

Indian Handmade Paper Bibliography Compiled Fall 2005

Introduction

There are many reasons ranging from geographical to cultural as to why papermaking was not introduced and did not flourish until relatively late. It is generally accepted that papermaking was introduced to India through Mahmud of Ghazni's invasion in 1001 AD. The paper industry of Northern India came into being when a 15th century Kashmiri leader imported papermakers from Samarkand of Persia. Papermaking flourished in India in the Mughal Empire during the 16th century under Islamic cultural influences. At the same time, Western Europe had first contacted India and influences from Western culture and trade increased the demand for paper. In the 18th century India came under the sovereignty of the British Empire and was subsequently forced to compete with cheap, mass-produced European paper. Indians were thus obliged to use waste papers and rags as raw material, which resulted in the deterioration of Indian paper and the accelerated decline of the Indian papermaking industry. Various attempts to revive the industry have been made starting with Gandhi in 1934.

The bibliographies of books easily found in New York City are followed by their location and call number. The other books may be obtained through interlibrary loan. Those found in the search engine RLIN are marked as such.

General

Acharya, S. N., *A Guide to Handmade Paper Industry* (Madras: Umadevan, 1947).
RLIN Citation

Agrawal, O.P., "A Study of the Technique and Materials of Indian Illustrated Manuscripts," *Bulletin of National Museum* 3, (1972), 22-33.

Balfour, Edward, "Paper," *Encyclopedia of India and of Eastern and Southern Asia* vol. VII (Reprinted as *Encyclopedia Asiatica* (New Delhi: Cosmo, 1976)), 122-28.

Boatwala, Mini and Wilfred Maciel, "Handmade Paper in India," *The Penrose Annual* 57 (1964), 281-283.
NSSR Parsons: NC1 .P4 Non-circulating v.57(1964)

Chaudhary, Yadavrao S., *Handmade Paper in India* (Lucknow: J.C. Kumarappa, 1936)

Clapperton, R.H., "Hand-Made Paper," *Modern Paper-Making* (Oxford: Basil Blackwell, 1952).

NYU Conservation Center: TS1105 .C65 copy 1

Dasgupta, Satishchandra, *Hand-Made Paper: A Practical hand-book for the Manufacture of Paper in Cottages According to the Process Adopted at Khadi Pratisthan*, Sodepore (Calcutta: Khadi Pratisthan, 1945).

Diringer, David, *The Hand-Produced Book* (New York, London: Hutchinson's, 1953).

NYU Conservation Center: Z6 .D57 1982

Dutt, A.K., "Papermaking in India," *The Paper Maker* 24, no. 2 (1955).

Pierpont Morgan Library: 818.7 M87

Emerson, H.W., *Monograph on Paper and Papier Mâché in the Punjab 1907-08* (Lahore: Civil and Military Gazette Press, 1908).

Columbia Butler: TS1095.P18 M66 1908a

Forest Research Institute, *Samples of Papers Produced* (Dehra Dun, 1961).

Gee, W.H., *Monograph on Fibrous Manufactures in the Punjab* (Lahore, 1891).

RLIN Citation

Gondhalekar, G.H., "Hand-made Paper Industry," *Indian Pulp and Paper* (September, 1952), 185-91.

RLIN Citation

Grant, Julius, *A Laboratory Handbook of Pulp and Paper Manufacture* (London: Edward Arnold Publisher, 1961).

Green, Simon Barcham, "Tradition Survives in Rajasthan," *Hand Papermaking* (Winter 1992), 7-8.

This article notes the effect modernization has had on the hand paper making industry in India and emphasizes the importance of the hand papermaking as a record of tradition passed down for generations. The method of Mohammed Hussai Kagzi, one of the few papermakers who still work without mechanical assistance, is described in detail from raw fiber preparation to sheet formation, couching, drying, and finally sizing. Ends with a brief discussion about how hand papermakers can, or cannot, afford to stay in business.

NYU Conservation Center: Periodicals

Gupta, J.N., *A Monograph on Paper-Making and Papier Mâché in the Province of Eastern Bengal and Assam* (Shillog, East Bengal and Assam Secretariat Press, 1909).

Hoernle, A. F. Rudolf, "Who was the Inventor of Rag Paper," *Journal Royal Asiatic Society* (1903), 663-84.

Holben-Ellis, Margaret, "The Craft Traveler: Papermaking in Pakistan," *Craft International* 2 (April 1983), 38-40.

This is a short article based on the author's search for the last of the papermakers from Sialkot.

In 1937 Dard Hunter visited Sialkot, one of the oldest papermaking centers, and predicted that by 1949 the craft would be abandoned. When Holben-Ellis traveled there in the early 1980s, she found very little remained of the area's papermaking past. The family businesses had been overtaken by the cheap labor of prisoners, although the quality of paper was inferior. A 1904 example of Sialkot paper examined by the author was still in good condition, strong and flexible, apart from wormholes. With some luck, the author was able to interview Wazir Ali Kaghazi, affectionately referred to as Baba Ali. Baba Ali was one of the last papermakers from Sialkot, and told Holben-Ellis about the techniques his family used, how he felt about his paper, etc. This article is a good general description, but is not very technical.

Indian Paper Making Binder

Horne, Charles, "Paper-Making in the Himalayas," *Indian Antiquary* VI (April 1877), 94-98.

RLIN Citation

Hunter, Dard, *Papermaking by Hand in India* (New York: Pynson Printers, 1939).

