SILK HISTORY

The Chinese kept the secret of the silk-thread production for ages selling the products at a very high price. The silkworm (bombix mori) is an useful insect that has learned not only to leave with the man in the course of ages, but also to adapt itself to the man' changeable demands. Probably it is the unique example of insect completely domesticated.

It's difficult to establish the rigth age of the beginning of the silkworm-breeding: it is almost sure it began in China from 2500 to 3000 B.C., but some people attribute its origin to India in 600 B.C.Only towards 1000 or 1100 A.C. silk spread over the Mediterranean, consequently in Sicily by the Arabs and the Norman prince Ruggero II, reaching splendours times. As regards Italy, silk manufacture extended from Sicily to other provinces; but from the 1800 the breeding interested more the Center-North ones.

From the agricultural breeding activity and cocoon production other connected activites developed: the silkworm's egg production, the silk reeling, throwing, weaving dyeing and lastly the fabric's printing and finishing. Hundred of thousands people could work in the various operating cycles. Today, the silkworm-breeding and the silk reeling have given up in Italy. Silk as raw material is imported from China and South America. Instead the weaving, dyeing and printing works are still active and represent a fundamental landmark all over the word.

Silk manufacture: from the thread to the finished goods

Silk is imported from China and in very small quantities from other countries. It can be imported as unbleached yarn (hank) seldom already on reel, or woven in smooth (twill, satin, crepe de chine) or jacquard fabrics.

The silk fabrics, coming from China arrive in Italy already boiled off. This treatment eliminates the 25% of sericin (therefore of its weigth) with an obvious saving of carriage. These rolls are often boiled off again in Italy, in order to eliminate incidental residues on the fabric. The silk imported as yarn or hank is consigned to the THROWING, where it is rewind, twisted, and wound on bored reels and lastly dyed. Of course for each woven article there are particular processing .

After being processed and throwed the silk thread is utilized for two important kinds of:

1. It can be DYED YARN (package or hank dyed), then woven to realize smooth fabrics, jacquard, stripped, tartan, etc. both for ties and for clothing industries.

To realize dyed yarn, jacquard or diapered fabrics they start from a pattern realized by the artist and turned on millimeter paper by the technician, then turned into bored cardboard which drives the threads moved by the jacquard machine. This operation is almost completely made by a computer that drives the machines. Even by this system it is possible to create exclusive patterns, inserting the exclusivist's name into the motif. On the back of the tie there is a docket with the stylist'name.

2. The yarn can be used unbleached and successively woven into various articles (both smooth and jacquard) that will be printed and dyed. The unbleached fabric realized by several weaves and patterns in order to be prepared for dyeing or printing must be boiled off. It is dipped in a soap and water bath. By this procedure the fabric looses about the 25% of its weight because the sericin is completely eliminated. Silk is now ready to be dyed, printed and finished.

DYEING: after being boiled off, the silk fabric is dyed by several different machines, choosen according to the article and its weight. The dyeing is made into hot water with dyestuff, in conformity with the required fastness and with the subsequent processing. When dyeing and drying are over they can do the finishing.

PATTERN, PHOTO-ENGRAVING AND PRINTING: they first choose the patterns for the future collection. The patterns are realized inside the factory or bougth from external professional men. Afterwards they are consigned to the PHOTO-ENGRAVER and with the printer's cooperation they are "read" that means divided into the colours they are composed of; the more are the colours the more are the frames needed for the printing.

The colour selection is made by the photo-engraver and his tracer according to a particular expressive language which allows to obtain a fabric with the same effects of the pattern. If a pattern is composed of 6 or 12 colours, the tracer will make 6 or 12 tracings, each of them of only one color. Then a special fabric called "buratto" is spread and stuck on the print frames. The "buratto" is very thick, but the print-pulp must go through it. The frame is smeared with a gelatinous photosensitive compound (like the ones used on photografic films) and when it is dry it's ready for the photo-engraving. The first tracing is spread on the gelatinized "buratto" and illuminated with a special lamp for a fixed time.

When illuminated the gelatine becomes insoluble, while the part sheltered by the shady ink dissolves in water: after that on the frame the required drawing becomes visible. The more are the colours the more are the frames.

A pattern can be of one colour (i.e. black pois on white ground) to a maximum of 38-40 colours.

On an average one there are 6-12 colours a pattern.

Each frame before to be consigned to the printer is tested in the photo-engraving on a small print table. A great help to realize tracings comes from CAD programs that can do the direct engraving of the print frames.

Silk can be printed also by a rotary press or a calender. This printing method is used for middle-high quantities with drawing ratios limited by the calender circumference. The engraving method is like the one described for the frames and also in this case there is a calender of each colour.

PRINTING: after preparing the print pulp (by a complex and scrupulous procedure) with the colours used by the stylist, they decided which machine to utilize for the printing in accordance with the kind and the quantity of the fabric and with the pattern peculiarity. The traditional SWAGING is almost disappeared. The printer with the help of an assistant used to work manually. They laid the frame on the fabric and smeared the colour with a spatula inside the frame. This work was repeated along the whole table (about 40 mt.) and every time they move the frame (about 90 cm.). This treatment was repeated for each color. Nowadays this procedure is done by computerized pneumatic machines (trucks or rotative tables).

When they must print high quantities (1200-2000 mt. a pattern) and (300-500 mt. a variant) they use the "manomacchina".

By this system they print all the pattern colours simultaneously. They can print maximum about 20-24 colours. Whatever the printing system is, the fabric must be dried an vaporized to fix the colour to the fiber. The thick part and the marks of color left (the ones not fixed by the vaporization) are eliminated by a strong final washing. After the drying the fabric will be ironed and finished by the rameuse.

At the end of all these procedures and after a careful check, the fabrics will be suitable to become dresses, scarfs, ties and every other thing the man's fantasy may invent to dress, undress, cover or adorn.

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