An Eastern Affair

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**Bibliography**
Overview

A continuing interest in the relationship between the ‘decorative’ and the ‘technological’ is a key area that underpins my artistic practice. This paper surveys the historical links between the production of applied and decorative art and the emergence of associated technologies as it relates to my Art practice. The focus is on Asia’s influence on European applied and decorative arts as resulting from the trade relationship evolved over many centuries. Particular emphasis is placed on the period between 17th - 19th centuries and with specific reference to textiles. This trade relationship affected European taste, the supply and demand of luxury goods, and introduced technological developments, which in turn had a marked effect on the European social and cultural environment. A brief comparison is made with contemporary trade and production relationships between the West and developing nations, particularly in the East — looking at parallels in trade patterns and systems, which were laid down during 17th - 19th century period and are still present today.

Throughout the paper, reference is made to my artwork, in order to place the main body of text within a more personal and contemporary perspective. The artwork itself incorporates decorative elements, traditional materials and processes with electro-mechanical and electronic systems. Over the years, my work has addressed relationships between symbolic language inherent in the decorative motifs and pattern of culturally specific textiles and the pragmatic language of electronic technology. The artwork has aimed to find points of convergence between these two seemingly disparate languages, often re-presenting technology within a poetic and decorative framework. Recent artwork also draws parallels between today's electronic technology, trade and economic systems and those of the silk and cotton trade and industries of past centuries. Selected examples of my earlier work are referenced in order to link ideas and methodologies utilized in both earlier and recent work.

This paper is divided into two parts. Part I chronicles the historical circumstances which shaped Western perceptions of the East. Information about the lands and people east of Europe entered the West via stories from travellers returning home from the East in addition to imported luxury goods such as spices and silk. This section examines the role early European travellers’ writings played in constructing perceptions of a fantastic, wondrous and bizarre East. This section also surveys the wide range of Asian commodities that made their way into Europe via Persian traders, which had an immense influence in shaping European understanding of what lay east beyond the Holy Lands. Part I also traces the reasons why the lure of the East compelled European exploration during the 15th-16th century. Particular reference is made to decorative styles that emerged as a result of Western contact with the East such as, Chinoiserie and how it embodied fantasies of the East as the location of paradise.

Part II, concentrates on textiles, with specific reference to silk and cotton cloth — both products originating in the East. This section is again in the form of a chronicle, examining the trade of these two materials from the East into the West, how they inspired fashion and taste and how European production of these fabrics began. This part also delves into the development of these industries within Europe from the Renaissance to Industrial Revolution. The expansion of the European textiles
industry instigated developments and changes within technology, trade and labour forces, which altered the social fabric of Europe. Here, a correlation is also made with the invention of the Jacquard loom and Charles Babbage's invention of his calculating machines — the basis for early computers, which utilised the punch card system to store data.
PART I

How Western Perceptions of the East Were Formed through Trade

Early Trade Links

For many centuries, Europeans possessed little knowledge about the lands that lay east of the Persian Empire (of which Persia itself they knew scant). Generally, up until the 18th century merchant travellers, pirates, soldiers, missionaries and government delegates were the only ones to venture as far east as Persia and beyond (for that matter, most people had no reason to venture outside their local community).

The Ancient Greeks had been trading directly with Persia well before Alexander the Great’s rule (336-323 BC) and had made contact with India after his campaign in 326-324 BC. Ivory and spices were some of the early commodities imported into Greece from India. Ideas were also being exchanged between East and West as a result of this contact. Accompanying Alexander on his campaigns were scholars who brought back new ideas on such subjects as astronomy and mathematics from Babylonia and India. In art, the Greek Hellenistic and Roman imprint on Indian culture manifested through the Gandharan style of Buddhist sculpture of the northwest Kushan Empire, produced during the 1st century AD.2

1 Chinotserie, Oliver Impey, p.17
2 Silk Roads: China Ships, Vollmer, Keall, Nagai-Berthrong, p.8
During the period of Alexander's short rule, he gathered a collection of lands, which increased his empire. He captured Greece, then went east into Turkey, northern Egypt, Syria, Iraq, Iran and finally to north-western India. Possession of these lands facilitated overland trade along the established Silk Route, increasing the number and variety of products making their way into the West.

The Silk Route extended between China and the Mediterranean. There were numerous caravan routes leading from various provinces in China, through to northern India, Middle East, Persia and the Mediterranean. Camel caravans traversed deserts, plains and mountains, converging at trade centres located along the route. Commodities were bought and sold at the marketplaces where they would be bought and sold further on along the network. This system ensured a continuous flow of goods between East and West.

The magnitude of distance involved in the Silk Route (approximately 7,000km between China and the Mediterranean) and restrictions in entering empire and state boarders meant merchants could not travel the full distance of the route. For example, during the height of Persian rule access to India and China was not possible for Europeans until Alexander's conquest in 331 BC. Merchants passing through provinces or borders were required to pay toll fees and custom duties. Payment of fees and taxes on goods and services were a daily part of business, with protection from bandits being major expense. Fees were charged to the merchants for protection from bandits of thieves, which were a constant hazard along the route and at trade centres. Other hazards to contend with in the physical environment were unpredictable weather conditions and rough country.