This book is a good reference on the method of production of handmade paper throughout India. The Papermaking Materials chapter lists and describes the various plants and other raw materials, chemicals and coloring and decorating used in Indian papermaking. Another chapter is dedicated to papermaking moulds and includes many helpful photographs. The rest of the book is organized by papermaking centers throughout India, such as Kashmir, Sialkot, Delhi, Agra, Kalpi, Wardha, Hyderabad, and Dacca, in which Hunter describes methods used and products produced.

NYU Conservation Center Special Collections: TS1095.15 H8

Hunter, Dard, *Papermaking, The History and Technique of an Ancient Craft* (New York: Alfred A. Knopf, 1943).

Hunter does not talk in detail about papermaking in India. Included in his discussion on he includes information about the papermaking moulds of India and Indo-China.

Throughout the book are photos illustrating the papermaking process of Indian and Indo-China. India is also briefly mentioned in the timeline of "Paper and Allied Subjects."

NYU Conservation Center: TS1090 .H816 1978

Joshi, K.B., "Hand-Made Paper: It's Development in India," *Indian Pulp and Paper* III-7 (1949), 273-78.

RLIN Citation

Joshi, K. B., *Papermaking: As A Cottage Industry* (Maganwadi, Wardha: The All-Village Industries Association, 1947).

Appendix E "Migration of Paper from China to India A.D. 105 to 1500" by Gode, P.K.

This book is meant to serve papermakers in India, both for establishing a mill and for updating and improving techniques and materials. The book describes processes in both a theoretical and practical way. Joshi describes cellulose and hydrogen bonding, as well as providing diagrams of different types of vats. He also includes the Hindu or Urdu words in their own script, not transliterations, of some words commonly used in paper-making. This book is an excellent source. It is both intelligent and easily to follow. Joshi wrote about paper-making during a time when there was a resurgence of interest in India. He includes a section on making paper in school based on Dard Hunter's 1931 book called *Paper-making in the Classroom*. Manual Arts Press, Peoria, Illinois.

Appendix E is fairly short, consisting primarily of a rather unhelpful timeline of the history of paper.

The book was printed on handmade Indian paper, and has not aged very well. The book is very fragile and has been deemed unsuitable for photocopying. There is great variation of discoloration and many inclusions throughout the book.

NY Public Library SIBL-B Altman Desk: VMP (*Papermaking (As a Cottage Industry) The All-Village Industries Association*)

Khodke, S.B., *Hand-made Paper* (Wardha, 1936).

Kirk, R.T.F., *A Monograph on Paper-Making in the Bombay Presidency*, reprinted in *Art in Industry Through the Ages: Monograph Series on Bombay* (New Delhi, 1976).

NY Public Library: VMP+ (Kirk, R. T. F. Monograph on paper-making in the Bombay Presidency)

Konishi, Masatoshi, A., "Paper-Making Traditions in South Asia: With a Short Reference to Assamese Technology," *Eastern Himalayas* (New Delhi: Cosmo, 1980), 198-205.

Lakshmi, R., "Handmade Paper in India," *The Paper Maker* 26, no. 2 (1957), 31-37.
Pierpont Morgan Library: 818.7 M87

Liotard, L., *Note Regarding Paper-Making Industry in India* (Simla, 1883).

Li, Shu-Hua, *The Spread of the Art of Paper-making and the Discoveries of Old Paper* (Taipei: National Historical Museum, 1960).

This may be a good book if you can read Japanese.

RLIN Citation

Macfarlane, Nigel, *Handmade Papers of India*, (Winchester, Hampshire, England: Alembic Press, 1987).

This book is a comprehensive study of Indian paper and Islamic influences. It describes materials used for writing before paper, gives an explanation for the late arrival of paper in India and discusses how and when Islamic paper arrived in India. It explains India's flourishing paper industry during Muslim rule as an effect of the Islamic culture's demand for paper. The crisis in India's papermaking industry was caused when the British moved production to England and France. The revival of Indian handmade paper is discussed and the process of making Islamic and contemporary Indian paper is described. An array of paper samples is included.

Columbia Rare Books: BOOKART Z232 .AL4 1987 M16

Macfarlane, Nigel, *A Paper Journey: Travels Among the Village Papermakers of India & Nepal*, (New Castle, Delaware: Oak Knoll Books, 1993).

This book describes the manufacture of various papers throughout India. Chapters include North India Hemp Paper and the Khagzi tradition, South India Cotton Papers from the Gandhi Ashram, Village Papermaking and the Prune Institute, Plant Papers from Pondicherry, Nepal Traditional Papermaking at Baglung, New developments at Bansbari, and Chronology of Papermaking in India and Nepal. This book also includes several samples of handmade paper.

Columbia Rare Books: Z232.B53 1993 M16

MacFarlane, Nigel, *Handmade Papers of the Himalayas* (Winchester: Alembic Press, 1986).

This book is fairly general and short. There is an interesting section on the plant from which much of the paper in the region is made. Called, Loktha or Logati in Nepal, Kagati, from the Persian and Urdu word 'Kagati' meaning paper. In Bhutan the paper is called Deyshin. This fiber is used in Tibet, China and Japan as well. These species belong to the family *Thymeloeacea*, of which the most important are the *Edgeworthia Garduneru* and the *Daphne Bholua*. One of the subspecies of *Edgeworthia Garduneru* is *Edgeworhtia Papyrifera*, known as mitsumata in Japan. These fibers make very fine paper. Papers made from *D. Papyrifera* and *D. Involuctra* produce very coarse papers with long visible fibers. These papers often originate in Bhutan, and are desirable for their durability. They are often used as the outer covers of books.

