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Introduction——The importance of textiles

Textiles are one of the most important and fruitful themes for studying the Early modern era, and, when one intend to undertake comparative cultural study on various Asian countries including Japan, it is almost an inperative object of attention. One reason for this is that, from the beginning of teh 16th century, the active cultural exchanges among many countries including those between Asian and European countries can be understood exactly through the study of the textile trade. There could have been some Asian countries in which people did not need pepper or tea, but not one country which never needed textiles. So, the trade in textiles was extremely important not only for European countries but also for all Asian countries among themselves. In addition to this, as every one of the Asian countries or districts had its own traditional textiles, the introduction of new techniques and patterns gave variety to its textiles and encouraged a mixture of traditional and new techniques and many innovations in patterns and methods of production. Through these developments, one can understand the common, as well as the divergent, aspects of the cultural variations existing in the Asian region. The second reason which makes textiles an important theme is that the different values of everyday life in the different eras of history can be understood more

clearly through them. Textiles and clothing were obviously valuable items for the people of that time. Asian wealth was often concentrated in temples, ornaments, clothing and textiles, as against land, houses, cars and investments. Even today, in Southeast Asia, there are poor villages which have great temples and people who are wearing exquisite handmade clothing. What the people regarded as valuable was very different according to each culture. For the reason they were considered valuable, these items were treated with great care through many generations. They were handed down as a legacy until textiles and clothing became an important and indinsensable core of the culture. These items were also depicted in many paintings and prints as well as described in literature, and their patterns were used on ceramics, books, papers and leather. Textiles forged inseparable connections with other cultural elements and influenced them very greatly.

In order to understand these aspects of the theme, the following topics will be discussed in this paper: Japanese textiles which were closely connected with various kinds of Asian textiles; English and French textiles which have also been influenced by Asian texiles; Southeast Asian textiles mainly through those of Indonesia; and finally the differences between Indian and Chinese textiles.

The Early modern textiles in Japan

Japanese textiles during the Early modern period (from the beginning of the 16th century to the end of the 19th century), were closely connected with various kinds of Asian textiles. In "Commerce and trading between China and uncivilized countries——the enlarge edition" written by Nishikawa Joken in 1708, there are records referring of striped cotton textiles. Stripes have been called "shima" in Japanese since the beginning of the Edo period. This means islands. The original meaning is forgotten now, and the character used has an

other meaning which is silk. In this book, the author writes shima in the Chinese character which means islands, which indicates that the people of the Edo period had not yet forgotten that the Japanese stripe pattern had originally come from the Southeast Asian archipelago. In this book, are found the names of the places from where the stripes came, Kochi (North Vietnam), Siam (Thailand), Mughal (India), Karapa (Jakarta), Coast Coromandel (East coast of south India), Bengara (Bengal), Sarahta (India), Mohah (India), Saint Thomas (Madras in India), Rau (India), Chaul (Bombay in India)[1]. When stripe patterns were so popular, the names referring to the places in India and Southeast Asia became the names of the different types of stripe patterns such as Seirasu (Ceylon=Srilanka) stripe, Bengara (Bengal) stripe, Chauru (Chaul) stripe, Santome (Saint Thomas) stripe, Jagatara (Jakarta) stripe, Chanpa (South Vietnam) stripe etc. The Capitan stripe was so-named because it represented the title of the head of the Dutch Factory in Nagasaki. This pattern was not from the Netherlands, but from or via Indonesia. The Dutch East India Company actually introduced many kinds of stripes which suited the Japanese taste.

There were four kinds of traders who brought the stripe patterned textiles to Japan: Ryukyu merchants, Japanese merchants, Chinese merchants and Dutch merchants. The wealth and newly-improved trading in Southeast Asia, began in around 1400 with China's increasing imports of pepper from surrounding countries. After that, Ryukyu and Muslim merchants played an important part in Asian trading. Ryukyu was under the Chinese tribute system which gave certain trading advantages to Asian countries, because the merchants who went to China with envoys could trade without paying tax. Ryukyu merchants traded not only in China, but also in Malacca where the Indian textiles were traded. In the following extract, Portuguese Tome Pires writes about Ryukyu traders who came to Malacca in 1515:

> They have three or four junks which are continuously buying in China, and they have no more. They trade in China, and in Malacca, and sometimes in company with the Chinese, sometimes on their own. In China they trade in the port of Fuqem. (some lines omitted) They sail to China and take the merchandise that goes from Malacca to China, and go to Japan, which is on island seven or eight days' sail distant, and take the gold and copper in the said island in exchange for their merchandise. (some lines omitted) They bring a great store of paper and silk in colour; they bring musk, porcelain, damask; they bring onions and many vegetables. They take the same merchandise as the Chinese take. (some lines omitted) One, two or three junks come to Malacca every year, and they take a great deal of Bengal clothing[2].

Tome Pires describes the Liu kiu (Ryukyu) people as very truthful white men, well dressed better than the Chinese, more dignified, and he comments that they do not buy women or slaves. "Nor would they sell one of their own men for the whole world, and they would die over this". Pires writes about many more aspects of the Ryukyu people than the Japanese, because the status and honor of Ryukyu was higher and known better than that of Japan in 16th century Asia. Ryukyu merchants introduced a large variety of important goods including many kinds of textiles into Japan. These goods would innovate Japanese culture, but the Rykyu merchants could not compete with Western trade and Ryukyu was invaded by Japan and received no help from China to defend itself.

Around 1570 until 1635, was a period when Japanese merchants traded goods in return for Asian products and this was also an important and very active era for Southeast Asia. The purchasing power of Japanese silver as well as the purchasing power of Potosi (Peru) silver for the Spanish government ensured the wealth of Southeast Asia. From around 1590 until 1635, approximately one hundred thou-

sand Japanese engaged in trading in Southeast Asia. The Japanese collected together in seven Japanese districts in cities in Thailand, Cambodia, Vietnam and the Philippines. The Japanese mainly wanted to obtain Southeast Asian leather, incense and Chinese textiles. For Chinese silk, they had to trade in Manila or Huian, because Japan refused to be under the Chinese tribute system, and forbade official trading with China. For this reason, Japan turned its purchasing power towards Southeast Asia.

With regard to the Chinese traders, though official trading was forbidden with China, Chinese ships went into the ports of Hirado and Nagasaki throughout the Edo period. The Chinese lived in the town of Hirado quite freely, but after the port of Nagasaki was opened, they were told to live with in a limited area. Until the 1630s, Chinese trading compared with that of Spain and the Netherlands, was the most active in Asia. Unofficial trading with Chinese merchants introduced numerous Chinese popular culture as well as Southeast Asian products, because Chinese ships which started from Southern China, visited many important ports in Southeast Asia, en route for Japan. In the case of Dutch trading, in the beginning of the 17th century, the Dutch ships used to start from Amsterdam for Asia with cargo which members of the general public had invested in. The merchants sold Indian, Southeast Asian and Chinese products to Japan, and bought silver from the Japanese until 1616, after that only copper was available from 1625. In 1668, Japan forbade exports of silver because the supplies were being exhausted. The Dutch merchants sold this silver or copper, bought textiles at Coromandel coast in India, Indonesian textiles at Batavia and Bantam, Chinese raw silk and textiles in Taiwan and Patani as well as leather, lacquer, dyes, wax, lead and mercury, etc. Then they sold part of these goods in Ayutthaya in Thailand in exchange for deer leather and tin. Later they sold the deer leather and Chinese raw silk, as well as Chinese, Indian and Indonesian textiles to Japan. To Japan they sometimes sold Euro-

pean gilded leather, books and from 1765 even silver from South America. Tin was sold at a high price in India and Europe. To China, they sold white sandalwood from the Timor islands and South American silver. Of course, they had to sell Asian products to European countries. Russian, East European and colonial products were traded in Amsterdam. The Dutch merchants sold them in ports on the Mediterranean Sea, then bought French and Spanish wine and salt, and exchanged these for wood on the coast in the Baltic sea.