These conditions were some of the factors that lead Europeans into seeking a sea route. It was believed a maritime route would reduce the time taken to obtain goods beyond Persia and reduce expenses incurred by hefty tolls, customs, taxes and mark up on goods payable along the overland route.

In the 1st century AD, the Romans discovered a trade sea route to southern India, embarking from Egypt. Spices (particularly pepper, cinnamon and ginger) and silk were in great demand in Rome and were the main commodities brought back from India. Other exotic products brought back to Rome included animals (for the arena), furs, cashmere wool and cotton. Slaves were also an important purchase for Roman industries and wealthy households. The Romans traded with their linen, coral, glass, wine, and pottery. During this period, they also traded with the Kushan Empire in northwest India. Whilst the sea route increased the amount of goods entering Rome, it did not cease the overland route.

The Romans sailed with the monsoon winds, blowing southwest across the Indian Ocean from March to September and northeast from November to January. During this period, as many as 120 Roman ships departed per year from Egyptian ports to southern India filled with commodities and gold for trading. Trade embassies

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3 Ibid, p.6-7
5 Chinoiserie, Oliver Impey, p.20
travelled in both directions, from the East to the West and West to East. Direct trade via the sea between West and East continued for another 200 years until the route was closed by Arab and Abyssinian forces. It remained as such until the end of the 15th century, when Europeans discovered a new route — a way round the southern point of Africa.

The overland trade route from Europe to the Near East and India continued until the rise of power of Islam in the 7th-8th century, when access between East and West became almost entirely closed off. Trade was only conducted through Muslim intermediary traders at such places as Byzantium and Muslim-occupied southern Italy. Roger I (ruled 1085-1101) and his son Roger II (ruled 1130-1154) ruled southern Italy, maintaining a royal court that was very Near Eastern in style, art and learning. Meanwhile, from the 9th-11th centuries, Spain was also occupied by Islamic power. During this period, Islam’s influence took hold in Spain, evident in the style of architecture, customs and learning of the period.

Growing concern in Christian occupied parts of Europe regarding the treatment of Christian pilgrims to the Holy Land of Jerusalem instigated the First Crusade in 1095, against Muslim power. There were a further three Crusades over a 200 year period up until the 13th century, in an attempt to regain control over the Holy land for Christians. Although the Christians did not win these wars, some economic benefits resulted. The capture of Byzantium by the Italians was of great importance as it was a significant location within the trade geography of the period. Italian merchant ships gained control of the eastern Mediterranean Sea, facilitating the overland East-West trade with vigour. Contact with the East resumed.

During this warring period, the Crusaders (who were predominantly made up of knights and peasants) were exposed to Eastern goods on a level they would not have had previously. On their return to Europe the Crusaders, with a developed taste for Eastern cloth, spices and other exotic luxuries created an increased demand for these commodities, which was happily accommodated by Italian merchants eager to increase their own finances.

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7 Ibid, p.28
8 Ibid, p.80
9 Ibid, p.80-81
Electronic Threads  1995-97

The following are two examples of four textile gowns modelled on Asian and Middle Eastern ethnographic dress. The gowns are clad with a matrix of circuitry operating LCD screens and mylar speakers. The circuit paths are designed to follow the form of the traditional surface designs.

The manner in which the robes are exhibited reference museum-style displays of ethnographic costume — as this is often the context in which we encounter, experience and understand most traditional garments and, or cultures other than our own.

Japanese Kimono  1995

Cotton, lacquered copper wire, audio and electronic components.
1.58m x 1.26m

composition down the back. The swastika and cranes combined, are symbols of long life. The wire acts as a conductor for audio signal, which passes through the entire design before being expelled from the speakers. The sounds of squawking cranes are heard from the kimono in conjunction with the images of floating cranes.

Lacquered copper wire is embroidered onto the surface of the Japanese kimono as a continuous interlinked swastika pattern, with gliding Manchurian cranes, floating diagonally down the front, while small mylar speakers mirror the diagonal.

Detail showing mylar speakers and embroidered copper wire
Palestinian Dress 1997

Cotton, insulated copper wire, LCD screen, electronic components.
1.35m x 1.37m

The Palestinian dress (sourced from a traditional 19th c dress from Bethlehem) is appliquéd and embroidered with a brightly coloured panel on the chest. A border of triangles, zigzags and cross-stitches in contrasting colours frames the panel. Coloured, insulated copper wire is embroidered in cross-stitch, forming three stylised cypress tree motifs across the chest panel. A small LCD screen in the centre of the panel plays out an electronic war game, silently repeating a sequence, intercepting the apex of the central tree. The cypress trees conduct electrical voltage to the game.
A floral collar is inserted above the square panel — a legacy of the Middle Eastern trade with Europe. In 19th century Palestinian society, to sew a collar or panel of floral print or velvet from Western fabric raised the status of the wearer, as fabric from Europe was both scarce and expensive. Tradition has it that triangles, zigzags and alternating colours are devices that distract and confuse the evil eye, while the cypress tree symbolises life. In this dress ironically, the life-giving trees give sustenance to the war game. Dress, a symbol of cultural history and identity, in this instance has become somewhat depersonalised and technologised, referencing Western media’s representation of Palestinian culture as predominantly preoccupied with war.

