

## Japanese Paper in 1776.



CELEBRATED Swedish naturalist, C. P. Thunberg, visited Japan several times in the latter end of the last century, and a translation of his works recording these visits, published at Paris in the year iv. (1796), has lately fallen into our hands. Thunberg was a remarkably close and accurate observer, and in view of the extraordinary interest which has been taken lately in the people of Japan and their manner of life, it is interesting to note how little we know of their manufactures which is not recorded in his book.

Thunberg noted that all the manufactures of Japan were active and prosperous. Some surpassed in degree of perfection those of Europe, others naturally were inferior. The Japanese were extremely clever workers in iron and copper, and their fine muslin stuffs of silk and cotton were unrivalled. The secret of their lacquer was inviolable, and they alone knew how to make a metallic alloy—a mixture of gold and copper, which they called *sova*. They knew how to make white and coloured glass, but had not yet attempted rolled glass for windows, although they ground and polished mirrors, and even telescope lenses. The art of glass work they had received from the Europeans, as also the craft of watch-making, but they were already able to make watches and to mend them. They made swords and cutlery of incomparable temper, and were absolute possessors of a secret which enabled them to paint works of art in metal.

But in 1776 the most remarkable manufacture of the Japanese was paper-making. They made an enormous quantity of paper for stationery, printing, for the decoration of walls, for use as handkerchiefs, dress, etc. The only fibre used by them for this purpose was a vegetable material, the bark of a species of mulberry (*morus papyrifera*). After this tree loses its leaves, says Thunberg, that is to say about the month of December, it is cut into branches about three feet in length, and these are boiled in a liquor extracted from the ash tree, tied up in bundles and arranged vertically in a boiler, which is then hermetically sealed. The cooking operation is continued until the bark peels off to the extent of half an inch or so at each end of the stick. The bundles are taken from the boiler and allowed to cool in the air. Each stick is then split lengthwise and stripped. The wood is cast aside as valueless, and the bark dried, cleaned, and sorted in heaps of different quality. When it has now been allowed to steep in water for three or four hours, the black skin is scraped off with a knife the natives call *kaadji kousaggi*, and at the same time the bark of more than a year old is separated from the younger material, which gives a much whiter and more beautiful paper than the rest. The workers with the knife also remove all knots and anything which would spoil the paper. The bark is now plunged again into a clean cooking liquor made of dissolved wood ashes. When this commences to boil it is stirred with a strong stick, and care is taken to keep the boiler always full in replacing the liquor that

is lost by evaporation. When the filaments of bark can be separated easily with the fingers the cooking is finished. The bleaching is the most difficult operation. If care and time be not taken over it, strong but bad coloured paper is the result. If it be allowed to last too long the paper is white enough, but greasy, spotted, and not fit to use as stationery.

The washing out of the caustic liquor is done in running water, and then the bark is stirred up by hand in a sieve until it is reduced to a state of very soft pulp. The finest paper requires that this washing should be done a second time in a cloth. The stuff is sifted in order to remove foreign bodies and flakes of insufficiently cooked matter.

When the good material has been sufficiently washed it is taken to a heavy wooden table and there beaten with hard wood batons, called by the natives *kous noki*, until it is reduced to such a consistence that it mixes with water after the manner of flour. Then it is put into a narrow vessel with rice water and a gummy infusion of *oreni* root, thoroughly stirred with a clean reed until it is perfectly homogeneous, and then thrown into a larger vat. This is the working vat which the Japanese call *fine*, of larger size than European vats. The moulds are of reeds, as the native name *miis* indicates; the Japanese have no knowledge of those with metallic threads. The sheets are piled up on a table covered with a double cloth, and a thin reed, rather longer than the sheet of paper, is placed between each. A block of wood, the size of the sheet, is placed upon a pile of them, and on this stones are piled up, of light weight at first and heavier as the paper begins to dry. In about twenty-four hours the stones are taken off; each sheet of paper is lifted by means of the reed which separates it from its companion, and the sheets are placed on long polished sticks, to which they adhere easily by reason of the degree of dampness which they still possess. They are then completely dried by exposure to the sun, and made up into packages for sale.

Rice water is employed in the vat to give whiteness and consistence to the pulp. This water is simply an infusion, and care is taken to press the rice very lightly. Paste made from flour is not nearly so good, because it has nothing like the same adhesive qualities. For this purpose also Japanese rice is the best, as it is whiter and has more body than any that grows in other parts of Asia. The *oreni* already spoken of is the *hibiscus manihot* of Linnæus. When this is lacking the leaves of the *sane kadsouria* (*uveria Japonica*) are employed, but this is much inferior to the *oreni*. Both these vegetables gelatinise quickly when broken up in cold water.

The common paper is used for packing merchandise, and is so strong that it can be twisted into a sort of cord. The Chinese make paper of cotton and of bamboo. This is transparent, thin, and yellowish in colour. The Siamese make it from the bark of the tree *pilok kloi*. This is a black or white paper, according to the part of the plant used, but is very coarse. They write on both sides of this, not with a brush as the Japanese and Chinese do, but with a flint style. In Japan, a kind of brown paper with grey stripes fetches a good price. It is gummed together



and made into dressing gowns, etc. Only very elderly people use this clothing, and in cold weather they put on with it two or three other dresses. It is a forbidden dress for the younger people, but seems merely to mark the age of those who wear it, for it has no special quality of warmth.