The Tamang people of eastern and central Nepal were traditional papermakers when MacFarlane traveled there. They live at very high altitudes (up to 12,000 feet) in forests near sources of water. MacFarlane provides a very good explanation of the traditional process. One interesting aspect is that the sun is not strong enough to dry the papers at such high altitudes so they are dried by fire. Some papers are later sized with rice starch, some are even polished with stone burnishers.

One cautionary note is that arsenic grows in Tibet, and was sometimes applied to paper as a fungicide and insecticide.

NY Public Library Humanities Print Room Call # Schlosser 907

Maddox, Harry A., *Paper: Its History, Sources and Manufacture* (London: Isaac Pitman & Sons, 1916).
NY Historical Society Landauer: TS1105 .M3 1916

Maharashtra Government, Department of Education, *Syllabus of Studies on the Hand-made Paper Making* (Bombay: Government Printing and Stationary, 1961).

Mookerjee, D.N., *A Monograph on Paper and Papier Mâché in Bengal* (Calcutta: Bengal Secretariat Book Depot, 1908).
NY Public Library: VMP+ (Mookerji, D. N. Monograph on paper and papier-mâché in Bengal)

Narayanswami, C.K. ed., *The Story of Hand-Made Paper Industry* (Bombay: KVIC, 1958).
RLIN Citation

Pant, Rajesh, Abanish Panda, Mukesh C. Bansal, and N.K. Naithani. "Pulp and Paper Research in India." *Tappi Journal* (August 1991): 69-71.

In 1991 there was a large discrepancy between the amount of paper that was actually produced versus the amount that could potentially be produced. According to the article, a shortage of raw materials, out dated technology, and bad management, are the primary reasons. Papermakers are focused on bamboo and hardwoods, and forests are becoming depleted. There are other natural fibers, such as bagasse, rice straw, jute, and cotton stalk which may be used, but are less common choices. To address the issues of whether to continue to use hardwoods or turn to agricultural wastes (straws, etc.) the Central Pulp and Paper Research Institute (CPPRI) was begun in 1980. The CPPRI aids papermakers by introducing new technologies such as a feasible chemical recovery system for small mills, and developing high-yield chemi-thermomechanical pulping process of kenaf resulting in better quality newsprint. Two other organizations related to papermaking in India, the Institute of Paper Technology, which offers degrees and short courses on papermaking, and the Indian Pulp and Paper Technical Association, which produces the IPTA journal and other publications.

Indian Paper Making Binder

Podder, Vishnu, *Paper Industry in India: A Study*, (New Delhi: Oxford & IBH, 1979). This book is an exhaustive study of all aspects of the Indian paper industry. It is divided into several sections; a general section including the history of papermaking, a review of paper and pulp making machinery and present and future trends in the paper industry, a section on raw materials and a section on the forests of India.
NY Public Library Offsite: JLD80-2045

Podder, Vishnu, *Technology in Paper Industry: India and the World* (New Dehli, India: Pitambar Publishing Company, 1983).

This book also is concerned with more modern papermaking techniques. Meant primarily for those who are in the papermaking industry, Podder gives in depth descriptions technology, pulping techniques. The text is very detailed and gives recipes and instructions for pulping the different types of raw materials, such as jute and bamboo. He also provides standards for different types of paper, and addresses environmental issues.

NY Public Library SIBL-B Altman Desk: JSD 86-597

Premchand, Neeta, *Off the Deckle Edge: A Paper-Making Journey Through India* (Bombay, India: Ankur Project, 1995).

This is a wonderful book based on Premchand's travels in India. It focuses on Indian papermaking in the twentieth century. She traveled to various paper mills in India, and gives the current (as of 1996) state as well as the history of the mill. Also included is a detailed account of Indian paper making technique and a glossary of papermaking terms. Samples of handmade papers are included.

Indian Paper Making Binder

NY Public Library Humanities-General Research: JFD 99-5334

Raitt, William, *Kashmir Papermaking in Photographs* (1910).

Raitt, William, "The Childhood of Papermaking, Kashmir, India," *Papermaker and British Paper Trade Journal* (February 1, 1930).

RLIN Citation

Rao, M. Sadashiva, B.Y. Rao and B.M. Agshikar, "Hand-Made Paper from Bamboo by Cold Soda Process," *Indian Pulp & Paper* Vol. 17, No. 4 (October 1962).

RLIN Citation

Soteriou, Alexandra, *Gift of Conquerors: Hand Papermaking in India* (Middletown, NJ: Mapin Publishing Pvt. Ltd, 1999).

This book is very thorough, it has a lot of useful illustrations and photographs. Its chapters include The Roots of Indian Paper, The Path of Paper, Making Traditional Indian Paper, Recycled Paper: An Indian Tradition, Mountain Paper and Influences Toward Change: Contemporary Handmade Paper. A list of Indian Handmade Papermakers, fiber list and Map are also included at the end of the book.

NYU Conservation Center: TS 1095.I5 S67

Soteriou, Alexandra, "In Search of India's Papermaking Tradition." *American Craft* 49, no.1 (February/March 1989): 32-37.

This article is a very brief overview of Soteriou's 1985 trip to India recording how the papermaking industry has changed over time. She finds that what is left of the handmade papermaking industry is in decline. The quality of the paper is low. In Kalpi, soot is added to the paper, and across India, papermakers turned to recycled paper or cotton cloth to make pulp instead of the traditional fibers such as flax, hemp, and jute. The last

generation of papermakers who truly remembers the old ways of papermaking is dying out.

She writes that there are some villages where the craft still thrives, but in most the traditional ways of papermaking will soon be lost. The information in the article is good, but similar information is found in other articles, which may be easier to locate.