Many kinds of textiles were introduced to the Japanese by these traders. Indian textiles and Chinese textiles were so different from each other in their patterns and techniques. Japanese textiles were always influenced by Chinese textiles, and from the 15th century, Japanese textiles began to express certain elements of Indian textiles through contact with Southeast Asian countries. With this development, Japanese textiles began to exhibit features which were also common to those of Southeast Asian textiles. Until that time, Japanese textiles had adopted many patterns similar to those of Chinese textiles such as the linking swastika pattern called "the Saya pattern", plum blossoms, circles of peonies, the tortoiseshell pattern, hexagon and octagon patterns, the treasures pattern and in particular the scroll pattern, these also included Persian and Buddhist patterns. Chinese textiles themselves were influenced by elements from both India and Persia. With regard to the different types of weaving used, Japanese textiles included many kinds of brocade which was fabric woven with a raised pattern of gold or silver threads, and damask which was silk or linen material with designs made visible by the reflection of light. These also came from China. However in the Early modern era Japanese textiles were influenced by a variety of additional sources including different patterns and colours of textiles which the Japanese people from the ordinary classes developed and enjoyed themselves. Yamabe Tomoyuki writes about Japanese stripes as follows:

In the Early modern era especially after the middle of the Edo period, very simple stripes called "suji" and simple plaids patterned with these, developed and changed a great deal into various kinds of stripe patterns and colours called "shima" from which people could ascertain not only the sex, age and class of the person but also an impression of elegance or vulgarity, dandyism or foppishness, chic or lack of style, an attractive or an indecent quality, warmth or cold. That is to say, the stripes called "shima" after the middle of the Edo period, were an advanced type of stripe pattern which was expressed in a variety of ways. The stripes called "suji" and the stripes called "shima" were completely different. I can say that before the Edo period, there were no "shima" meaning 'real stripes', though the weaving process was the same[3].

These striped textiles were not imported but were exclusively Japanese based on Indian and Indonesian textiles. But it is difficult to find such a variety of stripes in Indian and Indonesian textiles as we can find in Japanese ones. We can see them in only a few villages in Indonesia today. This variety was obviously something unique to the Japanese taste at that time. Of course, the stripe pattern itself was one of the oldest pattern for the Japanese. The oldest record of a Japanese stripe pattern is found in a few lines of "Dong yi zhuan" in "Wei shu" dating from A.D. 238 (A report about the uncivilized people of the east in the history of the Wei dynasty). It says that the Japanese queen Himiko offered a piece of Vertical striped silk textile to the king of the Wei. In return the king gave five pieces of red brocade with a two dragon pattern on each as well as ten pieces of crepe carpet etc[4]. The next important event for the development of textiles was the start of the tax system. This began in the 8th century and weaving experts were sent to over twenty districts to teach the people how to weave silk. These governmental experts were educated by Chinese technicians,

and the consumers were government officials and aristocrats. In Shosoin, there are about one hundred thousand textiles including numerous Chinese textiles, domestic textiles, and little pieces collected from 752 to 757, and these textiles have not yet been completely organized and checked[5]. In the Heian period (794–1192), the technique of weaving degenerated but the technique of dyeing and combining colours was elaborated. About one hundred combinations were produced, and these were given names taken from nature which were often found in the literature of the time. The parts of clothing and textiles which were appreciated were different in each period. In the case of the clothing which noble women were wearing, it was the layers of the front opening and the whole length of the back which were appreciated. One hundred combinations of colours were used in layers, and an elaborate techniques of dyeing was used for the back, for example gradual shading of the dye. In one type of shading named "fragrance", the colour was gradually shaded off at the bottom of the clothing. The tax system for textiles expanded throughout the nation. There were as many as thirty five kinds of dyes in 927.

Another development in textiles began at the end of the Heian period. The trade between Japan and the Son Dynasty in China started when Japan had large gold reserves, and this was planned by Taira no Kiyomori. Abundant quantities of Chinese textiles began to be imported again. Numerous priests also went into China during the Son Dynasty, and came back with a variety of textiles. In the next era before the Edo period, as the Samurai class became the rulers of Japan, other kinds of textiles emerged as treasures. Examples of these included combinations of colours of thread in their armour and battle dress, embroidered cloths decorated with Buddhas which the Samurai had on the battle field, priests robes, alter-covers in temples, costumes for No plays and sacks and small multipurpose textiles for the tea ceremony. The imported pieces of textiles for the tea ceremony were traded within Japan for large sums of money, and in the Edo

period, the value of these tea ceremony textiles increased according to the age of the items and from the 14th century, these were classified into seven categories. The Japanese also bought some Belgian tapestries for their seasonal festival processions, and Persian carpets for battle coats. It was 1246 when the first private weaving company was born, but many private factories and big shops emerged in the Edo period.

The most important innovations for Early modern textiles, included the variety of regions from where they were imported, the variety of purposes for which they were used and the peoples' interest in textiles which we can see in paintings, prints and literature. These also included the introduction of cotton. Cotton was introduced into Japan in 1418 from Korea and stripes, batik and ikat were all re-introduced as modern patterns and techniques in decorative cotton in the 16th century. Stripes and ikat were patterns, batik was a technique of dyeing and cotton was of course a type of material, and these were closely connected with each other. It is said that there were three routes which carried the ikat pattern to Japan. One route was from India, via Java, Borneo, the Philippines, Taiwan, the Ryukyu island, and from there introduced into Japan. It was then learned by people and they produced the Japanese form of ikat called "kasuri". It was also introduced via Kyushu, Shikoku and the Chugoku district, the people of each district produced their own version of the ikat pattern. Another route was into Japan from India via the Philippines, and after being learned by the Japanese in Nara, its use spread to the north east part of Japan. The people here produced five kinds of ikat. Another route was into the San-in district of Japan from India via the Philippines, China and Korea. The people in this district produced three kinds of ikat[6]. From the middle of the 18th century to the beginning of the 19th century, the use of ikat gradually spread into Japan from the south northwards. The production of ikat involves an important technique which was one of the characteristics of Asian

textiles, and there are variations all over Asia. Japanese ikat patterns are smaller, more abstract and less colourful than those of Indonesia and Thailand.

Batik is the name of a type of cloth in Indonesia, and it is called Chintz in India, printed cotton in Europe, Sarasa in Japan. There were stripes made by both weaving and sarasa or dyeing. Indian chintz and its production techniques began in about B.C. 2000, these extended gradually into Indonesia, Thailand, Persia, China, Europe and Japan. A Chinese report of 1350 about Java island, states that Java had batik and exported it to Vietnam, Malay, Iraq and even Colombo[7]. Persian artists went to India to learn the technique of batik making. It was introduced to Japan in the 16th century and was imported up to the 18th century when the Japanese began to make it themselves. Imported batik was used in expensive clothing, and domestic batik or sarasa was used underclothing and quilts. Each region in the world, invented and used its own dyes and its own way of dyeing, even in Japan, the different districts used different methods. India used alum, iron-salt and wax to prevent dyeing, Java used wax, and Japan used paper and paste which had always been the traditional way of dyeing cloth. Asian countries used rubia cordifolia but European countries used rubia tinctorum. Kyoto used inorganic dyes whereas, Kyushu used organic dyes. Indian chintz included pattern of tress, animals, birds and geometrical patterns, but the Japanese imported and produced tiny patterns with flowers, a combination of flower and scrolling vines or Karakusa, folding fans, incense sacks, crests, gingko leaves and three comma shapes, as well as stripes. But in Japan, sarasa was only one among numerous textiles used and was not so popular because Japanese dyeing had already been established and elaborated before Indian chintz came into the country, in addition, the Japanese had already introdused almost all the flower patterns from China. Japanese dyeing involved many kinds of techniques——Indigo dyeing, tie-dyeing, multicoloured paste-resist

dyeing, stencil dyeing, freehand paste-resist dyeing etc. For these reason, sarasa did not have the great influence of its European counterpart.

