A.D.

pan 29 by 67 inches; in Tibet 72 by 31 inches; in Nepal 64 by 28 inches; in Siam 80 by 18 inches; and in Europe 53 by 31 inches.

1940 Production of paper in the United States, 14,372,000 tons, with 14 per cent of the machines idle; full capacity would have been 16,700,000 tons. In the U. S. there were (1938) 125,500 employees; in Canada (1940), 34,719 employees in the pulp and paper industry.

1942 It is unofficially stated that the amount of paper used in the building of a battleship of the Massachusetts class is 100 tons. Of this amount 16 tons of blueprint paper are used, the balance of the paper being consumed in letterheads, carbon copies, contracts, envelopes, interoffice communications, graphs, stencils, mimeographs, sketches, tracings, routing, crating, packing, and finally the small amount of paper used in actual construction.

Newsprint to the amount of 8,971,000 tons produced in the world, Canada making two fifths of this. In the United States alone newspaper sales were 44,492,836 copies each day.

1943 Throughout this year sufficient paper was manufactured in the United States to supply each individual citizen with 287.5 pounds. This was the largest production in the history of the Nation.

1944 During the fiscal year ending June 30, 1944 the United States Government consumed 1723 tons of paper in printing the U. S. currency, the amount used in printing postage stamps was 1,045 tons, and United States Government bonds required 1,150 tons of paper. During the calendar year 1944 the cardboard used in making U. S. postal cards was 10,620,109 pounds and in the making of embossed stamped envelopes 19,476,632 pounds of paper.

1945 It is stated that there are 14,000 different paper products.

Bibliography

(The books marked * embrace both historical and technical material; the unmarked items are purely historical.)

In forming this bibliography of papermaking and watermarking it has not been my desire to include every book, pamphlet, and article that has been compiled. Such a list would necessarily embrace thousands of titles in all languages and would be well beyond the scope or usefulness of this listing. For convenience this bibliography has been divided into four distinct parts: (1) Oriental papermaking history and practice, (2) Occidental papermaking history and practice, (3) watermarking, (4) paper colouring and surface decoration. In each of these four lists fifty titles have been selected — in all, two hundred books, pamphlets, and articles. These entries have been carefully chosen not only as the most comprehensive works on these respective aspects of paper, but on account of the availability of the material in public libraries. It would not, perhaps, be possible to find every item of this list in any single library, but this bibliography of two hundred entries is more than sufficient for a general study of the history and technique of papermaking, watermarking, and the colouring and decorating of paper in all countries and in all periods. It will be noticed that there is a dearth of material in English, although our own language has been given preference in every instance. Practically nothing has been compiled on early American watermarks, and books and pamphlets in English dealing with early European watermarks are likewise limited. In other languages, however, the watermarks used by early European papermakers have received extended attention, for in French, German, Dutch, and Russian considerable material is available. But even with the reproduction of thousands of old papermarks, the field remains practically untouched when we take into account that there are literally hundreds of thousands of different watermarks in papers extending
from the commencement of the art of watermarking, about 1282, to the end of the nineteenth century, when emblems of this kind began to lose their symbolic interest. It is hoped that this short, although comprehensive, bibliography will prove of value to students of papermaking history and technique and that the list will at least serve as a nucleus for further research and study.

I. ORIENTAL


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BLUM, ANDRÉ: On the Origin of Paper. Translated from the French by Harry Miller Lydenberg. 79 pages, of which three or four are devoted to Asiatic paper. New York, 1934.


*CHAUDHRY, YADAVRAO S.: Handmade Paper in India. 8 pages text on paper made in India. Publisher: J. C. Kumarappa on behalf of A.I.V.I.A. Lucknow, India, April 10, 1936.


*FRANKLIN, BENJAMIN: Description of the Process to be Observed in Making Large Sheets of Paper in the Chinese Manner, with One Smooth Surface. (Read by Dr. Franklin, June 20, 1788.) 2 pages text. In: Transactions of the American Philosophical Society, Volume III. Philadelphia, 1793.


*HAIBARA, MAOHIRO: A Collection of 100 Japanese Handmade Papers, including the Most Famous Makers. 2 pages text; 100 specimens. Tōkyō, Japan, November 3, in the 8th Year of Showa.


—: A Papermaking Pilgrimage to Japan, Korea, and China. 150 pages text; 69 illustrations; 50 specimens. New York, 1936.
—: Papermaking in Southern Siam. 40 pages text; 18 illustrations; 4 specimens. Chillicothe, Ohio, 1936.
TWO HUNDRED WORKS ON PAPERMAKING


———: Papermaking by Hand in India. 129 pages text; 84 illustrations; 27 specimens. New York, 1939.


KAEMPE, ENGELBERT: The History of Japan, with a Description of Siam, 1600-1692. 7 pages text; 3 illustrations devoted to old Japanese papermaking. 2 volumes. London, 1727.


KHODKE, S. B.: Handmade Paper, All India Village Industries Association. (Indian papermaking as practiced in the Mohandas K. Gandhi School of Papermaking, Wardha.) 8 pages text; cover printed on Indian paper. Wardha, India, 1936.


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Siamese Papermaking; A Lecture on the Making of Khoi (Streblus asper) Paper, by Phya Kasikan Banca (in Siamese language). (This pamphlet was distributed at the cremation of Madame Aphiraksh Amphorsathan at Wat Amarntraram, 10th of February B. E. 2477.) Bangkok, Siam.

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TWO HUNDRED WORKS ON PAPERMAKING

* Sung Ying-hsing: *Tien kung k'ai wu.* (The earliest Chinese book to deal with papermaking.) 4 wood-block illustrations with explanatory text, n.p., 1634.