Indian Paper Making Binder

Soteriou, Alexandra, "Papermaking: Finding a Lost Tradition," *Craft International* (April, May, June 19, 1986), 20-21.

This article is almost identical to Soteriou's article in *American Craft*.

Indian Paper Making Binder

Soteriou, Alexandra, "In Search of India's Lost Papermaking Tradition," *A Gathering of Papermakers* (Brookline, MA: Carriage House Press, 1985).

This is a very good article on Indian Papermaking as it was in the mid to late 1980s based on the author's travels to both active and defunct papermaking villages. She discusses how the papermaking industry is extant largely because of the Ghandian All-Indian Village Papermaking Association and the Khadi and Village Industries Commission. What is clear from her article is that all villages are slightly different in technique and prosperity. There are those, which make paper in a non-traditional style, and those who can trace their ancestry back to the 15th century AD. There is some discussion on the history of papermaking. She mentions that there may be Nepalese-Mongolian-Chinese lineage of papermakers in Northern India, while in the South the tradition comes from the Muslims.

Moor Muhammed of Sanganer, a very active Muslim community of papermakers, can trace his ancestry and the traditional methods employed in Sanganer to the 15th century AD. She also discusses Erandol/Dhenki, Junnar, Sanganer and Kalpi.

NY Public Library Humanities Print Room Call # Schlosser 944

Takeo Collection: Handmade Papers of the World (Tokyo, Japan: Takeo Co., 1984).

In this book there is an excellent overview of the development of the handmade paper industries in India and Nepal as well as an account of their current status and a description of their papermaking processes from collecting and preparing the raw materials to drying the finished sheets. This book also includes many full-size paper samples from India and Nepal.

NYU Conservation Center Oversized Special Collections: TS 1094.H3

Thakur, R.S. *A Monograph on Paper-Making and Papier Mâché in the Central Provinces* (Nagpur: Government Press, 1908).

Tschudin, Peter F., "Zu Geschichte und Technik des Papiers in der arabischen Welt," *IPH Journal*, no. 2 (January 8, 1998), 20-24.

Indian Paper Making Binder

Venkajee, Tekumalla, "Handmade Paper Industry in India," *Paper Trade Journal*
(October 28, 1926).
Columbia Offsite: TS1080 .P19

Wazir Ali Kaghazi, Papermaker of Sialkot, Pakistan, interview by Margaret
Holben-Ellis, December 13, 1982, interpreted by Iqbal Ahmad Bhatti.
Kaghazi and Ellis discuss the old ways of papermaking which have virtually disappeared.
Types of fibers, preparation techniques, and anecdotes were the topic of conversation.
Kaghazi revealed that the high quality of his family's paper was from better preparation
of the pulp. This is a very informative interview which is definitely worth searching out if
researching Pakistani/Indian paper.
Indian Paper Making Binder

Indian Paper-Making History

Bahura, Gopal Narayan, *Literary Heritage of the Rulers of Amber and Jaipur*
(Jaipur, Maharaja Sawai Man Singh II Museum, 1976).
Columbia Butler: Z6605.I5 B34

Clapperton, R.H., *Paper: An Historical Account of its Making by Hand from the
Earliest Times Down to the Present Day* (Oxford: Shakespeare Head Press,
1934).

NY Public Library Humanities Print Room: Schlosser 140
Columbia Rare Book: Graphic Arts TS1090 .C5 1934a
The Metropolitan Museum of Art: 270.53 C53 Q

Eddison, John C, *A Case Study In Industrial Development—The Growth of the Indian
Pulp and Paper Industry* (Cambridge, MA: Center for the International
Studies, Massachusetts Institute of Technology, 1955).

This paper is a study of the industrial development of Indian paper from relatively
modern times. The first mechanically powered commercial mill appeared in 1865, and
was organized by the British and named the Royal Paper Mill Limited and was located
just north of Calcutta. In the 1880s, the government preferred indigenous paper, and
paper prices were high, stimulating the opening of several new mills. The papers were
made with rags, jute cuttings, waste paper and moonj and sabai grass. Eddison discusses
the processes used by the mills, as well as the materials. Most of the book deals with the
time either during or after British Occupation of India. He speaks about the history of the
commercial paper mill in India. This is an excellent resource for the history of
papermaking in the first half of the twentieth century. How it affected, and was affected
by, economic and political situations. How labor was divided. How new improvements
came to be made, and searches for new types of raw materials.

NY Public Library SIBL-B Altman Desk: JSF 83-591
Columbia Offsite: HD 9836.142 E3 Item # 4686873

Ghori, S.A.K. and A. Rahman, "Paper Technology in Medieval India," *Indian Journal of History and Science* (November 1966), 133-149.

This is an excellent article on papermaking in medieval India. This article briefly describes the history of papermaking in India, which was introduced by the Muslims and improved by the Kashmiris. With the increasing demand for paper many centers for paper sprung up throughout medieval India. Several papermaking centers and their specialty papers are highlighted.

Indian Paper Making Binder
Columbia Science Library: Q125 .I45

Gondhalekar, G.H., "Early History of Paper Making in India," *Indian Pulp and Paper* (July, 1965), 1-6.

RLIN Citation

Gosavi, P.G., "Did India Invent Paper?" *IPH Information* (1983), 7-12.

Gosavi re-examines the common belief that China invented paper. He sites eye witness accounts of early paper use in Chinese Turkestan (outskirts of India) by travelers to India and early paper manuscripts with Indian script as evidence of the discovery of papermaking in India. He gives reasons why paper making in India did not take off like it did in China. His unconvincing argument concludes with his belief that papermaking traveled to China with Buddhism and then returned to India.

