedan
chairs, cabinets, bookcases, screens, etc.

1773 An act was passed in England that decreed the death
penalty for copying or imitating the watermarks in English
bank-notes.

The earliest English treatise regarding the papermaking of
the natives of India. The article is entitled: “Of the culture
and uses of the Son- or Sun-plant of Hindostan, with an
account of the manner of manufacturing the Hindostan pa-
per.” By Lieutenant Colonel Ironside, communicated by
Dr. Heberden. The paper was read December 23, 1773
and printed in Philosophical Transactions, pages 99–104.
The most complete description of Indian papermaking to
appear in the eighteenth century. From Colonel Ironside’s
report it may be learned that papermaking in India has un-
dergone no change to the present day. The communication
suggested that the sun-plant be introduced into the West
Indies as a useful fibre.

1774 This year Mrs. Patrick Delany began her so-called “Paper
Mosaic,” which soon became the talk of England and the
Continent. The work consisted in making boxes, tea-cadd-
dies, etc., through the building up of myriad small rolls of
coloured paper. Mrs. Delany’s work received the acclaim of
George III, and many examples of her work were exhibited
in public museums. Her sight failed in 1784, terminating
her unique career.

Karl Wilhelm Scheele (1742–86), a Swedish chemist, dis-
covered chlorine, which was in later years used in the
bleaching of paper stock.

1776 The earliest paper mill in central Massachusetts. This mill
was established by Abijah Burbank, Sutton, Worcester
County, and was located on the outlet of what was then
known as Crooked Pond. In the pamphlet entitled Early
Paper Mills in Massachusetts, by Ellery B. Crane (Worces-
CHRONOLOGY OF PAPER AND ALLIED SUBJECTS

A.D.

The date usually given by historians for the first paper-making in the state of Maryland, but it is possible they have been misled as to the actual maker of the first paper produced in this state. The hitherto accepted information regarding Maryland's pioneer papermaker has rested on two things: a grant of money by the Maryland Convention and a newspaper advertisement pleading for rags. Historians have long given the credit to James Dorsett as the original maker of paper in Maryland, for on June 5 or 6, 1776 he was granted the sum of 400 pounds to pay for the erection of a mill. It is likewise assumed that Mary Goddard, of the Maryland Journal, sponsored the Dorsett mill, for in the issue of her newspaper for November 8, 1775 the following advertisement appeared: "Cash given at the printing-office, for clean linen Raggs for the use of the Paper Manufactory, now erecting near this Town. — By the Fabric of Paper here, a vast saving will accrue, and save as much Money in the Country as the Quantity made will amount to. — The most respectable Families are encouraging the saving of Raggs for this Manufactory." Neither of these records furnishes decisive proof that James Dorsett had a paper mill in operation in Maryland in 1776. Even after the granting of the money to Dorsett it would have required considerable time to erect and equip a workable paper mill. Although the advertisement of Mary Goddard reads: "... now erecting near this Town," there is no positive assurance that this request for rags referred to the Dorsett mill. The compiler is indebted to Mrs. May A. Seitz, of Towson, Maryland, for a vast amount of information relative to the William Hoffman paper mill, which she contends was the first to be established in the state of Maryland. Mrs. Seitz is a direct descendant of the Hoffmans, an old paper-making family of Maryland. Mrs. Seitz quotes the following from the Maryland Archives to substantiate her claim that William Hoffman was responsible for making the first paper in Maryland: "Tuesday, 27th of May, 1776, Ordered the said Treasurer pay William Lux, for use of William Hoffman, Five Pounds, Fourteen Shillings for..."