Detail of chest panel with LCD screen in the centre.
**Travellers’ Tales before the 16th Century**

With revitalised contact between Europe and Asia during the 13th century, merchants such as the Polo brothers were being sent from Italy in search of China and India in the hope of creating new trade links. Missionary envoys were also departing from Europe to China such as those sent by Louis IX of France in 1249 and 1254 to Karakoram in the hope of extending the Christian doctrine. These merchants and missionaries were returning to Europe with stories about the lands they passed through and their encounters with people who, in European eyes, practiced strange customs. The stories inspired curiosity and myths about Asia, its people and culture and were the basis for many myths, confusing fact and fable, which were often exaggerated by others. Stories about what lay beyond in the Eastern lands remained fantastical for centuries and fuelled the imagination of many European writers, artists and artisans.

Even up until the early Renaissance, European knowledge of the world was limited — mostly made up of stories and governed by religious texts. It was a common belief that after the great biblical flood, Noah’s three sons, Japheth, Shem and Ham relocated themselves into three parts of the world to repopulate it: Japheth’s descendants occupied Europe, Shem’s descendants occupied Asia and Ham’s, Africa. Monsters and strange, fearful, flesh-eating beings of great variety lived beyond these lands, at the edge of the world (such as those described by Megathenes). The further away from the know world of Christendom (i.e. Jerusalem) the descendants spread, the more retrograde and monster-like they became.

An early Greek delegate Megathenes, was sent to Northern India by Seleucus I (Alexander the Great’s successor in the Middle East) in 304 BC. He wrote about Northern India, its people, customs and land — most of which was believed to be accurate. There was however, the inclusion of descriptions that were total fantasy, inspired by travellers’ tales and believed without doubt by his readers up until the medieval period. His descriptions of marvellous and monstrous people inhabiting the lands somewhere in the East (possibly in India) were perpetuated by many, up until the Renaissance, for example, one-legged people; horrible, one-eyed giants; headless people with eyes on their shoulders and mouths on chests and people with ears so large they hung down to their knees. These descriptions later appeared in Sir John Mandeville’s book, *Travels* (1356) and Hartmann Schedel in his *Nuremberg Chronicle*, accompanied by illustrations (1493) to name a couple. By the 17th century, with increased knowledge of the world through the voyages of discovery, ideas about such marvellous beings inhabiting the outer-reaches of world were becoming increasingly implausible though not entirely eliminated.

Travellers’ reports and anthologies in the form of published texts became very influential in forming the European perception of Asia and its inhabitants. There were numerous writings from pilgrims’ manuals, missionaries and emissaries.

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10 *Chinoiserie*, Oliver Impey, p.23
11 *Imagining the Pacific*, Bernard Smith, p.8-9
According to the medieval mappamundi Jerusalem was the centre of the world (*Circa 1492*, Ed. Jay A. Levenson, p.31)
12 *Chinoiserie*, Oliver Impey, p.18
13 *Imagining the Pacific*, Bernard Smith, p.8
circulating in Europe. A couple of popular texts, even unto this day continue to be published in numerous languages – namely, Marco Polo’s book *The Travels* (c. 1298-1305) and the previously mentioned, Sir John Mandeville’s *Travels*. During the Renaissance, these two texts (both translated into many languages at the time) had quite a significant impact on certain noteworthy individuals. Leonardo da Vinci was known to have a copy of Mandeville’s *Travels* in his book collection — in fact, believed to be the only travel book he possessed. Christopher Columbus closely referred to Mandeville and Polo’s text for the geographical descriptions of how to reach the fabled Cathay for his explorations between the 15th and 16th century.\(^{14}\)

Mandeville’s account begins in England and describes various routes to Constantinople via sea and land, then on through to the biblical lands, before reaching the fabled lands of Prester John,\(^{15}\) India and China. Written in first person, in the style of an intrepid traveller’s travelogue, his descriptions are peppered with tales of fabulous and exotic encounters, such as the one below:

> Once there was there a rich man called Catolonabes, and he was powerful and marvellously cunning. He had a fair strong castle, standing on a hill, and he had strong high walls built round it. Inside the walls he made a beautiful garden and planted in it all kinds of trees bearing different kinds of fruit. He had all kinds of sweet-smelling and flowering herbs planted too. There were many fair fountains in that garden, and beside them lovely halls and chambers, painted marvellously delicately in gold and azure with different stories; there were different kinds of birds, worked by mechanical means, which seemed quite alive as they sang and fluttered. In that garden he put all the kinds of birds and beasts he could get to please and delight a man. He also put there beautiful maidens, not older than fifteen, the loveliest he could find, and boys of the same age; they were all clad in clothes of gold. These he said were angels. He also had three lovely wells made of precious stones enclosed in jasper and crystal, and other precious stones set in gold. He built conduits under the earth so that, when he wished, one of these wells would run with honey, another with wine, and another with milk, from these conduits. This place he called Paradise. And when any young noble of the country came to him, he led him into this Paradise and showed him all these things I have mentioned. He secretly had minstrels in a high tower where they could not be seen, playing on different instruments of music. He said they were God’s angels, and that that place was the Paradise God grants to those He loves, saying, *Dabo ubis terram fluentem lac et mel*, which means, ‘I shall give you a land flowing with milk and honey’.\(^{16}\)