II. OCCIDENTAL


*Evans, Lewis: *Ancient Papermaking: A Lecture Given at the


*Geschichte des Papiers die Roh- und Halbstoffe,* by F. von Hößle, Dr. Korn, Friedrich Mosel, Dr. E. Oppermann, and Direktor Ludwig E. Walter. 278 pages text; 31 illustrations and figures. Berlin, 1929.


TWO HUNDRED WORKS ON PAPERMAKING


—: *Histoire les papeteries à la cuev d'Arches et d'Archettes*, 1492–1911. 50 pages text; 16 illustrations. Evreux, 1912.

Papermaking as Conducted in Western Massachusetts, with a Brief History from the Earliest Ages. 71 pages text. Springfield, Massachusetts, 1874.

PIETTE, LOUIS: *Traité de la fabrication du papier*. 492 pages text; charts, etc. Paris, 1831.

PLANCHER, GABRIEL: *De l'industrie de la papeterie*. 312 pages text; folding charts, etc. Paris, 1853.


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SACHSE, JULIUS FRIEDRICH: Die Papier Mühle der Brüderschaft zu Ephrata. (Read before the Lancaster County Historical Society, March 5, 1897.) Lancaster, Pennsylvania, 1897.


STEVenson, LOUIS TILLOTSON: *The Background and Economics of American Papermaking*. 250 pages text; charts, etc. New York, 1940.

TWO HUNDRED WORKS ON PAPERMAKING


Wiswall, CLARENCE A.: One Hundred Years of Papermaking, a History of the Industry on the Charles River at Newton Lower Falls, Massachusetts. 115 pages text; 15 illustrations. Reading, Massachusetts, 1938.

III. WATERMARKS


Bayley, HABOLD: The Tragedy of Sir Francis Bacon, an Appeal for Further Investigation and Research. 274 pages text; reproduction of watermarks, symbols, and emblems. London, 1902.


—: A New Light on the Renaissance, Displayed in Contemporary Emblems. 270 pages text; reproductions of more than 400 watermarks, printers’ marks, devices, etc. London, 1909.

—: The Lost Language of Symbolism, an Inquiry into the Origin of Certain Letters, Words, Fairy-Tales, Folklore, and Mythologies. 2 volumes; 763 pages text; 1419 reproductions of old watermarks, printers’ marks, ornaments, etc. London, 1912.


Bofarull y Sans, DON FRANCISCO DE A. DE: Los Animales en las
XIXe siècle par rapport au Chiffre Quatre. 184 pages, with hundreds of reproductions of watermarks, emblems, ciphers, etc. Paris and Bruxelles, 1926.


HAUSMANN, OBERBAUERATH B.: Albrecht Dürer's Kupferstiche, Radirungen, Holzschnitte, und Zeichnungen unter besonderer Berücksichtigung der dazu verwandten Papiere und deren Wasserzeichen. 130 pages text, with reproductions of 57 watermarks used in paper employed by Dürer. Hanover, Germany, 1861.


HÖSSLER, FRIEDRICH VON: Die Alten Papiermühlen der Freien Reichstadt Augsburg. 39 pages text; 233 reproductions of watermarks. Augsburg, Germany, 1907.


——: Romance of Watermarks: A Discourse on the Origin and Motive of These Mystic Symbols. Cincinnati, Ohio, 1938.


——: Paleographical Importance of Watermarks (in Russian). 3 volumes and atlas; 758 pages text, with reproductions of 4,298 watermarks. (Next to the 4-volume work of C.-M. Briquet this is the most comprehensive study of old watermarks.) St. Petersburg, 1899.

MARMOL, LE BARON F. DEL: Dictionnaire des filigranes classés en groupes alphabétiques et chronologiques. 192 pages, with reproductions of 200 watermarks from the fourteenth to the eighteenth century. Namur, France, 1900.


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*Arnett, John Andrews: Bibliopgia; or the art of bookbinding

in all its branches. Pages 35 to 53 devoted to marbling and the surface colouring of paper. London, 1835.


*Bookbinding: The Whole Art of Bookbinding, containing valuable receipts for sprinkling, marbling, and colouring of paper. 60 pages text. Oswestry, 1811.


*Enfert, Julius: The Dyeing of Paper Pulp. Translated from the German by Julius Hübner. 175 pages text; 157 specimens of coloured papers. London, 1901.


samples white and coloured rags; 428 specimens coloured papers. Paris, 1853.


*Thurfit, Tim: Modern Methods in Marbling Paper, a treatise for the layman on the art of marbling for bookbinding and other decorative uses. 38 pages text; 7 specimens of surface decoration. Winchester, Massachusetts, 1945.


Notes

1 Aside from my own observations of Mexican papermaking, the information has been based on the following works, and for further study these books should be consulted:
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León, Dr. N.: "La Industria Indígena del Papel en Mexico." In: Boletín del Museo Nacional de Arqueología, Historia y Etnografía. 10 pages text; 6 illustrations. Mexico, D. F., 1924.
Schwede, Rudolf: Über das Papier der Maya Codices u. einiger altmexikanischen Bilderhandschriften. 50 pages text; frontispiece and illustrations of fibres. Dresden, 1912.
2 For detail relative to the making and decorating of tapa of the Pacific islands see: Ka Hana Kapa, by William T. Brigham (Honolulu, H. I., 1911); Oceanische Rindenstoffe, by Paul Hambrecht (Oldenburg, 1926); Primitve Papermaking by Dard Hunter (Chillicothe, Ohio, 1927).