English and French textiles influenced by Indian textiles

The development of English and French textiles, was greatly influenced by the introduction into Europe of Indian chintz. European chintz became the basis of modern textiles and interior design. With the setting up of the Dutch East India Company or VOC (1597), the English East India Company (1600) and the French East India Company (1664), superior quality dyed Indian textiles came into Europe. In 1609, william Finch sent a list of the types of cotton cloth available in western India, suitable for the European or Levantine market to Europe. By 1614, the English Company sold more than 12,000 pieces of textiles from Surat, in 1619, over 26,000 pieces were sold. In 1621, the exports from India increased to 123,000 pieces, and by 1625, this reached 221,500 pieces. The Dutch Company only exported 7,000 pieces in 1617. In 1664, the total quantities imported by the English Company stood well over 750,000 pieces. From 1684–9, the Dutch Company sold 1.12 million pieces of cotton-goods in Amsterdam[8]. If we look more carefully at these figures, we can see clearly the distribution of textiles in Europe and Asia. Both companies bought textiles in India. However the Dutch Company sold half of these until about 1650 in Southeast Asia and Japan, and the rest in Amsterdam. After this period until about 1685, these exports to Southeast Asia and Japan decreased to approximately one third[9]. During the same period, the English Company sold cotton cloth to north Africa via the Levantine market. Not all the cotton textiles which they bought in India was sold to European countries. However the quantities sold on the European market were very great. At the end of the 17th century, chintz was so popular in Europe, especially in England where William Sherwin patented a new

way of printing cotton. In France, the government banned the importation and domestic production of printed and painted fabrics in 1686, and even banned their use and trading in those fabrics in 1708. This law continued until 1759. The English government as well as the French, banned the production and use of imitation Indian printed cotton in 1700 and the production and use of domestic printed cotton in 1720, and this continued until 1774. In spite of this ban, the French production of these prints began in Mulhouse and at the same time, an Irishman Francis Nixon innovated the copper plate printing of cotton. In the 18th century, English printed cotton had various patterns. One was the Chinoiserie pattern which was decorated with pagodas, Chinese figures, animals, birds and strange shaped stones. A book showing Chinese designs was also published in 1754. The Chinoiserie pattern flourished in copper plate-prints. In these, there were also many pictorial designs which included ruins, hunting scenes, animals, figures, birds, strange trees and sometimes these were combined with Chinese pagodas and Chinese birds. Scenes are found in the textiles similar to those in tapestries. Compared with Eastern textiles, patterns which contain scenes from stories such as those found in tapestories and plate-prints, are a special features of western textiles. There are many kinds of flower patterns such as Indian flowers, scrolling flowers and floral trails, as well as floral sprays which were sometimes combined with vertical stripes. These innovations in design were to become main stream in British traditional textile design. The floral trails in the 1770s and 1780s were so colourful, light and dynamic, but more colourful and fantastic flower trails as well as flowers with vertical stripes,are not found until William kilburn uses them in the 1790s. In his textiles, seaweed is sometimes used in the pattern, and sometimes it is full of leaves or continuous sprays. It seems that these nature patterns were the most realistic at that time. Through the development of these truly creative designs, English chintz reached its peak in the designs created by William Morris.

In France, in 1665, the basic system of textile production was developed by the Minister of Finance Jean Baptiste Colbert, who introduced regulations affecting the weaving trade, working practices and the quality of cloth. The statutes for weavers in Tours, Lyons, Orleans, and Paris were given royal approval in 1667. On this base, numerous kinds of Indian chintz was imported into France, and were these materials were called "indiennes". Cloth having a silk warp and cotton weft with multiple stripes or checks and small floral sprigs was called "siamoise", because this wsa originally an imitation of that used in the clothing of the Siamese ambassadors who visited France. In 1746, the production of printed chintz began in Mulhouse which was not under French law at that time. There are plenty of flower trails in French textiles as well as some Chinoiserie and flowers with vertical stripes. Textiles which were patterned with Indian style floral patterns produced by Oberkampf in the 1770s, were extremely popular[10][11][12].

Southeast Asian textiles

Malacca was one of the most important cities for textiles, because Malacca is situated on the waterway which connects the Indian Ocean with the South China Sea, and half-way between India and China. The two monsoons meet here, ships from China sailed with the north-west monsoon towards the Malacca Straits between November and March, and ships from India sailed with the south-west monsoon between April to October. In the Japanese encyclopedia "Wakan Sansai Zue ——Chinese and Japanese illustrated encyclopedia" published in 1715, Malacca is described as a tributary country of China. It says that in 1405 the king of Malacca visited China and offered the emperor various goods, and the emperor gave his seal to a document allowing the king to be under China's protection[13]. Malacca had been a Muslim country from the 13th century when Islam had come to Southeast Asia via

Arab traders, missionaries and Muslim Indian traders. In 1404, the Chinese Admiral Cheng Ho visited Malacca, and proclaimed king Parameswara to be a tributary king under the Chinese emperor, and then the king sent his envoy to China in exchange for protection from siamese attack. The king of Malacca was a tributary king of China as well as a Sultan. This double status was typical in Southeast Asia, and particularly in Mallacca where it was a reflection of the situation in the city at that time.

Malacca was also a Portuguese base. The Portuguese under Diogo Lopes de Sequeira landed at Malacca with gifts and a letter from the Portuguese king in 1509. However, as the Potuguese officer was very rude, the Sultan took no notice of them. It is also said that when Sequeira was invited to the Malaccan king's banquet, one Javanese girl who was in love with a Portuguese sailor, warned him that the banquet was a trap, and Sequeira refused the invitation. It is not known whether this story was true or not, but in either case, fighting broke out between the Malays and the Portuguese. Two Portuguese ships were lost and fifteen or twenty Portuguese were taken prisoner. Albuquerque, the aristcratic Portuguese Viceroy of India arrived at Malacca with 19 ships, 800 European troops, 600 native sepoys, trumpets sounding, banners waving and guns firing in order to inform the Sultan of his demands namely reimbursement of the cost of the Portuguese voyage, the prisoners' freedom, and the construction of a fortress. Finally, the Portuguese controlled Malacca because Portuguese fire-power overwhelmed the Malays[14]. Soon after this battle, the Portuguese merchant Tome Pires landed, and wrote about Malacca. He describes all the traders who came to Malacca in the following extract.

> Moors from Cairo, Mecca, Aden, Abyssinians, men of Kilwa, Malindi, Ormuz, Parsees, Rumes, Turks, Turkomans, Christian Armenians, Gujaratees, men of Chaul, Dabhol, Goa, of the kingdom

of Deccan, Malabars and Klings, merchants from Orissa, Ceylon, Bengal, Arakan, Pegu, Siamese, men of Kedah, Malays, men of Pahang, Patani, Cambodia, Champa, Cochin China, Chinese, Lequeos, men of Brunei, Luoes, men of Tamjompura, Lave, Banka, Linga (They have a thousand other island), Moluccas, Banda, Bima, Timor, Madura, Java, Sunda, Palembang, Jambi, Tongkal, Indragiri, Kappatta, Menang Kabau, Siak, Arqua, Aru, Bata, country of the Tomjano, Pase, Pedir, Maldives. Besides a great number of islands [there are] other regions from which come many slaves and much rice.——(Some line omitted)—— Finally, in the port of Malacca very often eighty-four languages have been found spoken, every one distinct, as the inhabitants of Malacca affirm; and this in Malacca alone, because in the archipelago which begins at Singapore and Karimun up to the Moluccas, there are forty known languages, for the islands are countless[15].