While Mandeville’s text was an authority on the East for the next two hundred years after it was written (his geographical descriptions often used as a source in compiling

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\(^{14}\) *The Travels of Sir John Mandeville*, Penguin Classics, p.9; *Circa 1492*, Ed. Jay A. Levenson, p.31

\(^{15}\) The fabled Prester John was believed to have been a Christian soldier who, during the Crusades kept on going east into Asia (or East Africa, according to some 15th century sources) where he became the ruler of a Christian kingdom. The Christians believed by finding Prester John’s kingdom they could create an alliance with the East, against Islam. Marco Polo also searched for the fabled Prester John, during his travels.

\(^{16}\) *The Travels of Sir John Mandeville*, Penguin Classics, p.171-172
atlas and maps of the period) increasingly, it became apparent that many of his tales were myths. In fact, much of his text was found to have been plundered from earlier published sources. He may have travelled to some places though it is not known how far he may have done so. One of these sources, a popular text by a Franciscan missionary, Friar Odoric of Pordenone, who spent three years in Peking from c.1320, wrote about his travels on his return to Italy. In his descriptions he mentions the binding of women’s feet and the amazing length some mandarin men grew their nails.

Likewise, Polo’s contemporaries did not always believe his accounts and he was often referred to as ‘Il Milione’ — man of a thousand lies. Though unlike Mandeville, Polo’s travels in the late 13th century were associated with trade and gaining knowledge of the terrain and people for the purpose of trade. Since both his father and uncle were Venetian merchants who, like many traders from Italy endeavoured to set up trade links with the East, this kind of information would have been very valuable if trading in the East. This also accounts for Polo’s interest and many references to tradable goods encountered in the lands with cities of outstanding splendour and prosperity; for they are all centres of active and profitable trade, producing silk past all reckoning.

During the 15th-16th century both, Polo and Mandeville’s texts were used as evidence of the East’s existence and the possibilities of what it had to offer in terms of financial gain for European nations. Therefore, based on these texts a great deal of funding was granted by Royal patronage towards voyages such as those of Columbus’ to find a direct sea route from Europe to the East, in search of the fabled Cathay — the land of silk, gold, and unimaginable riches — and most importantly, the Spice Islands.

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17 The Travels of Sir John Mandeville, Penguin Classics, p.31
18 Chinoiserie, Dawn Jacobson, p.13
20 The Travels of Marco Polo, Penguin Classics, p.195
Sphere of the Moon 2000

Porcelain, wood, enamel paint and varnish, audio speakers, CD player.
1.4m x 1.27m x 0.40m

Sphere of the Moon is an audio-based sculpture encompassing seven white porcelain, Chinese-style vases, linked together side by side, stacked on top of each other, forming an arc. A speaker is embedded inside each vase with cables trailing out from the vase bases, converging to a central point beneath the arc. The arc is fitted onto a supporting black base, which rests on a Chinese altar table. An audio composition of ambient music and voice text emanates from the speakers.

The voice projecting from the vases, quoted from Sir John Mandeville’s description of paradise comes across as a voice of authority. As he himself claims in the opening remark, his knowledge of paradise is second hand, acquired from others — wiser men than himself, “Of Paradise I cannot speak properly, for I have not been there; and that I regret. But I shall tell you as much as I have heard from wise men...” This dissertation on paradise from Mandeville perpetuates or, highlights the illusiveness of paradise, as a place that exists out of reach from any mortal human.

The formal presentation of the altar table and symmetrical composition emphasises the austere and reverent tone of Mandeville’s speech. The formation of the vases as an arc with speaker cables joining beneath the arc, also suggests an open oriental fan.
The composition of the artwork is also inspired by a particular style of tulip vase produced during the 17th – 19th century in Europe. Arriving in Europe from Turkey in the mid 1500s, tulips became highly prized and extremely expensive flowers. During the 1630s, a rage for tulips developed in Europe, especially in Holland. Elaborate ceramic vases were designed especially to contain and display tulips. Wide varieties of shapes such as pyramid and fan-shaped vases were produced in symmetrical formation, fashioned with individual openings for each flower. The vases were decorated in the popular Chinese blue and white glazed motifs. As tulips were of great value (often far more expensive than the vases that held them), what better way to emphasise their exclusiveness than by placing them in blue and white glazed porcelain — the height of fashion in Europe during that period.
From Old Worlds to New Worlds —
Exploration and Trade during the Renaissance

In 1368, the Chinese closed the northern trade routes when they expelled the
Mongolians, forcing the spice trade southwards into Islamic-controlled trade.21 As
Muslim intermediaries charged very high taxes on Asian goods and their forces barred
European fleets from the Persian Gulf, a search to find another route to Asia was
paramount for Europeans.