Another paper still more rare than this was given to Thunberg. This was a pure white, and resembled cotton cloth. It was used in the same manner and for the same purposes as European linen, and was sent occasionally to the wash-tub. The spiriting of the washerwoman, however, had to be done gently, and could not be repeated very often.

### The Book-hunter.

A CUP of coffee, eggs, and rolls  
Sustain him on his morning strolls:  
Unconscious of the passers-by

He trudges on with downcast eye;  
He wears a queer old hat and coat,  
Suggestive of a style remote.  
His manner is preoccupied—  
A shambling gait, from side to side.  
For him the sleek, bright-windowed shop  
Is all in vain—he does not stop.  
His thoughts are fixed on dusty shelves  
Where musty volumes hide themselves—  
Rare prints of poetry and prose,  
And quaintly lettered folios—  
Perchance a parchment manuscript,  
In some forgotten corner slipped,  
Or monk-illuminated missal bound  
In vellum with brass clasps around.  
These are the pictured things that throng  
His mind the while he walks along.

A dingy street, a cellar dim,  
With book-lined walls, suffices him.  
The dust is white upon his sleeves;  
He turns the yellow, dog-eared leaves  
With just the same religious look  
That priests give to the Holy Book.  
He does not heed the stifling air  
If so he find a treasure there.  
He knows rare books, like precious wines,  
Are hidden where the sun ne'er shines;  
For him delicious flavours dwell  
In books as in old Muscatel.  
He finds in features of the type  
A clue to prove the grape was ripe,  
And when he leaves this dismal place,  
Behold, a smile lights up his face.  
Upon his cheeks a genial glow—  
Within his hand Boccaccio,  
A first edition, worn with age,  
"Firenze" on the title-page.

From FRANK DEMPSTER SHERMAN'S "Madrigals and Catches."

HERBERT SPENCER, according to M. Crofton, in *Lippincott's*, "speaks with great gusto of a letter he received not long since from a publisher in the far West, asking how much he would take for the exclusive right to publish his poem 'The Faerie Queen' in the United States."

MR. KARL KRAUSE, of Leipzig, has constructed a steam cover-blocking press for laying on from two sides, at which two workmen can work at the same time, so that the output is doubled. One of these machines will be on view during this month at the Leipzig factory.

MR. GLADSTONE, while visiting Oxford for his lecture on "Mediaeval Universities," managed to squeeze out time enough for a visit to the Clarendon Press, accompanied by the Master of Pembroke. He was received by Mr. H. Hart and Mr. L. Gell, who conducted the illustrious visitor over the building, and introduced Mr. Geo. Hawkins, the father of the chapel, who gave Mr. Gladstone a hearty welcome in the name of the employes. Being pressed for a speech, Mr. Gladstone made some few remarks upon the great work upon which they were engaged, reminding those present that printing was not mere mechanical work, but an art. That excellence was what should be sought after, and he cited the case of a beautifully printed pamphlet which was discovered some time ago, which had been brought out by the great painter, Francesco de Francia, and showed that it was not the form of the work that was to be considered, but its degree of excellence which sealed it a work of art.

AN acquisition indeed is that recent one made by the Lenox Library, the importing and safe ocean transit of which has given so much anxiety to its trustees. I refer to the original letter, describing his first western voyage, written in Spanish by Christopher Columbus, dated February 15th, 1493, and printed at Barcelona in old gothic type on two sheets of paper. It is postscript addressed to the Secretary of the Exchequer and their royal highnesses the beloved king and queen, Ferdinand and Isabella. This almost priceless document recounts all of the details of the great discovery, and conveys in fervid sentences the emotions of a continent finder. A Latin facsimile of the letter was already in possession of the Lenox Library, but for this original nearly \$8,000 were cheerfully paid to Bernard Quaritch, who bought it in 1889 or 1890 from Maisonneuve, of Paris.—*The American Bookmaker*.

THE wear and tear of books in a public library is apparent from the eleventh report of the Newcastle-on-Tyne committee on the local institution of that character for 1891-92. It seems that 485 volumes had been withdrawn from circulation during the year, having been found to be so imperfect or worn as to necessitate their replacement by new copies. Over three thousand volumes have been so dealt with during the past eleven and a half years, or one in eleven of the entire stock. One thousand one hundred and five volumes have been bound or rebound for this department during the year, together with a very large number which have been repaired on the premises by the library staff. Not a single volume was lost during the year, and during the eleven and a half years only twenty-two volumes in all have been lost.

MESSRS. SAMPSON LOW & Co. are publishing a finely-illustrated monthly magazine devoted entirely to the interests of the Great Chicago Exhibition. The chief attractions of the World's Fair are artistically presented, and the letterpress, contributed by a multitude of writers, gives the best possible reasons for national and international support to the enterprise.