The busy trade and prosperity in Malacca is evident from Pires' accounts. It is interesting that the merchants who cameto Malacca from many kinds of districts, were not always the natives of these districts. Pires writes that the Malabars came to Malacca every year with three or four ships laden with coarse Kling cloth from Gujarat and Coromandel, and the Klings brought thirty kinds of cloths from Pulicat[16]. Turks and Armenians went to the kingdom of Gujarat, bringing large quantities of valuable merchandise, and sold it not only in Malacca, but also in Cambay. They bought and sold merchandise in Cairo, Tor, Jidda, Aden and Cambay, after that, they came Malacca. In Cairo, they bought coloured woolen cloth as well as gilded glassware and copper etc. In Aden, they bought opium and seed-pearls. In this way they sold the merchandise of the Middle East to India, and Indian merchandise to Southeast Asian countries. From Gujarat, four ships came to Malacca every year, the merchandise

included thirty kinds of cloth, rosewater and opium. From the Middle East via Cambay and Aden, merchants brought tapestries, incense, and seed-pearls. From Malacca to India, they brought white sandalwood, white silk, pepper, Chinese damask and brocades etc[17]. The products which were exchanged, included not only Indian and Southeast Asian products, but also Chinese and Middle Eastern ones. Indian textiles were also brought into Indonesia. Pires writes that all Indian cloth including Kling enrolados (white thin cloth), ladrilho (chequered cotton or woolen cloth), taforio (silk or cotton cloth like chintz), topitis (coarse cotton cloth from Ceylon) and other kinds of cloths from Bengal were of great value in Java[18]. In Sunda, in addition to these kinds of textiles, balachos (made of silk and cotton in Choromandel) and many kinds of printed cotton could be sold[19]. In Moluccas, besides these textiles, patolas (a silk ikat made in Gujarat) was also sold[20]. Pires comments on Java saying "note should be taken of the large number of textiles used by so great a people, and all these are supplied from Malacca". In exchange for these textiles, from Java, merchants brought gold, topazes, long pepper, vegetables, slaves, and even Javanese cloth[18]. From Sunda, rice, gold, and also local coarse cloth went into Malacca[19]. Anthony Reid calculates from Tome Pires' writing that the net Southeast Asian imports may have been in the region of the equivalent of 24 tonnes in silver, and the purchase price in India about 12 tonnes of silver. However he writes that there were some Southeast Asian imports of Indian cloth which went directly to Pegu, Tenasserim, Pasai and elsewhere without passing through Malacca[21]. The imports from Malacca to Southeast Asia were much more than this figure. After the 16th century enormous imports of Indian textiles influenced Southeast Asian textiles including Ryukyu and Japan, via Malacca. Of course, before Malacca became the centre of exchange for Indian, Chinese and Southeast Asian textiles, each district already produced many kinds of textiles of its own, and exchanged techniques. In the 7th century, China introduced cotton

trees from Vietnam, and Chinese merchants bought cotton thread and textiles in Southeast Asian countries including Vietnam, Luzon and Java from the 13th century. Meanwhile, Southeast Asian countries including Cambodia and Thailand introduced silk production techniques from China. A Thailand chronicle in 1345 states that the best gift from the royal court was a piece of imported silk without any Thai thread[22]. Lieberman writes about the situation quoting a Pegu chronicle describing the reign of Queen Shinsawbu (1453–72) in the following extract. According to the Mon Ya-zawin (chronicle of the Mon country), starting in the 1450s and 1460s, merchants.

> from distant towns and cities arrived in great numbers, unusual wearing apparel became abundant, and the people had fine clothes and prospered exceedingly. (some lines omitted) By the start of the sixteenth century, this commerce had three principal components. (some lines omitted) A second line of commerce focused on West Asia and India, particularly the Coromandel Coast, Bengal, and Gujarat. Merchants from these areas exchanged large quantities of Indian textiles for Burmese luxury products and for eastern goods that had originally been imported from Malacca and north Sumatra. Thus the direct trade between India and Pegu by passed Malacca entirely[23].

Anthony Reid also writes that the Malay annals claim an active role for Sultan Mahmud of Malacca in sending a mission to South India to obtain forty varieties of rare cloth[24]. After the 16th century, the most important topic was the foundation of the East India Companies of Holland, England and France. From the 1620s to 1650 there was a peak in imports of textiles from India to Southeast Asia. During this period, cloth equivalent to 20 tonnes of silver a year was brought from the Coromandel coast to Batavia. Anthony Reid calculates the total Southeast Asian imports of Indian cloth in this period peaked at

a value of about 50 tonnes of silver. It represented more than 20 million square metres of cloth which meant almost a metre per person per year[25]. The merchants of the East India Companies especially those of the Dutch Company played the most important part in this trade, because Asian merchants including those from Japan, Ryukyu, China and even India were replaced by European merchants. For example, Aceh at the north end of Sumatra island and Johore on the north side of Singapore were important ports for Muslim merchants after Malacca was controlled by the Portuguese. In 1602, it was reported that about eighteen Indian ships a year laden with textiles arrived at Aceh, but in the 1630s, only three Indian ships a year arrived there[26]. Besides this, in 1635, Japan banned Japanese merchants from trading in foreign countries whereas foreign merchants were still allowed to trade in Japan. In addition to this, Chinese purchase power decreased because of the political crisis. The numerous imports of Indian cloth and textiles by Dutch merchants influenced and developed Southeast Asian textiles. From a Dutch engraving in 1593, European it is clear that Chinese and Muslim visitors to Southeast Asia were somewhat shocked by nakedness above the waist. Only Muslims and some nobles put some clothes on their bodies and heads, almost all the other people were naked. From the beginning of the 17th century, Southeast Asian clothes were greatly influenced by Islam, in 1653, it was reported that all the people covered their bodies with some clothing. In 1676, Navarrete writes that the rulers of Makassar wore European coats over their bare skins, with naked arms, and bellies. Anthony Reid also writes about this tendency. "A frequent innovation was to sport a jacket of European or West Asian design over an expensive cloth used as a traditional sarong"[27]. It was different from Japan. The Japanese of this time, after adopting of Portuguese clothes to a certain extent, did not use the styles of Western and Asian clothes at all, only developed the patterns using Indian and Southeast Asian patterns. Southeast Asian countries were influenced not only by cloth-

ing itself, but also by the techniques and patterns of textiles and they developed these. According to Anthony Reid, cotton growing and weaving were concentrated in the islands of Selayar and the nearby South Sulawesi mainland districts of Bulukunba and Bira which were too dry and barren for rice growing.

The men of these regions therefore devoted themselves to shipbuilding and the women to weaving. By the 1660s Selayar cloth was being traded through Makassar to Borneo ports, the Lesser Sundas, and Manila. With the fall of Makassar to the Dutch in 1669, Bugis merchants began to dominate the trade in Makassarese cottons, taking them to all the islands of Malay world[28].

They did not depend on imports, but began to develop their own textiles for exports. The amount of creativity seems very great at that if time the situation and population of Southeast Asia is taken into account. Actually, there was a small population and there were many wars in Southeast Asia. It is surprising that the total population of Southeast Asia in about 1600, was almost the same aw the population of Japan in the same period. The population of Japan in the Edo period, was twenty million at the beginning, and this increased to thirty million at the end. The population of Southeast Asia was about twenty three million[29]. Counting the population in the past involved many problems, but the problem was the same in every region. Today, the population of Southeast Asia is 3.6 times that of Japan. Anthony Reid explains that those figures of 1600 were due to the frequent wars in this region[29]. In the same period, the population of India was about one hundred million in the Mughal Empire alone excluding the south part, the population of China was 175.5 million in the Ming Empire alone excluding the west and northeast part[30]. The total population of these areas in 1992 is from six to eight times that of 1600, but the population of Southeast Asia in 1992 is 19.5 times that of 1600[31]. From the 16th century, domestic products and economic development became very active. Although almost all these areas experienced a

colonial period in the past, the economic growth of today is especially remarkable. During the last half of the 1980s, while the world grew at an average rate of 2.9 percent, the gross domestic product in the newly industrialized economies of Singapore, Hong Kong, Taiwan and Korea grew at a rate of 8.6 percent, the four ASEAN countries, Indonesia, Malaysia, Thailand, and the Philippines grew at a rate of 6.8 percent and China at 7.9 percent. In 1992, these two areas registered a growth rate of 12.8 percent(32). The situation during these decades will be similar to the period during the 16th, 17th and 18th century for Southeast Asian countries.