NYU Conservation Center: Periodicals

Losty, J. P., "Was India Really the Inventing Country of Paper?" *IPH Information*, (1983), 108-110.

Losty responds to Gosavi's article, "Did India Invent Paper?" Losty dismisses Gosavi's argument claiming that his evidence is shaky and does not lead to his conclusions. Losty's article should be read following Gosavi's.

NYU Conservation Center: Periodicals

McGovern, J.N., "India: Earliest Papermaking?" *Tappi Journal* vol. 67, No. 8 (August 1984), 13-14.

This article is a response to an article by P.G. Gosavi proposing that paper originated in India rather than China. Gosavi's article appeared in the *Tappi Journal* volume 69 (2). McGovern criticizes Gosavi's claims that because cotton was known in India before China that this indicates an earlier and Indian origin of paper. Cotton fibers are not known in early papers, but Gosavi claims that because of the nature of paper, all evidence of these early papers has vanished. There is a response to another letter written in the June 1984 *Tappi Journal* by Gosavi.

NYU Conservation Center: Periodicals

Munsell, Joel, *Chronology of the Origin and Progress of Paper and Paper-making* (New York: Garland Pub., 1980).

Joel Munsell was an avid collector of newspapers compiler of information. His *Chronology* was the first book published in America devoted to the subject of paper. Though it has been criticized for its inaccuracies, it is especially strong in 19th century

American and European papermaking history. There is no mention of Indian papermaking history.

NYU Conservation Center: TS1090 .M964 1980

Rameshan, Sita, "The History of Paper in India up to 1948," *The Indian Journal of History of Science* (1989), 103-121.

This article presents a history of papermaking in India by introducing non-Muslim as well as Muslim sources from its beginnings through the development of mills. The evidence provided by non-Muslim sources is not as solid as the Muslim sources, but still interesting. Visual evidence of the papermaking process is introduced. Several English sources on papermaking are introduced.

Indian Paper Making Binder

Columbia University Library: Q125 .I45

Materials

Bedenoch, A.C., "Vegetable Fibres and Their Products," *Punjab Industries 1911-1917* (Lahore: Supdt. Of Government Printing, 1917).

Columbia Offsite: HC437.P8 B14

Bhargava, M.P. et al, "Technological Reports on various Materials Used for the Paper and Pulp Making," *Indian Forest Bulletin* Nos. 100, 103, 108, 112, 127, 128, 129, 134, 148, etc (1941-1949).

NY Botanical Gardens: XI .N435

Bhat, R.V. et al, "Indigenous Cellulosic Raw Materials for the Production of Pulp, Paper and Board," *Indian Forest Bulletin, Cellulose and Paper* Nos. 123-24, 152-53, 155-61, 163-65 (1951-1953).

Bisen, S. S., *Paper Making Fibers: Morphology and Identification* (Dehra Dun, India: Indian Journal of Forestry, 1988).

This book includes photographs of magnified fibers and fibers under SEM and information such as fiber length, physical description of fibers and Graff staining results of Indian paper fibers. Monocot fibers are difficult to identify but the authors include the size and number of the different cells which helps identify the monocots from each other.

RLIN Citation

Carpenter, Charles, et. all, *Papermaking Fibers: A Photo-micrographic Atlas of Woody,*

Non-woody, and Man-made Fibers Used in Papermaking (Syracuse, New York: State University College of Forestry at Syracuse University, 1963).

This is a useful reference guide for microscopic fiber examination. It includes excellent pictures of a wide variety of magnified fibers.

NYU Conservation Center: TS 1105.C25

Collings, T. and D. Milner, "The Identification of Non-wood Papermaking Fibres," *Paper Conservator* 4 (1979), 10-19.

Both of these articles are a good resource for identifying paper fibers in Asian papers, such as hemp, ramie, bamboo, paper mulberry, Daphne, and other typical fibers. Each fiber is given two pages with large photomicrographs, both in black and white and in color. Other identifying characteristics, like average widths and the different types of cells that can be seen, are given as well. The 1978 article is longer and includes most of the fibers from the 1979 article.

NYU Conservation Center: Periodicals

Corner, E.J.H. and Kiyohiko Watanabe, *Illustrated Guide to Tropical Plants* (Tokyo Hirokawa Publishing Company, 1969).

NY Botanical Gardens: QK 341 .C65

Council of Scientific and Industrial Research, "Raw Materials," and "Industrial Products," *The Wealth of India: A Dictionary of Indian Raw Materials and Industrial Products* (New Delhi: Industrial Products, 1948-1975).

NY Public Library SIBL-B. Altman Desk: VB (Wealth; industrial products) v.2, C (1950) (Raw Materials)

Liotard, L., *Materials in India Suitable for the Manufacture of Paper* (Calcutta, 1880).

Pearson, R.S., "Fibers and Flosses," *Commercial Guide to the Forest Economic Products of India*, (Calcutta: Government Printing, 1912), 111-120.

NY Public Library Offsite: VQW (Pearson, R. S. Commercial guide to the forest economic products)

Pearson, R.S., "Note on the Utilization of Bamboo for the Manufacture of Paper-pulp," *Indian Forest Records* (Calcutta: Government Printing, 1913), 1-121.

RLIN Citation

Raitt, William, "Report on the Investigation of Bamboo as Material for Production of Paper Pulp," *Indian Forest Records*, Vol. 3, part 1 (Calcutta: Government Printing, 1912).

Raitt, William, "Report on the Investigation of Savannah Grasses as Material for Production of Paper Pulp," *Indian Forest Records*, Vol. 5, part 3 (Calcutta: Government Printing, 1913).