By the 13th century, Genoa and Venice had a monopoly on the spice trade and as a
result were the most powerful and richest city-states in Europe. To increase their
profit margin they had to bypass their Muslim counterparts and secure direct trade
links with the Spice Islands. Early travellers’ tales and geographer’s suggested it was
possible to access the Indian Ocean by sailing around Africa from the west coast —
that there was not an eastward extension of land extending from southern Africa,
enclosing the Ocean, as popularly thought.22 There were early attempts made from
Italy to explore the west coast of Africa such as, the Vivaldi brothers from Genoa, in
1291 who, disappeared — possibly ship wrecked or lost at sea.23 It was a long time
before anyone else attempted to follow this route. Other routes were sought.

According to Marco Polo’s descriptions, sailing west across the Atlantic from Europe
one could reach China, Java and Sumatra — the port of Zayton (Quanzhou) in China,
being the centre of the spice trade. In the 15th century, a Florentine astronomer
named Toscanelli, subscribing to Polo’s suggestion proposed the idea of a voyage, to
the Portuguese King, Alfonso V, based on this information. The king did not agree
to such a far-fetched idea so, Toscanelli sent his plans to Genoa to another contender,
Christopher Columbus.24 Several attempts to cross the Atlantic to find islands (the
Spice Islands) had been previously made by others without success. Columbus, with
the financial support of the Spanish Queen Isabella, took the westward Atlantic
route. Reaching land in 1492, Columbus thought he had arrived at the shores of
Cathay. He had in fact reached Hispaniola in the West Indies.25

It was not until the 15th century, when the Portuguese who, after a few attempts found
a route to India via Africa. In 1495, Vasco da Gama sailed down the west coast of
Africa, around the southern tip of Cape of Good Hope and east, via Zanzibar, across
the Indian Ocean, reaching Calicut in India, in 1498. It took a couple of return trips
before Portugal could set up a trading post in Calicut, using the excuse of existing
hostilities between Christendom and Islam to attack and force out existing Muslim
traders.

As the Portuguese brought Mediterranean style trading and warfare into the Indian
Ocean, it was only a matter of time before they were controlling large tracts of the
Ocean — all ships crossing this ocean requiring licenses and payments of fees.
Within ten to twelve years Portugal had control of trade in the western Indian Ocean,
acting as intermediaries between Asia and Europe. Posts were set up (most often,

21 Chinoiserie, Dawn Jacobson, p.15
22 Chinoiserie, Oliver Impey, p.29
23 Roads to Xanadu, John Merson, p.71
24 Chinoiserie, Oliver Impey, p.29
25 Ibid, p.31
forcibly) in Goa (1510) for the pepper and cotton trade and in Malacca (1511) on the Malaysian west coast, for direct silk trade as well as a point of access to other ports in China, Thailand and Cambodia and Macao (1557). Although a range of commodities, mainly luxury items including silk, cotton, porcelain, silver and incense was exported from Asia, spices remained the dominant export throughout the 16th century.26

During this period, Portugal became extremely wealthy, overshadowing their Italian competitors and gaining control of trade of the west coast of India, The Banda Islands (Spice Islands) and the Persian Gulf (the island of Hormuz, at the entrance to the Gulf was taken in 1507). They began trading with the Japanese in 1544, two years after a Chinese junk on the East China Sea carrying three Portuguese, were accidentally blown off course, arriving at the island of Tanegashima in southern Japan.27

Meanwhile, Spain continued its exploration of the Americas in order to find a way around to the East. In 1520, navigator, Ferdinand Magellan finally found a route around the southern tip of South America, via the Pacific Ocean and on to the Philippines, where they began trade with Asia.28

Cargo ships had to carry a great deal of goods, silver and gold for trading at Asian ports. Europe had very few goods for exchange that interested Asia, especially China. As China’s interest was in gold and silver, a great deal was required to be carried on board the ships. Therefore, a trading network was formed, similar to overland trade where goods were bought and sold in numerous ports en route to Asia, with additional gold collected at ports such as in Africa and Mexico. The Portuguese sailed via the Indian Ocean beginning in Lisbon, then on to Africa, Persia and finally India, South-East Asia and East Asia. The Spanish sailed via the Pacific Ocean, stopping in Mexico and South America before reaching South-East Asia where they conducted most of their transactions. Between the two, Spain and Portugal dominated the spice trade throughout the 16th century, with Portugal possessing the bulk of the trade.

This period signalled in a new era where increasing amounts of goods from different cultures transferred from continent to continent at a greater pace, enabling greater communication and more access to other cultures' products, art, ideas and knowledge. Jesuit missionaries in China such as, Matteo Ricci sent back new ideas to Europe through his translation of Confucian philosophy29 while, nobles and aristocrats were impressing their guests with new additions to their collections of luxury items — lacquer ware, porcelain ware, textiles and other exotic trinkets.