Although the textiles of Southeast Asia were very influenced by Indian and Chinese textiles, they had various features of their own, and the people innovated and developed the textiles themselves. Indonesian textiles are the most interesting and representative examples of Asian textiles. Indonesia has 13,667 islands and 300 tribal and ethnic groups speaking some 200 languages. Only in Indonesia are the four major religions of Islam, Christianity, Buddhism, and Hinduism represented, but many tribal peoples still adhere to animistic beliefs. Because of this, Indonesian textiles have kept their individual character and variety. Asian textiles have three important historical aspects. One is the standardization of the textiles. Indian cloth was standardized for mass production by the English India Company, and Indonesian cloth by the Dutch India Company thus bringing about standardization of the textiles in these regions. At the same time, the textiles were of such high quality that they were exported all over the world, and influenced each other. The second important aspect is this influence. Asian textiles have many common elements because they have influenced each other throughout their history, but they did not lose their own character and variety. The third important aspect is this variety and diversity, especially in the case of Indonesian textiles. Although there were influenced by great civilizations and religions, as well as being standardized by the European company, they never lost their

diversity. In Indonesian textiles, there are a variety of techniques such as batik, warp ikat, weft ikat, double ikat, supplementary-weft, tie-and-dye and gold-leaf-batik etc. There is also a multitude of patterns. Besides this, there is a huge number of production districts and numerous ritual of magical functions which vary according to each district. These varieties, particularly with regard to ritual or magical functions, were really essential in Asian textiles. Only Indonesian textiles have kept all their original characters and functions. Java is the centre for batik. Sumatra is famous for the Bataks who produce warp ikat stripe in blues, browns and magentas. Bali is known for all kinds of magical textiles. Kalimantan and Sarawak in Borneo island, Sulawesi or Celebes, Lombok, Flores, Sumba, Timor, Savu and Rote, each of these islands and districts or villages have their own textiles. Batik is one of the most famous techniques used in Indonesian textiles, but it is said that batik evolved fairly recently, because the word batik is not mentioned in the old Javanese language. The batik process was not found in the writing of the 14th century but is first mentioned in 17th century Dutch sources in reference to a shipload of fabrics decorated with colourful patterns. It is also stated that detailed Javanese designs were only possible on finely woven imported cloth, first from India until 1800, and after 1815 from Europe and Japan. Local coarse weaves were not suitable for the intricate Javanese batik designs[33]. The batik which is described here, means the technique using a sophisticated wax-resist process, especially the batik which is most familiar today. This refers to the cap block-printing process in the batik industry. It was introduced into Java in the 19th century, because increased production was required for expanding the Dutch trade. The Javanese needed a method by which they could produce a large amount of batik more easily and economically, and this requirement led to the imports of finer cotton cloth from Europe, Egypt, India and Japan[34]. This is one aspect of the famous Indonesian batik. The history of Indonesian textiles is very old and complicated. The pat-

terns of Indonesian textiles and the introduction of ikat are said to be from between the 8th and 2nd century B.C. There was a large migration from the Annam region of northern Vietnam in that period. The immigrants brought the Dong-Son culture, and the patterns of bronze kettle drums of this culture are used in textiles even now. It is said that warped looms and techniques of warp ikat were also introduced into Indonesia at that time. The most popular tumpal pattern was found as a border on bronze drums. The Knife pattern, the hook pattern, the soul ship, the tree of life, spirals, sunbursts and animals and human forms which were found on the tops of drums have also been used in textiles. By the 2nd century A.D., Indian traders had contact with the Javanese. By the 5th century a Hindu kingdom had been established in Java. In the 7th century the kingdom of Srivijaya wsa founded in south Sumatra, which was to become a major centre of Mahayana Buddhism. In the 15th century Indian and Arab traders brought Islam into Java. After that, the Dutch merchants began to stay in Indonesia, and at the same time, Chinese traders established themselves on the coasts of Sumatra, Kalimantan and Sulawesi. As a result of this Chinese immigration, Chinese porcelain and embroidery came into Indonesia, and were used as textile design sources. For example, the phoenix bird, the Chinese swastika emblem, the Chi-lin a legendary animal from China, the Chinese lion and the cloud design[31]. Because of Indonesian history, Indonesian textile patterns include the Dong-Son patterns, Hindu patterns, Buddhist patterns, Islamic patterns and Chinese patterns. Hindu patterns for example consist of the Gringsing or the fish scale pattern and the kawung or circular design consisting of paralell rows of ellipses. The kawung is known as the "Shippo" pattern in Japanese, which was also known in the early civilizations of Crete, Northern Syria, East Persia, the Indus valley and Central Java. Buddhist patterns refer to the Mount Meru and lotus flower patterns. It is said that there are over 3,000 batik designs in existence. They include Indian and Chinese patterns of each

period and also indigenous motifs. Indonesia's well known flowers and fruit such as the hibiscus, jasmine, lotus, cotton plant, banana, mangosteen and salak fruit, various spices such as cloves, nutmeg, betel nut and the coconut palm have all been used in textiles. There are various patterns which use these indigenous and imported motifs, such as the rice grain, pigeon's eyes, buttonholes, shining scales, seven dots design, chequer-board, petal veins, river fish, roof tiles, lozenge shapes, rice stalks, coconut fronds, plant tendrils, hooks, woven bamboo, bright water and flower of victory patterns. As well as peacocks, elephants, deer, bulls, nagas, insects and many kinds of Garuda designs. Not only the Kawung pattern or Japanese Shippo pattern, but also the swastica pattern in used in Japan. It is called the Manji or Saya pattern in Japanese. The Geometric polygons pattern is also very popular in Japan. These patterns wich we can also find in Japan were originally from China, but in the Edo period, even the tumpal pattern used in Indonesian textiles was found on the sashes of kimono depicted in Ukiyoe prints. Textiles with numerous related patterns were found throughout many countries and regions up until the end of the 19th century. In Javanese batik, there is a very attractive and characteristic pattern. It is a sort of knife design called Parang. It is said to be a pattern from the Neolithic Age or the Dong-Son drum culture. The parang rusak is a most attractive pattern and consists of a creamish white ribbon running in an undulating diagonal pattern. This white ribbon pattern is reminiscent of the shape in the Japanese ancient jade pattern called Magatama. This type of shape may have represented life itself and a magical power for protection in ancient times.