Raitt, William, "Summary on the Investigations on Bamboos and Grasses for Paper Pulp," *Indian Forest Records*, Vol. 11, part 9 (Calcutta: Central Publications Branch, 1925).

Raitt, William, *The Digestion of Grasses and Bamboo for Paper Making* (London: The Technical Press, 1931).

NY Public Library: VMP (Raitt, W. Digestion of grasses and bamboo for paper-making)

Royle, J. Forbes, *Illustrations of the Botany and other Branches of the Natural History of the Himalayan Mountains and of the Flora of Cashmere* (London: H. Allen, 1839).

NY Public Library Humanities Rare Books: Stuart 691-692 c.2

Royle, J. Forbes, *The Fibrous Plants of India Fitted for Cordage, Clothing and Paper* (London: Smith, Elder & Co., 1855).

RLIN Citation

Siegenthler, Fred, *Strange Papers: A Collection of the World's Rarest Handmade Paper*, (Switzerland: F.Steingenthaler, Paper Art, 1987).

This is a very amazing book but has nothing to do with Indian Papermaking. However, the covering paper for the box in which the book is contained is two layered handmade paper from Nepal made from the bast fiber of the *Daphne Papyraceae*. Many different types of paper are represented, and the indices are arranged according to type of paper as well as the Latin name of the fiber used.

The book does have examples of paper made from bamboo, ramie, gampi, kozo, and wheat straw, which are used in Asian papermaking, there is not much that would be helpful for a paper on Indian papermaking. The small bit about Nepalese papermaking is interesting, but the information that is provided is also found in other sources.

Specifically, Macfarlane's *Handmade Papers of the Himalayas*.

The book is definitely worth looking at if you are interested in papermaking. The paper samples include lawn grass, green tea, wasp's nests, steel, corn silk, and paper from a 30 million year old tree which was discovered in Tasmania. There is also very good entry on Tapa bark cloth.

NY Public Library Humanities Print Room Call# Schlosser 918

Usher, George, *A Dictionary of Plants Used by Man* (London: Constable, 1974).

NYU Bobst: SB107 .U83 1974

Wallich, N. "Description of Some Rare Indian Plants," *Asiatic Researches* Vol.13 (1820), 369-415.

Technology/ Industrialization

Bhardwaj, H.C., *Aspects of Ancient Indian Technology: A Research Based on Scientific Methods* (Delhi: Motilal, 1979).

NYU IFA Offsite: T27.I4 B47 1979

Bhattacharya, Sib Nath, *Rural Industrialization of India: Its Nature and Problems* (Delhi: B.R. Publishing Corporation, 1980).

Doyle, Patrick, *Papermaking in India: Being Notes of a Visit to the Lucknow Paper Mill* (Lucknow [India]: London Printing Press, 1885).

Mr. Doyle wrote this descriptive report in hopes of inspiring capitalists to take interest in the Indian paper industry. The Lucknow Paper Mill, established in 1882, was one of the first mills employing machines in the manufacture of paper. The report includes a history and founding of the mill, a description of the power sources and the economics involved such as the cost of the materials, labor and machinery. The second section of the report describes the manufacture of the paper.

Indian Paper Making Binder

RLIN Citation

Rao, Y.E., *The Paper Industry in India: Status and Prospects*, (New Dehli, Bombay, India: Oxford & IBH Publishing Co. PVT. LTD., 1989).

Rao discusses modern papermaking in India, in reference to the Fourth Five Year Plan. The article focuses on materials, machinery, and costs associated with both large and small scale mills. There is also a discussion on environmental concerns, recognizing that papermaking is a very taxing industry in terms of the environment. Rao says that because of forest depletion, secondary raw materials such as leftover agricultural sources have become increasingly important. – Cereal straws; bagasse; grasses; non-wood crop fibres such as just, kenaf, cotton linters, etc. waste paper.

NY Public Library SIBL-B. Altman Desk: JBE 91-509

Social and Economic

Anurakta, Kartikeya, "Sri Aurobindo Ashram Handmade Paper," *Hand Papermaking* (Winter 1992), 20-21.

The Sri Aurobindo Ashram in India is good example of the positive effects government support of the paper industry can encourage. The article consists of a brief history of the ashram factory and its goals. Their western papermaking method is described in detail and is accompanied by a few photos. This article also discusses the social roles it plays in the life of its workers. Finally it discusses the factories production and exports.

NYU Conservation Center: Periodicals

Badeu-Powell, B.H., "Economic Raw Products," *Punjab Products; or Handbook of the Economic Products of the Punjab* Vol. 1 (1868).

RLIN Citation

Badeu-Powell, B.H., *Handbook of the Manufacturers and Arts of the Punjab: Comprising of the Handbook of the Economic Products of the Punjab* (1872).

RLIN Citation

Field, Dorothy, "Papermaking in India, Bangladesh and the Himalayas: An Overview," *Hand Papermaking* (Winter 1992), 9-15.

The focus of the article is on the state of papermaking in India, Bangladesh, Nepal, and Bhutan. In India, handmade papermaking was undercut by imported industrial paper in the nineteenth century. In the 1920s/1940s, Mahatma Gandhi and Jawaharlal Nehru attempted to make papermaking a viable small industry. Nehru created the Khadi and Village Industries Commission and the Handmade Paper Institute at Pune. The Sri Aurobindo Ashram in Pondicherry, which produces very fine quality papers, is one of the best known and well organized paper mills in India. Bangladesh was established as a country in 1971. The Mennonite Central Committee started a papermaking program in 1984. They chose to introduce Japanese technology which has caused problems due to a lack of experience and its slow productivity. The information on Nepal can be found more in depth in her other article and book.