Developments in scientific knowledge and technology advanced significantly enabling this period of great expansion in sea trade to occur. Chinese navigational techniques, boat design and the south-pointing compass were early developments which entered Europe from China via Arab traders who had been applying this knowledge for some time. Before the introduction of the south-pointing compass,
European ships sailed close to the coastlines rather than across the oceans or seas. New boat designs were larger and lighter and allowed greater space for cargo. Oarsmen were no longer necessary due to the addition of an extra mast, new sail design and a sternpost rudder, operated by a steering wheel. All these improvements enabled the ships to sail longer distances than previously and no longer relied on prevailing winds to reach their destinations. New developments in mapping of the oceans, winds and coastlines also enabled more accurate navigation.\textsuperscript{30}

In addition to trading both, Spain and Portugal were quick to send Christian missions to Asia, to spread the word of God and convert the heathens to Christianity — thus save them from condemnation. As already mentioned, many impressions of Eastern culture and its people came to Europe via missionaries. In 1549, Jesuit Francis Xavier was sent to Japan to set up a Christian church. He was very impressed with the people he encountered,

\begin{quote}
"The people whom we have met so far are the best who have yet been discovered, and it seems to me that we shall never find among heathens another race to equal the Japanese. They are people of very good manners, good in general, and not malicious; they are men of honour to a marvel, and prize honour above all else in the world."
\end{quote}\textsuperscript{31}

In 1583, another Jesuit, Alessandro Valignano, finding the strangeness of the Japanese culture wrote,

\begin{quote}
"They also have rites and ceremonies so different from those of all the other nations that it seems they deliberately try to be unlike any other people. The things which they do in this respect are beyond imagining and it may be truly said that Japan is a world the reverse of Europe."
\end{quote}\textsuperscript{32}

Jesuit Matteo Ricci, who took over from Xavier from 1582, spent all his time (up until his death in 1610) in China learning Chinese culture and language and teaching European science and mathematics, with the intention of converting the Emperor of China to Christianity. By impressing the Chinese court officials with European intellect, he felt he could convince them of the superiority of Christian faith over Confucian philosophy. Though the Jesuits made some headway in parts of Asia, they stood on shaky ground and were in constant danger of being expelled or, executed when over stepping their mark. The Chinese officials in general held the Europeans in low regard and saw them as barbarous — Jesuits as no better than Buddhist monks (who were of poor peasant background) while merchant traders were known as ‘white devils’.\textsuperscript{33}

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\textsuperscript{30} Silk Roads: China Ships, Vollmer, Keall, Nagai-Berthrong, p.96-100; Roads to Xanadu, John Merson, p.62-64
\textsuperscript{31} Chinoiserie, Oliver Impey, p.35
\textsuperscript{32} Roads to Xanadu, John Merson, p.96
\textsuperscript{33} Ibid, p.97
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A New Era in Trade — The East India Companies

Both Spain and Portugal had to contend with a number of hazards across the oceans and at trading bases — namely, storms, pirates at sea and competitors attempting to over run their trading ports. Therefore, trading ships had to be equipped with warfare weaponry. Many cargoes were lost due to bad weather and more so, due to privateers. English and Dutch pirates were a constant menace to Spanish galleons and Portuguese carracks, often capturing the treasure-filled ships while still in the Atlantic or Indian Oceans. Queen Elizabeth I who shared in the booty sanctioned the English escapades. One particular ship where a list of its plunder was recorded was the Madre de Dios, written by geographer, Richard Hakluyt in 1592,

"...the principal wares after the jewels (which were no doubt of great value, though they never came to light) consisted of spices, drugges, silks, calicos, quilts, carpets and colours & c...whereunto are to be added the pearle, muske, civet and amber-grieve. The rest of the wares were many in number, but less in value: as elephants teeth, porcellan vessels of China, coco-nuts, hides, ebenwood as black as jet, bedsteads of the same, cloth of the rindes of trees very strange for the matter, and artificiall in workmanship. All which piles of commodities...amounted to no lesse than 150000l. sterling, which being divided among the adventurers (whereof her Majesty was the chief) was sufficient to yeeld contentment to all parties."34

Eventually, England found privateering to be insufficient. In order to gain the kind of wealth and power the Portuguese were enjoying they too, had to launch their own trading enterprises.

In 1600, Queen Elizabeth granted a charter to set up a privately owned enterprise, the Honourable English East India Company. English trading stations known as ‘factories’ were initially set up in India then, later in Siam and China. This company was to have a great influence on English culture, fashion and taste in the ensuing centuries — contributing to the development of the chinoiserie style in both England and the Continent.35

Although with some trading already underway during the 16th century, in 1602, the Dutch followed suit in setting up the their own East India Company, the Vereenigde Oost-Indische Compagnie (VOC)36. By 1605, they had taken over a great part of the Spice Islands from the Portuguese. They spared no time in setting up factories in India, Japan, Java and Formosa (never quite having success in direct trade with China). By the 1660s, they surpassed Portugal as a major power in European trade.37 Due to suspicions of a European invasion, by the end of the 1630s, all of the Spanish and Portuguese were expelled from Japan, leaving only the Dutch to trade on the small island of Dejima on Nagasaki harbour. Japan had essentially closed itself from the Western world. The Dutch were very restricted in the Japanese trade and only allowed to trade with very few ships per year. In spite of these restrictions, a great