The power of patterns and textiles, can be seen very typically in Balinese textiles. Hauser-Schaublin, Nabholz-Kartaschoff and Ramseyer described eight kinds of ritual-magical textiles[35]. Endek or weft ikat is often patterned with Vishnu, Garuda, Naga and Twalen from the wayang plays. Songket, using shimmering splashes of gold and

silver thread, often depicts the heads of the demon Kalarau who swallows the sun during eclipses, the monkey king Hanuman, the demon king Rawana and also many kinds of flowers. They are used in the tooth-filing ceremony or rites of passage and weddings. Parada or gilded garments are commonly patterned with large lotus blossoms and other flowers, winding tendrils and leaves, triangular tumpal designs, swastikas, phoenixes and all kinds of birds, as well as figures from the wayang plays etc. These are used in special occasions such as the tooth-filing ceremony, weddings, offerings and as mats in temple festivals. Striped or checked patterned Bebali is used for dressing altars in Buddhist temples, the three- or six-month festivals, the 210 day birthday ritual and the tooth-filing ceremony. In the three- or six-month festivals, the changelings made of pumpkins are wrapped with this textile. In the tooth-filing ceremony, the participants are covered with green and checked Bebali. In this ceremony, the participants also have to use pillows covered with some special textiles. In addition to this, they stroke their foreheads and cheeks with cloths displaying the design of the gods of love. The ceremonies are full of textiles. Striped or checked patterned Keking which came from India, is also used for wrapping changelings in the three- or six-month ceremony and offerings. Poleng is the most interesting and popular ritual textile. It is a chessboard pattern of alternating black and white squares, which is the same as the pattern called "Benkei check" in Japanese. This kind of textile is found all over Bali, for clothing the guardian gods statues in front of shrines or temples, wrapping abodes of the gods and hanging down in front of the offering niches. There are many sanctuaries at the top of whose tower like constructions hangs the slit-gong, which is also wrapped in a polen. The Demon figures of Barong, Rangda and Ogoh-ogoh wear polen in festivals. It is said that the black-and-white check refers to the antithesis or dualism in day and night, light and darkness etc. Balinese textiles maintain the people's ritual spirit in everyday life. Cepuk literally means "to

encounter". It is said that is is a purificatory, protective, defensive, strong, magical textile, and is used by priests, specialists of offerings and healers. It is also used for cremation towers and the outer coverings on dead bodies. Geringsing is a special textile made using a double ikat method in which colour resist patterns are applied to both the warp and weft before weaving, so that the final pattern appears only on completion. It takes a long time to complete, and is known only in three places in the world, India, Japan and Indonesia. In Indonesia, it is practiced only in the tiny village of Tenganan Pegeringsingan. It is believed that when the god Indra was in the radiance of the moonlight and the stars, these became images and patterns themselves. After that, Indra taught the women the art ofmaking double ikat, which therefore has magical protective powers. From the artistic, technological and religious points of view, Geringsing is a special textile, which is used in various ceremonies. At the five- or six-years ceremony, the children are given their first Geringsing during their hair-cutting ritual. The cut hair is placed in a basket on a Geringsing, and later the child is arrayed in his Geringsing. It is used in various rites of passage, in funerals, as offerings and for the protective wrapping used in the chairs for the gods.

The magical functions and power of textiles is centered on Indonesian textiles. The textiles from other districts have kept some of these elements. For example, Thai textiles also have a protective function. When a young man leaves his village to serve in the army or to find work or for other reasons, his mother weaves a piece of silk and gives it to him in order to protect him from harmful spirits[36]. The same custom was practised in medieval Japan, where soldiers kept a piece of textile on which Budhha was embroidered. In the Edo period, giving textiles and clothing as presents had a special meaning. The power of colour was common to Asian countries, the guardian power of black (North), red (South), blue (East), white (West) and yellow (centre) were exactly the same in China, Japan and Indonesia. In

many districts it was believed that objects from textiles contained spirits. The blanket in "Madoko-ofusuma" the most important and secret ritual during the succession to the Throne of Japan, has the same function as the blanket of the Mongol and Korean people, in which the spirit of the former dead Emperor i contained. In the tribes of the north of Thailand, it is believed that wearing old clothes on New Year's day will bring poverty throughout that year [37]. Old clothes had ancestors' spirits in them. The Japanese, including the Ryukyu people and the Ainu people, also believed in textile power and this has now disappeared.

Warp or weft ikat and stripe or cross stripe are the most popular and common techniques and patterns in Asia. There are also various versions in Thailand among the six tribes living in the North, namely the Karen, Hmong, Mien, Lahu, Akha, Lisu, and the 24 tribes in Yunnan of China. These tribes are not only involved in weaving, but also in embroidery.

Indian and Chinese textiles

As everyone knows, India is a country of cotton and chintz, China is a country of silk. The history of Indian textile begins in Mohen-jo-daro with the discovery of textiles dating from as early as B.C. 3000. A woven and madder-dyed cotton fragment wrapped round a silver pot and figures draped with patterned cloth, as well as spindles were found here[38]. It is said that block printed cotton also spread to Egypt and Greece during B.C. 2000 to B.C. 500. From B.C. 300 to A.D. 300 wax-resist chintz and gold thread chintz were produced and introduced to west Asia and Rome[39]. Chinese silk was introduced into Kashmir around the 2nd and 3rd century A.D. as well as into India around the 4th century. The Persians visited China in order to learn silk production techniques in the 6th century[40]. It was at this time that Indian textiles first merged with Chinese textiles.

The history of Chinese textiles begins 500,000 years ago, with a liana plant fibre used to make nets. Grasses, leaves and animal skins were used for fibre at this time. After that, bone needles and stone awls began to be used. It is thought that later in the Neolithic Age, the rearing of silkworms, the production of silk and the weaving of cloth began, as well as the growing of hemp for twisting into ropes and the raising of sheep for wool. There is certain proof of this in the form of an ivory cup on which a silkworm design was carved from about B.C. 4000, as well as a piece of silk woven fabric with a twisted warp from about B.C. 3500[40]. By the Shang and Zhou eras (B.C. 1500–600), various forms of hand-operated spindle wheels were in use. By the Han dynasty (B.C. 202–A.D. 220), the treadle spinning-wheel emerged. Many heddle and many treadle loom were also used. In the Son dynasty (960–1279), multi-spindle spinning wheels were seen. K. N. Chaudhuri compares the technology used in Chinese and Indian textiles.

The introduction of the single- or multi-spindle spinning wheel which supplemented hand spinning with the spindle and distaff and the gradual development of the treadle-looms and the drawlooms reflected the most significant technological development in textile production. Once this particular set of innovation had been assimilated, these industries remained in a steady state until the mid nineteenth century when Western machine technology was imported and put into operation[41].

The use of multi-spindle spinning wheels and the development of the treadle-looms and the drawlooms was the same in India and China, but the development of machinery was different. The number of Chinese spindles for multi-spindle spinning had reached a maximum of five in the Son dynasty, and finally, we can see an illustration of a big spinning wheel with thirty two spindles in the "Nong Shu" or the agricultural handbook, published in 1313[42]. It was a water driven wheel which could spin 150 pounds of hemp in one night. European

spinning-wheels still had only one spindle until just before the industrial revolution. K.N. Chaudhuri comments that "there is no reference to any such instruments in Indian sources". Obviously, the Chinese machinery for textiles was superior to that of India.

The organization of the textiles was also an important point. In the Chinese Zhou eras (B.C. 1500–600), eight offices were established to organize the gathering of raw materials and the management of spinning, weaving and dyeing. The Han government (B.C. 202–A.D. 220) also had two weaving and three clothing departments at court. The Tang government had 25 different workshops for weaving, dyeing, embroidery etc. There were not only textile workshops at court, but also many private workshops in the country and in the cities. From the Qin to the Tang dynasty (B.C. 221–A.D. 907), the organization of spinning and weaving included three categories: the handicraft industries run by local government, the handicraft industries individually established in the cities and work undertaken of a cottage industry basis in the countryside[40]. The situation of the textile industries in India was similar to China. In India, the production of cotton textiles, by the sixteenth and seventeenth centuries, was classified into three categories: the first category included coarse varieties for domestic consumption produced by family units from the cultivation stage to weaving. The Second included luxury cloth for the court, the nobility and a wide variety of fine cloth for interprovincial trade, which was produced at court under official supervision. The third category included standardized medium luxury varieties for the overseas trade undertaken by European companies. These were produced by recruiting skilled artisans to work in official workshops. For this category, weavers attended at the appointed working hours until the pice was finished. There were also smaller workshops which were set up by merchants. The Indian organization of spinning and weaving greatly developed and changed in the 17th and 18th centuries, because of the requirements of European companies. This was the biggest difference

between the organization of Indian and Chinese textiles. Hameeda Hossain describes this change.

