MUSEUM
DER KULTUREN BASEL

Iridescent Everyday Wear
Indigo, luster and pleats

Three very special features distinguish these impressive skirts: their colour, which is a dark, almost blackish midnight blue hue, their countless pleats that lend certain stiffness to the fabric, and the clothes' near metallic sheen. The skirts are handmade by the Miao women with the skills and knowledge concerning the individual fabrication steps being passed down from generation to generation.

So, an exhibition showing (almost) nothing but blue skirts – why so?

These skirts are the show's soloists; we want to draw attention to the clothes' unique materiality and expressiveness and would like to invite visitors to experience these objects from a new point of view.

Hundreds of handmade pleats pressed into a fabric died black blue with indigo and starched stiff – the skirts of the Miao women are the very peak of craftsmanship. The compact, stiff pleats – the so-called plissé – lend a kind of solid ampleness to the skirts that seems to give them a life of their own. The skirts' absolute simplicity is another captivating feature: they are made of a pleated skirt – a straight piece of cloth folded into tight pleats – and a (mostly wide) wrap-around waistband. With its straps, the wrap-around skirt is easy to put on and adjusts to the individual wearer.

The cloth's midnight blue, almost black colour is accomplished by repeatedly dyeing the fabric with indigo. In addition, the material is sometimes coated with egg white, animal blood, plant extracts, or ferric clay. The sheen is accomplished by repeatedly beating the cloth. The folded panel are worked vigorously and intensively on a stone slab, thereby creating a metallic sheen. Observing the dyers at work, one can plainly see how much power and energy are inflicted on the material.

After dyeing and treating, the fabric is put in pleats which are then fixed with rice starch. The starch not only keeps the fabric in place, it is also responsible for making the skirts stiff and giving the cloth its unusual materiality. By applying vertical accordion pleats, a tremendous amount of fabric can be used. Occasionally the hemline will measure 10 metres and more. The flat knife pleats often found in Europe create a less voluminous impression; they only show the plissé's visual effect, i.e. increasing a smooth fabric's visual density.

Shimmering materials and surfaces are often thought especially valuable. Shiny objects are frequently made of precious and often hard and therefore difficult to work materials, such as stone, metal or wood. The Miao's skirts' special sheen and volume of material creates the impression of something very valuable. It reflects the amount of time and material that goes into making this item of clothing. The skirts also show how much importance the Miao community attaches to the time-consuming process of making the skirts. Handing down the knowledge and skills involved in dyeing and pleating the fabric is becoming part of the Miao's cultural identity within China; wearing these skirts shows who you are, where you belong, and where you come from.

Plissé – The Art of Pleating

Hundreds of pleats are put into the fabric of the Miao's skirts. The regularity and refinement of the pleating shown in their skirts bear witness to their skills and experience. To ensure the pleats will not unfurl themselves while wearing, the fabric is sprayed with rice starch and dried in order to fix the plissé.

Commonly, there are two different ways for pleating fabric; one is the panels are sewn through lengthwise with several parallel rows of running stitches, thereby exactly defining the depth of the pleats. When pulling on the running stitches' thread, the material folds itself into pleats, which are then arranged either by hand or with a tool. Alternately, the pleats can also be pinched into the material. This technique is time-consuming and more difficult, and the fabric is usually stretched slightly to make it easier to pleat. Additionally, the material may be scored with the fingernails.

The double pleating in many skirts is also an astounding feat. Meticulously pleated fabric is folded a second time, now into larger pleats, and then fixed in place. Self-similar structures like these can also be found in nature, as well as in a mathematical structure, the so-called fractal. This astounding technique is then enhanced further: the second layer of pleats is not arranged parallel to or consistent with the first layer, but slightly misaligned and set off diagonally. The resulting pleats seem twisted into a spiral. This technique's artisanal precision and subtlety are remarkable.

The length of the skirts may vary. Skirts just covering the knees are most common. There are only a few ethnic groups of the Miao in which the women have decided on ankle-length skirts. Likewise, very shorts skirts are also quite rare. The women from the villages of Datang and Xinquiao are known to wear skirts no longer than 17 centimetres. Making these very short skirts is not easier than making long ones. Sometimes it can even be more complicated, as the very tight and accurate pleats are smoothened out in the lower two-thirds of the skirt to make it wider towards the hem and make it stick out a bit.

Material, dyeing and further treatment

Knowledge and skills appertaining to the manufacturing of the fabric and the technique of pleating is handed down from one generation to the next; that also includes choosing the plant fibres for the fabric, extracting and processing the indigo dye, the use of numerous plant, animal or chemical additives for intensifying and changing the blue colour and last, but not least the technique of beating the sheen into the material.

The Mioa women produce all parts required for manufacturing the skirts themselves. For fibres, linen, flax and ramie (China grass, bot.: *Boehmeria nivea*) where cultivated. These plant fibres were spun into yarn and then woven into narrow panels. It was only in the 20th century that cotton became available, initially only as raw material and yarn, later also as finished fabric. The finished fabric the women purchased was dyed and treated exactly like the self-made ones. To imitate the narrow panels of the hand-woven material, the wider fabrics where cut or torn before use, although this had no influence on the way the skirts looked afterwards.