NYU Conservation Center: Periodicals

Ghandi, M.K., *Khadi: Why and How* (Ahmednabad: Navajeevan, 1955).

Government of India Tariff Commission, *Report on the Fair Ex-works and Fair Selling Prices of Paper and Paper Boards, Bombay 1959* (Delhi: Manager of Publications, 1962).

After imposing a restrictive import policy the government received complaints about the high cost of paper charged by wholesalers and retailers. In answer to these complaints, the government met and passed a resolution on the fair price of paper. The commission's approach to resolving fair prices rests largely upon fixing supply and demand imbalances, namely increasing the size and productivity of the Indian paper industry.

RLIN Citation

Hunter, Dard, *Mahatma Gandhi* (Chillicothe, Ohio: David Webb, 1937).

RLIN Citation

Kumar, Ajay, "Strengthening the Handmade Paper Industry in India," *Hand Papermaking* (Winter 1992), 18-19.

This article includes a short overview of the history of papermaking in India. India's hand papermaking industry has been struggling for decades. The government of India created Khadi and Village Industries Commission to create, promote and implement programs to develop handmade paper industry among other village industries. Progress has been made since the creation of the KVIC, however, many units are struggling and unviable even with government support. With assistance of the United Nations Development Program, KVIC started a project in 1991 to strengthen the handmade paper industry. The program's objectives are to study the demand pattern of Indian handmade papers in India and abroad, set up a testing lab and demonstration plant, and finally to provide long-term training and consulting services to the units.

NYU Conservation Center: Periodicals

Latifi, A., *The Industrial Punjab: A Survey of Facts, Conditions and Possibilities* (Bombay, Calcutta: Longmans & Greens, 1911).
Columbia: Burke [UTS] MRL Day (Non-Circulating) Lb L356

Sindall, R.W., *Report on the Manufacture of Paper and Paper Pulp in Burma* (Rangoon: Office of the Supdt., Government Printing, 1906).
RLIN Citation

Tariff Board, Indian Government, *Enquiring Regarding the Grant of Protection the Paper and Paper Pulp Industries* (Calcutta, 1924). Also vide "Grants" in 1925, 1931, 1938; "Removal of Surcharge on Protective Duties" in 1938; "Continuance of Protection" in 1947.
RLIN Citation

Turner, Silvie and Birgit Skiöld, *Handmade Paper Today. A World Wide Survey of Mills, Papers, Techniques and Uses* (New York: Frederic C. Beil, 1983), 155-161.

This book only includes a short section on Indian handmade paper. The history of the Khandi and Village Industries Commission project an organization that sponsors the handmade paper industry throughout India, and the economics involved in handmade papermaking. The workings of the Sri Aurobindo Ashram Mill in Pondicherry and Chhema Debi Paper Mill in Nepal and some of the papers produced are also described.
Columbia Rare Books: Graphic Arts TS1094 .T8

Vander Laan, Joseph William, *Paper and Paper Products in India and Ceylon* (Washington D.C.: U.S. Government Print Office, 1926).

This is a report by the US Department of Commerce Paper Division on the imports of paper in India. The geographic and economic features as well as trade centers and the paper market of India are described. Other sections include native competition, protection of the Indian market, types of paper in highest demand.

RLIN Citation

Conservation

The following sources are easily accessible. This section is not intended to be a complete list of sources on the conservation of Indian works of art on paper. Two of the three books investigate the use of Indian paper in conservation.

Agrawal, O.P., "Paper Manuscripts and Paintings," *Conservation of Manuscripts and Paintings of South-east Asia* (London: Butterworths, 1984), 127-238.

This book does not contain much information about the paper making process. The introduction to this chapter explains the influence the discovery of paper had on the art produced in India. It also explains devotional works of art were made. Miniature

paintings are described starting from the preparation of the support to the painting technique, and finally the deterioration of the painting. This book contains several photographs documenting the paper making process.

NYU Conservation Center: Z 110.C7 A34

Ghuwalewala, Saloni, *Testing the Quality of Indian, Nepalese and Thai Papers for Use in Conservation* (Kingston, Ontario: Queen's University, 1996).

Ghuwalewala attempted to determine if Indian, Nepalese and Thai papers were suitable for use in conservation due to the fact that they are inexpensive and are available to conservators in these countries, where expensive Japanese or American papers such as PermaLife, are not. Unfortunately, there were no conclusive results to the paper. It is a generally unhelpful paper, but perhaps the research could be expanded and done in a more systematic way.

Ordered from Queen's University

Rischel, Anna-Grethe, "New Restoration Materials from Thailand and Nepal," *New Directions in Paper Conservation. 10th Anniversary Conference of the Institute of Paper Conservation. 14-18 April 1986, Oxford* (Leigh: Institute of Paper Conservation, 1986).

Rischel traveled to Thailand and Nepal to study the production of handmade paper and assess the use of Thai and Nepalese paper for repairing and supporting ethnographic objects. Her notes describe the paper she found and briefly describe the differences in production.

Indian Paper Making Binder

Nepalese Paper

The following sources are easily accessible and a good introduction to Nepalese papermaking. This section is not intended to be a complete list of sources on Nepalese papermaking. This section is included because Nepalese paper making is talked about in some of the books in the general section.

Beatty, W.B., *The Handmade Paper of Nepal*, (Wilmington, Delaware: Hercules Powder Co., 1962).

RLIN Citation

Cunning, Sheril, *Handmade Paper: A Practical Guide to Oriental and Western Techniques* (Escondido, CA: Ravenswood Press, 1987), 57-60.