34 Chinoiserie, Dawn Jacobson (1993) pg 17
35 Ibid, p.17; Trade and Civilisation in the Indian Ocean, K. N. Chaudhuri, Ch. 4
36 Trade and Civilisation in the Indian Ocean, K. N. Chaudhuri, p.85
37 Silk Roads: China Ships, Vollmer, Keall, Nagai-Berthrong, p.137
deal of Japanese lacquer and porcelain were poured into Europe for the next two centuries.\textsuperscript{38}

During the 17\textsuperscript{th} century the Dutch and English supplanted the Spanish and Portuguese as the dominant forces in trade — later the French joined them in 1664 with their Compagnie des Indes Orientales. Like their earlier counterparts, these East India Companies competed with each other for trading ports, often taking by force. The English differed from the Dutch in their practices as they were quite prepared to coexist with other European trading companies — essentially concerned with being in the business of trading goods, not in warfare. The Dutch however, were adamant in taking as many of the trading ports by force and arms if necessary.\textsuperscript{39}

With the succession of Manchu dynasty over the Ming dynasty in 1644, a number of Dutch embassies were sent to Peking in the attempt to set up formal trade agreements. Though they proved to be unsuccessful, one particular embassy that carried a steward to the ambassador named, Johan Nieuhoff, recorded a great deal of his observations of the mythical land of Cathay both, in writing and drawings. He detailed all the sights of their trip along the rivers from Canton to Peking. This was reportedly, the first time drawings of China was recorded and taken back to Europe. In 1665 a book with 100 of his engravings were published in Dutch and later circulated in various languages. Designers and architects sourced such images as Peking’s imperial gardens and the porcelain pagoda tower of Nanking, repeatedly — influencing the design of buildings such as the Trianon de Porcelaine in the park at Versailles, built by Louis XIV in 1670-71.\textsuperscript{40}

At the end of the 17\textsuperscript{th} century, the port of Canton opened up trade to all trading companies with the bulk of its exports being silk, porcelain and tea. Although extensive trade took place in Canton, severe restrictions were placed on foreign merchants trading in the Bay. They were not permitted to associate with most of the local Chinese population inside the port. In fact, their contact within the port was restricted to a very bureaucratic system that mainly only allowed them contact with low-level Mandarin officials (acting as middlemen between foreigners, merchants and producers) who dealt with trade negotiations. The merchants who lived in the factories were not allowed to wander more than 100 yards from the compound. They did however, have some male Chinese servants in their factory compounds and local service providers such as laundry, barbers, drinking houses, etc (who, though looking upon the foreigners as barbarians, saw it as another opportunity to increase income). Women and children had to remain on board the cargo ships at Whampoa bay, as they were not permitted to go into Canton Bay.\textsuperscript{41} Due to such restricted access to Chinese culture, European merchants’ views of the Chinese remained limited and biased, creating an environment where the imagination completed the picture.

The English however, were to dominate in trade with Canton and thus, Chinese trade in the 18\textsuperscript{th} century, as was evident in 1753 with ten ships trading, compared to six Dutch, five French, three Swedish, two Danish and one Prussian.\textsuperscript{42} Also taking

\textsuperscript{38} Chinoiserie, Oliver Impey, p.43; Trade and Civilisation in the Indian Ocean, K. N. Chaudhuri, p.95
\textsuperscript{39} Ibid, p.40
\textsuperscript{40} Chinoiserie, Dawn Jacobson, p.20, 35
\textsuperscript{41} Roads to Xanadu, John Merson, p.146-147; The Tea Story, J. M. Scott, p.18-19
\textsuperscript{42} Chinoiserie, Oliver Impey, p.44
advantage of a series of wars and political unrest, from about mid 18th century, the English came to dominate trade with India during the 18th century and thus establishing a large and profitable colonial base in the East.

Shortly after the English East India Company was established, the English developed a cyclical pattern of trade between India, the Spice Islands and Europe (the same pattern as the Portuguese learnt from the Eastern traders). Gold bullion and silver were brought from Europe and exchanged for cotton and silk fabric in India. The fabric was then taken to the Moluccas, Malacca and Sumatra and exchanged for pepper, cloves and nutmeg, which were taken back to Europe. The English also applied this system in other areas such as, exchanging the cotton for slaves on the west coast of Africa to sell them to the sugar plantations of the New World. This type of trading pattern enabled large volumes of commodities to circulate across the globe at greater speeds than previously, in a systematic fashion. It also meant control of the Asian trade was in the hands of a relatively small number of people.

The monopoly held by the Companies created huge profits for their respective countries, feeding the coffers of the nobility and the middle classes, especially of the merchants' and shareholders'. As the European middle class increased in numbers due to the rising standard of living they too, sought the luxuries once only afforded to the nobility. The demand for luxury goods — especially Oriental luxuries — and exotic novelties was on the rise. The most desired and procured products were silk (raw and cloth) cotton (plain, chintz and muslin cloth) porcelain ware, lacquer ware, and coffee and tea. As the European market was flooded with spices by the 17th century, it was these exotic fashionable goods that became more profitable.