As long as cotton was used for domestic purposes and was available at local hats (market), the producers could buy their raw material directly from the cultivators or even use home-grown cotton. Thus there was little need for an interdependent market network. With the increase in manufactures, local supplies became inadequate. Also, cloth was produced in certain arangs (a manufacturing or marketing centre for distribution and collection of orders, for sale, etc, for the surrounding villages) where cotton was not cultivated. Since production now depended on the availability of cotton from outside the weaver's own market region, intermediaries were required to arrange the movement of cotton[43].

As standardization of products became a very important requirement for the European markets, the weaver had to adapt his expertise to ensure standardization of yarn and cloth measurement. To ensure this an elaborate supervisory structure was established at each factory and arang. Quality control of yarn and cloth in the loom was enforced by muqims (an appraiser who supervised the weaver's work and his yarn) appointed at the arangs, whereas a jachandar (appraiser or sorter of cloth) and export warehouse keeper at the factory checked the finished piece of cloth[44].

The European companies (England, Dutch, French) each maintained washing tanks and wide areas of land for drying and bleaching. The re-organization of textile production was carried out in India. The indigenous organization and life style for producing textiles in China and India were almost the same, but there was one important difference. It was the powerful impact of the European companies. The control of the textiles trade and production by the European companies greatly changed Indian society and its weaving system. The Chinese system was not so changed, but in comparison with the Indian system, the most advanced Chinese textile techniques

and highest quality of goods were developed via the royal court and individual aristocrats, which controlled the industry at that time. A percentage of the textiles produced outside the royal court was sent to the court as a form of tax. Not so many kinds of textiles could been found as in India because Indian textiles varied according to the different districts and villages which produced each textile. India and China have all kinds of textile techniques. China produced various kinds of weaving, because silk is the most versatile type of raw fibre used in the production of woven fabrics. Meanwhile, India had all kinds of cotton textile techniques. Additionally there were also vast varieties of textiles produced by different districts, villages, tribes and castes. There were four main districts in India where textiles were produced and exported: the west part including Gujarat, the north part including the Punjab, the east part including Bengal and the south part including the Coromandel Coast.

There was even some architecture produced from textiles in India. For example, there were royal palaces made of textiles in the Mughal empire of the 17th century. These consisted of a tent which was carried when the emperor travelled, and this was virtually a portable cloth palace. The palace had a ceiling, walls, windows and even numerous colonnades hanging from the ceiling. All of these were made of red silk velvet embroidered with gold flowers and scrolling vines sometimes shaped into the tree of life, sometimes winding in a vertical framework. As well as royal palaces, there were also wedding canopies in the villages. These canopies had cloth ceilings depicting the dancing Krishna, peacocks. deer and flowers. Many cloth chandeliers with abundant strings and many kinds of textiles hung under the ceiling. Cloth friezes surrounded the canopy. A Frieze hanging above the doorway was an important textile because of its guardian power and its embroidery. The Saurashtra peninsula in the west is known for its embroidery, in which there is chain stitching, flowers, birds, animals, dancing women and elephant-headed gods. This is also sup-

plemented with mirrors. Both Chinese and Indian textiles had a large amount of embroidery. In India, especially the west, is known for many kinds of embroidery. The most famous Mochi embroidery has disappeared now but there are still examples of this. The Chinai embroidery is produced by Chinese embroiderers who have been living in Surat since the 19th century. In the Sind and Thar Parkar, embroidery workers are women of the leather worker caste. In Kuchi, the workers belong to the shepherd and the farming, the herding caste. The men wear beautifully embroidered blouses and skirts with tie-and-dyed turbans on their heads. Bullocks are also covered with colorfully embroidered cloth. There are embroidered flowers, wayside shrines, peacocks, women churning butter and deities on elephants in this cloth. Each side of the covering is divided into six sections. In Rajasthan in the west of India, camels can be seen transporting textiles. It is a really fascinating scene even in photographs, because the camels also wear a special textile under the load. The quilts for the camels are made from goat hair, with a basic black and white check pattern, varied with other coloured checks of red, orange and green. This pattern has the magical power mentioned earlier in connection with Balinese textiles. The camels are also decorated with necklaces, knee adornments, bridles and sashes made of cloth. These textiles for camels are not made on a loom but by hand. Women wear tie-and-dyed skirts, saris and shawls. In these shawls, fine detailed dots are made by the tie-and-dyed method on a red background. This tie-and-dye textile is also considered to be a fine quality product in the West of India.

For people in Europe and Asia, Indian chintz and ikat textiles were particularly influential. The technique known as "chintz" by the English and "pintado" by the Portuguese was called "kalamkari" in Persian, and it means "pen work" when refering to the wax-resist dye method. Kalamkari cloth is really the most elaborate and the finest textile produced in India. It is decorated with different gods and god-

desses and accompanying figures. This pattern was introduced after the workers were forced into penury by the rise of the European and Indonesian batik industry. Only the small temple town of Kalahasti produced kalamkari under the patronage of local temples. These temples demanded a narrative component from the Hindu scriptures.

Indian block printing in Gujarat also influenced Southeast Asian countries and Japan. Some types of block printed textiles such as the shrine cloth called Mata-Ni-Pachedi are as elaborate as and in no way inferior to Kalamkari. This shrine cloth is made for ritual use by members of the castes of sweepers, leather workers and farm laborers. The flower pattern found in Indonesian batik, English Chintz and Japanese Sarasa, reoccurs in the block-printing in India, but these are less fine than the non-Indian ones. There are splendid samples of block-printed cloth of nineteenth century for the Siamese market. Non-Indian traders and craftmen must have been inspired by such samples and various kinds of printed textiles including kalamkari.

Ikat is produced using three or four kinds of techniques: warp ikat, weft ikat, double ikat and supplementary warps. All Indian ikat influenced the development of ikat throughout the world, but the strongest impact was produced by the Indian double ikat, especially that adopted for the patola, used for sari lengths. In India, the double ikat is made only in Patan and Surat of Gujarat in the west, and Orissa and Andhra Pradesh in the south. The typical pattern used in making patola is an eight rayed rosette or other patterns such as jewels, elephants, birds and dancing women. On the border, there is a linking tumpal pattern which is much smaller than the Indonesian tumpal pattern. In the north west part of India there is the Gujarat district which has always been known for its traders. This part lies close to the Middle east, and has strong cultural links with the Muslim world. There have been immigrants and invaders from here for many centuries. Surat, Broach and Cambay were the most important ports in Mughal. There were numerous kinds of textiles produced there, which

were greatly influenced by Islamic culture. The greatest variety of textiles seems to have been produced in the west of India. Applique and beads work were also produced in the west part. The east of India was noted for its double ikat, the south was noted for kalamkari, and the north was unique for Kashmir wool products. It was also known for brocade from Varanasi, because during the post Mughal period, noble families escaped to Varanasi, these people then became customers who patronized the brocade manufacturers(38) (45) (46).