The skirts are dyed with indigo. Once a year this dye is made from different plants – mostly using the fresh leaves of *Strobilanthes cusia* – which are left to ferment in the sun soaking inside a water basin. During this process, the leaves release the indigo pigments they contain into the water. The water is then mixed with a strong lye such as chalk and then mixed vigorously to aerate the solution which precipitates the pigment. The resulting paste keeps for up to one year.

For colouring the fabric, on warm autumn days a dye bath is brewed in a huge tub. Often urine is used as an ingredient; ash in the water keeps the dye bath alkaline, and a bit of rice wine helps the bacteria grow that reconverts the indigo into its water-soluble and therefore dyeable state. Every morning, the dyer tests the dye bath with her tongue in order to tell from the characteristic taste whether she can start the dyeing process. It takes a lot of experience and knowledge to know when it is time to start dyeing.

The indigo dye bath is a yellowish green, and so is the fabric when the dyer first takes it out. Only when it comes into contact with oxygen does the fabric obtain its typical indigo blue colour: the pigment changes into its water-insoluble form. The almost blackish blue hue is achieved by repeatedly dyeing the fabric and letting the indigo turn blue through drying in the fresh air. During this process, a lot of indigo accumulates between the fibres. Theoretically, these pigments could be washed out, but this is where the material – during the following treatment – gets its shine and metallic sheen. To achieve this, the material is folded after the dyeing process, placed on a smooth stone and then vigorously beaten with a wooden hammer. This flattens the fabrics threads creating a smoother, shinier surface.

To enhance the materials prestigious shine and metallic sheen, several other ingredients are used, such as chicken egg white, which is applied with a feather duster. Further additives for dyeing or pre-treatment and finishing include buffalos',pigs' or chicken's blood, the water used to boil buffalo skins, extracts from tree bark, persimmon (kaki, bot.: *Diospyros kaki*) peelings which contain tannin, sweet potato peels, walnut hulls, oak apples (oak apples are lumps on the back sides of leaves caused by chemicals injected by the larva of gall wasps; they contain a high amount of tannin and when combined with ferric acid produce a dark brown tint) as well as other seeds and plant parts.

Some skirts are practically coated with ferric clay which is fixed with a binding agent. Other skirts have a black coating that consists of pigments applied with a binder. What components this black coating consists of – possibly soot, ground minerals, or iron salts with tannin – has not been thoroughly examined.

Another set of skirts on display in the exhibition shows an unusually thick, lacquer-like shiny black coating which was applied onto the fabric in narrow stripes. The basic material used for these skirts is a rather soft, unstarched cotton fabric creased into fine, tight pleats and then covered with a lacquer-like coating. Through wear and tear the pleats are flattened, causing the coating to tear into narrow stripes which then splinters into irregular lacquer slivers thus creating the typical glitter on the surface of the almost black skirts.

The lustrous green-golden skirts of the Miao from around Huangping are noteworthy as well. The colourful shimmering effect is created by using one of the oldest synthetic colourants, Aniline violet. The colourant is not used as a dye, but instead is ground and mixed with water to create a paste which is then used to coat the fabric in several thin layers. After drying, the material is smoked over a fire with resinous wood. This process must be repeated several times to create the prestigious greenish golden sheen.
As this is not a true dyeing process and the colourant is not sufficiently fixed with a binding agent, the colour is not abrasion-resistant. Locals avoid sitting next to someone wearing a skirt like this to prevent their own clothes being stained by the violet colourant.

Indigo, sheen and pleats elsewhere

The Miao women's skirts' typical characteristics – very dark indigo blue dye combined with a surface polished to a glossy sheen and neatly pleated skirts – are found in other cultures as well, for example in different African or European countries.

In Western Africa, indigo is widely used as a dye. For example, the Tuareg consider clothes dyed with indigo to be a sign of wealth and prosperity. In an initiation ceremony, the young men put on a turban which they then will hardly ever remove again. The long shirts with their wide sleeves (boubou) and the turbans (shesh) shimmer in a rich blackish blue colour. For this effect, the fabric is dyed and then worked with wooden hammers on a smooth surface. Due to repeated dyeing, the colour on this fabric is not abrasion-resistant and rubs off on the skin, but this peculiarity is considered a sign of particular elegance.

Many dyers in Africa – for example those of the Yoruba in Nigeria, the Mandinka and Dogan in Mali and the Sonike in Senegal – are as famous for their knowledge concerning the technique of dyeing as well as for the dyed fabrics themselves. Among the Sudanese Hausa the men are responsible for dyeing with indigo and they continue their century old tradition until today.

The technique of compressing fabric by means of pleating and creating a high density of material in a very small space, thereby enhancing its optical and haptic quality is known in Europe as well. Traditional national costumes often feature pleated skirts. The technique used here is similar to that of the Miao women's: the pleats, usually hand-pressed are fixed with white glue to stabilize the pleats in the fabric. Therefore, the European skirts are often stiff and bob when they are worn.

Another technique used for pleating is ironing the pleats and then sometimes fixing them with invisible stitches, although such skirts usually have flat knife pleats, not stand-up accordion pleats. With accordion pleats, more material is compressed than by using flat pleats that lay horizontally beside or behind each other.