This book has a lot of useful information on paper making in general and Western and Japanese papermaking. There is a short section on Nepalese papermaking. This section is a step-by-step description of how to make paper in using the Nepalese method. The advantages and disadvantages to the method are listed.

NYU Conservation Center: TS 1105.C98

Jeanrenaud, J.P., *Lokta (daphne spp.) and Craft Paper-making in Nepal. A report on the current status, based on a literature review and preliminary field observations (May 1984- October 1984)* (Kathmandu: Department of Forests, 1984).

RLIN Citation

Field, Dorothy, *Handmade Paper in Nepal: Tradition and Change* (Washington D.C.: Hand Papermaking, Inc., 1998).

This book is the result of four trips Dorothy Field made to Nepal between 1984 and 1996. Her goals were to find those who had preserved the papermaking tradition, visited new paper mills, met papermakers, learned their methods and collected their papers. Her book, organized by trip, reveals how much has changed in just a few years. In addition to the information she provides about papermaking in Nepal, she includes information about the history and culture of the country. The book includes an excellent collection of Nepalese paper samples.

Columbia: TS1095.N4F54 1998G

Field, Dorothy, "Nepalese Paper Sample," *Hand Papermaking* (Winter 1992), 16-17.

This article briefly describes the history of papermaking in Nepal as being brought in the 10th century by Chinese immigrants. Tibetan Buddhist monasteries provided demand for paper, thus papermaking villages grew up along trading routes to Tibet. In 1959, with the closing of the Tibetan borders, the Nepalese papermaking industry was devastated. In 1980 UNICEF set up a program to support the revival of traditional Nepalese papermaking skills. The Nepalese papermaking process which is different from Chinese method is described. Field also discusses traditional papermaking's impact on the environment and UNICEF's role in maintaining a balance between the industry and environment.

NYU Conservation Center: Periodicals

Koretsky, Elaine, *Hand Papermaking in Nepal* (Kasama, Japan: Cannabis Press, 1981).

This mini-book is a travel journal of Koretsky's trip to Nepal. It begins with a brief history of papermaking industry in India. The purpose of the trip was to discover the history of papermaking in Nepal and to hopefully witness an earlier state of papermaking than in India because of Nepal's isolation from outside influences. This history of Nepalese papermaking in Nepal is unknown by the papermakers Koretsky encounters. An explanation of the Nepalese papermaking process from the preparation of the raw materials to drying sheets of paper is described.

RLIN Citation

Sen, Sivanarayan, "Hand-Made Paper of Nepal," *Modern Review* (1940).

Smith, Robert, *Papermaking in Nepal* (Winchester: Alembic, 1984).

The book is an overview of the current papermaking industry in Nepal and UNICEF's role in the revival of the industry. I would not recommend reading this book because the

information is so general but leafing through its handmade paper pages is an enjoyable experience for the paper lover.

Columbia Rare Books: BOOKARTS Z232 .AL4 1984 Sm6

Trier, X.J., *Ancient Paper of Nepal* (Aarhus: Jysk Arkaeologisk Selskab, 1972).

Trier discusses the history, manufacture and uses of writing materials, mainly paper, in Nepal based on information he gathered during three trips to Nepal and intervening studies. He explains that the spread of papermaking along the silk road has been investigated but its migration further south to India, Tibet and the Himalayas has not been well researched. Chapters include Nepal and Its people, The Introduction of paper, Fibers for papermaking, Excerpts from Literature on Papermaking Referring to Nepal, Methods of Manufacture from Four areas in India, Uses of Handmade Paper and Technical Investigations. There are a lot of informative photos of papermaking and fibers under magnification.

NYU Conservation Center: TS1095.N3 T74

Islamic

The following sources are easily accessible and a good introduction to Islamic papermaking. This section is not intended to be a complete list of sources on Islamic papermaking and is included because the Muslims brought papermaking to India and it was the Islamic culture that allowed the industry to flourish in the 16th century.

Bloom, Jonathan, *Paper Before Print: The History and Impact of Paper in the Islamic World* (New Haven and London: Yale University Press, 2001).

This very comprehensive book covers the history of paper from the earliest known through its introduction into Europe, but focuses on the Islamic world. Bloom discusses how paper was instrumental in the advancement of various fields such as Cartography, Mathematics, Music and Design. This book is an excellent resource for the early history of paper, including its introduction into India. It is filled with detailed information that is more recent than many of the other sources. It also has both pictures and diagrams of paper, books, and papermaking tools.

NYU Conservation Center: TS1091 .B56 2001

NYU Bobst: TS1091 .B56 2001

Loveday, Helen, *Islamic Paper: A Study of the Ancient Craft* (London: Archetype Publications, 2001).

This book is a good reference for the early history of paper. It also includes a systematic method for studying paper, so that comparisons can be made. There is not very much information on Indian paper. Quality –good, medium, poor (1)Thickness- measured in millimeters and taken across the sheet, every ten pages. (2)Surface characteristics- color, treatment of surface (3)Quality of Pulp- distribution of fibers, inclusions, translucency (4)Mould construction- laid or wove. (a)Chain line characteristics- grouping and separation, direction, thickness, clarity, character (b)Laid-line characteristics- number of laid line per centimeter, direction, thickness, clarity, character (sagging, straight, out of

square, etc.); type- reed, grass or wire. (5)Rib shadows- bands of greater density in a sheet of paper defined by the ribs of the supporting frame of the mould. Presence is of particular use for determining the way a piece of wove paper has been folded in the formation of a quire. (6)Comments. This system was devised the late paper conservator Don Baker.

NYU Conservation Center: TS1091 .L68 2001