With regard to Chinese textiles, only two kinds of silk weaving in China and Japan will be compared and discussed in this paper owing to the limited space. Although Japanese textiles were influenced by Indian and Southeast Asian textiles, the influence of Chinese textiles has always been very great. Because of this, Japanese textiles are a variation of Chinese textiles and have been influenced by those India and Asia. The next section compares silk weaving in China with that of Japan. There are various kinds of weaving in China: Luo refers to gauze which is a very light fabric of three different kinds depending on the numberof warp threads passed through one weft, and these three kinds are also devided into two varie-ties——plain and patterned. This gauze is called Sha or Ro in Japanese. In simple Luo, the warp threads are twisted in pairs once for each weft thread passed through the shed. This is called Sha in Japanese. The warp threads are also twisted in sets of three, and sets of four. These are called Ro in Japanese. In Japan, there are also Ro in sets of five and seven. The patterned Sha and Ro are called Mon-Sha and Mon-Ro. Chinese Sha refers to tabby, a fine, loose, soft plain-weave silk fabric with square holes. This fabric is called Ra in Japanese and is used for summer clothing. Hu means crepe. This fabric is a form of tabby (Sha) with an uneven surface effect of raised and indented areas resembling clouds. The Japanese invented many variations using the Chinese Hu process and these had six different names. Because domestic silk was

very inferior to that of China, there emerged a vast group of fabrics called Hiraori made of inferior Japanese silk. This was developed by the people in Japan. For example, the silk produced by Japanese silkworms was not originally suitable for use in fine silk textiles, but was later developed to produce Tsumugi, which is now considered to be very high quality. The term Hiraori comprises about twenty three kinds of fabric, including six kinds made by the Hu technique such as Chirimen etc. Chinese Qi is a woven silk fabric with patterns formed by warp or weft floats. The design can be formed either by successive warps or successive wefts. It is also known as Mon-Sha or Mon-Ro in Japanese. Ling refers to twill weave which is a patterned silk fabric formed using a basic binding system with a unit of three or more ends and three or more picks, in which each of the ends passes over two or more adjacent picks and under the next one or more than one. It is called Ayaori in Japanese. Satin is also produced using a kind of twill based binding system. The satin binding system is based on a unit of five or more ends and a number of picks equal to, or a muliple of, the number of ends. The material is smooth, lustous and fine. It is called Duan in Chinese, and damask also has the same Chinese name, because in Europe, satin is the term for all silk fabric which has a binding system based on a unit of five or multiple ends and picks, and damask refers to each individual textile. There are six categories of Duan (damask): five thread damask, six thread damask, eight thread damask, monochrome patterned damask, woven gold damask and polychrome damask. In Japanese, the former three categories are called Shusu, the latter three categories are called Donsu which comes from the name of Duan, and the finest variety of Donsu is called Shuchin, which is obviously a loan word from the Dutch. Shuchin was very popular in the Edo period, because the Dutch Company carried many fine Chinese silk fabrics into Japan. The Jin process refers to a brocade making process which involves a polychrome warp-faced compound tabby or twill silk weave. The Jin process produces eight

categories of silk: warp Jin, weft Jin, supplementary weft Jin, woven gold Jin, as well as Shu Jin which was produced in one of the ancient cities called Chengdu now in the west of China, Song Jin which was produced in the Song dynasty, Cloud Jin which was produced in the Nanjing area, in the Ming and Qing dynasty and Gaiji Jin or double layered Jin which was fashionable in Ming dynasty. The Warp Jin process is a very old Chinese technique but weft Jin was introduced into China from Persia in the Tang dynasty. This process allowed silk fabrik to be made in various colours, and it adopted Buddhist decoration, so was brought to Japan with Buddhist items. Shu Jin was exported all over the world via the silk road and by sea. The technique of gold and silver thread use was introduced into China from India in the Song dynasty. In comparison with other kinds of silk fabrics, Japanese varieties of this kind are very limited. All these eight kinds of textile are called "Nishiki" in Japanese. Only the woven gold Jin textile is also known by another name "Kin-Ran", and the Shu Jin type is also called "Shokko-Nishiki". All these names sound like treasures or dreams beyond the reach of Japanese people. Because of this nuanec, these terms were used in various aspects of Japanese culture. For example, the term Nishiki-e was used to the first full-coloured Ukiyoe print. "Return wearing Nishiki" and "Display Nishiki" means success in life. Rong refers to velvet introduced from Italy, He refers to woollen twill, Ji is fine wool and Zhan is felt. There are also wool carpets, about ten varieties of silk tapestries, about nine techniques of embroidery and all the techniques of printing and dyeing already mentioned in connection with Indian textiles. When the diversity of patterns is considered, all the patterns found universally and their variations existed in China. Those Universal patterns included spirals, stripes and the tree of life. Scrolling vines, animals, birds, flowers, lozenges, swastika patterns made from spirals influenced by Buddhism, stripes and checks are the patterns which China had in common with Persia and India, and sometimes Greece or Egypt. The pat-

terns unique to China are clouds, thunder, imaginary animals such as dragons, phoenixes and chi-lin and Chinese characters. There are examples of Jin fabric with clouds and the Buddhist eight treasures: Buddhist scrolls, magic hammers, flaming jewels, weights, Buddhist keys, horns of rhino etc. This Buddhist eight treasures pattern was also very popular in Japan, as well as the swastika pattern. Luo with scrolling peonies, Duan with hydrangea branches, Duan with swastika and circular peonies, Ling with linking swastikas, and various kinds of embroidery with clouds and dragons, clouds and cranes, all colours of butterflies and flowers, swastikas and peachswaves and dragons ——all these are found in Chinese textiles. Chinese characters were also woven into these patterns because both characters and patterns on textiles had magical power. For the Chinese, silk fabric was also used as canvas for paintings, and embroidery. Many narrative scenes were also embroidered[40] [47].

Not only silk materials, but also cotton fabrics played an important part in the textile industry in China from the beginning of the 13th century. This was the most notable period of textiles for the Chinese people. Cotton-growing, which was originally very old but restricted to certain areas, was introduced into the central part of China. It expanded and reached as far as the Changjiang and Huaihe valleys, and was later introduced into even Shaanxi from Xinjiang. In this era, many kinds of manuals relating to the production of both cotton and silk textiles began to be published. By the Ming dynasty, cotton was grown all over China and played an important role, satisfying the clothing needs of the people. Commerce and urban economy developed quickly during the Ming and Qing dynasties. Numerous centres of textile production emerged such as Songjiang, which was known for cotton cloth manufacture, and Wuhu, which was famous for dyeing. For the further study of Chinese textiles, it is necessary to study cotton textiles and textile production manuals, as well as those textiles produced by the minority races in China[48].

Conclusion

Textiles and their techniques and patterns, have had a long and exciting history in which different aspects have influenced each other. These textiles and techniques were exchanged and expanded through trade. In this paper, this trade as well as the development of Japanese, English and French, Indonesian, Indian and Chinese textiles have been considered. From the above discuss it is evident that the most important point concerning Japanese textiles is their very clear application and development from Chinese, Indian and Southeast Asian textiles. This development took place in Japan's domestic industry and through its commerce. With regard to English and French textiles the most important aspect is that a limited numbers of patterns from the huge variety of Indian and Chinese patterns became the basis for pattern in modern textiles, due to the creativity of individual designers and the influence of the industrial revolution. What is notable about Indonesian textiles is that they have kept their value in everyday life and also their magical power. In Indonesian textiles lots of functions can be seen, which, in the past, were evident in all Asian textiles. The textiles of both India and China spread all over the world faster during the 16th century to the 19th century than at any time during the world's previous history. During this period, these two countries made almost all the world's fine textiles.

The study of techniques and patterns, involves both those aspects which are universal and those which are particular. With regard to the universal aspects, there are two kinds of origin. One origin is that which is not influenced by any other techniques or patterns. For example, spirals, stripes and trees of lifr are found almost everwhere. They are possibly universal symbols which human-beings have used without outside influence. The second origin is that which is influenced by outside cultures. Religious patterns are examples of this.

Particular aspects of patterns indicate the widely different situations and great creativity of each country. The study of textiles needs much more reseach concerning both the universal and particular aspect of patterns and the relationship between the many countries and districts. It also requires research into the meaning of pattern and colour, the mythology of textiles and the expression of textiles in pictures, sculptures and literature. The study of textiles enables a connection to be forged between many different fields.

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