It was the idealized view of the East generated by a number of factors that contributed to the appeal of Eastern commodities. The romanticized image of China and Japan painted by Jesuit missionaries who spent time in the Imperial courts and wrote about them, accounted for much of the European idealised perception of the East. Ink paintings of court officials and scholars in tranquil gardens in their flowing robes, writing or conversing were the kind of images finding their way back into European courts and aristocrats' collections. In addition, the high quality craftsmanship in decorative artefacts rivalled, if not surpassed European products. For example, the finesse of porcelain ware imported into Europe were unmatched by the local potter’s product. The strength, delicateness, whiteness and transparency of the material defied all who attempted to imitate its qualities with little success, until the early 19th century. The European conceded a culture that could produce such quality in product must surely be held in high regard. In this vein, those who were interested in political and social reform often posed the example of China’s social systems as a model of civilization — where merit and status was granted on the grounds of

43 Silk Roads: China Ships, Vollmer, Keall, Nagai-Berthrong, p.140
44 Ibid, p.129; Trade and Civilisation in the Indian Ocean, K. N. Chaudhuri, p.83
45 The English East India Company averaged 200% or more in profits up until the arrival of the 1720's recession, bringing it down to 80% profit, to the dismay of Henry Frankland from Bengal and James Macrae, the English governor of Madras — this lower percentage still being high, by our contemporary standards. Trade and Civilization in the Indian Ocean, K. N. Chaudhuri, p.195
scholarly application and the passing of a rigorous examination, rather than position inherited by the fortune of birth into the right class or, family.\textsuperscript{46}

It was only a matter of time before industrious European craftsmen and artisans began attempts at copying Asian lacquer and porcelain ware, silk and cotton production, and entrepreneurs began the cultivation of coffee and later, tea. This was because demand outstripped the supply of available imports. As it took months — if not up to a year in some instances — for a shipment of goods to arrive at the ports of Europe, the cost of bringing in these imports were high. Copies, adaptations or, products made in the ‘Eastern style’ by European artisans began to appear on the market along side the imports — copies often claiming to be the genuine Asian article. All that was required was the slightest exotic addition to a European design and it was seen as Eastern. These combinations of styles were in full swing by the 18\textsuperscript{th} century and came to be known as \textit{chinoiserie}

\textsuperscript{46} \textit{Roads to Xanadu}, John Merson, p.120-121
**Assured Tranquility** 2000

Porcelain, video monitor and player, MDF wood, enamel paint.
0.40m x 0.40m x 0.20m

A rectangular, Chinese-style, porcelain bottle rests on a decorative black shelf. The white bottle reclines on its side with a cut-away window on the facing side, revealing a small video of a contemporary cargo ship sailing across an ocean. The ship sails from right to left across the LCD screen and only re-appears approximately every seven minutes, leaving behind a plain horizon of undulating ocean and bright, clear blue sky for the viewer to contemplate. The ship is eternally in transit, somewhere between departing and arriving.

*Assured Tranquility* is a pastiche on the ship in the bottle theme. Inserting miniature model ships into glass bottles was once a seaman's tradition that was marvelled by all. How the ship was able to fit through the small opening of the bottle was a mystery to many. With a great deal of time on their hands while out at sea, seamen would construct these model ships in manner that would allow them to be carefully inserted through the small opening of the bottles. This was done with segments of the ships folded or, collapsed down. Once inside the bottle, a few strings were pulled to raise the masts and sails. Unlike the rigid presentation of these traditional model ships inside bottles, the pixilated cargo ship gliding across the screen in *Assured Tranquility* is in constant motion.

The video of the cargo ship at sea was shot from Bare Island at La Perouse, in Botany Bay. The bay being the historically famous site of Captain Cook's first landing in 1788. Just five days after the arrival of Captain Cook's ship, another two French ships also arrived in Botany Bay. Jean François de Galaup, Comte de La Pérouse captained these two ships. La Pérouse was a naval officer and explorer who was commissioned by the French King to explore the South Pacific Ocean to investigate whaling and fur prospects, and also establish French claims in the area. Staying only
a short time at Botany Bay, they left for the Solomon Islands where La Pérouse’s ships were fatally lost in a storm, near the Islands.

Today, a bevy of incongruous industries operate side by side in Botany Bay, both industrial and cultural. A very busy commercial port operates in the bay, with many cargo ships sailing in and out, daily. It also boasts of an oil refinery, a nature reserve, a national park, beaches, a historical fort and two small museums, attracting tourists. At the northern end of Botany Bay is the La Perouse museum, displaying a range of portraits, artefacts and paraphernalia about La Pérouse’s expedition and components recovered from the ships’ wreckage. At Kurnell, the southern end of the bay is Captain Cook’s Landing Place Historic Site furnished with a museum, also including maps and artefacts about the First Fleet and early European exploration of the east coast of Australia.

La Perouse’s expedition to the South Pacific was one of many that were being carried out during the 18th century, especially by the French and English who were always seeking to extend their colonial outposts for the purpose of trade and access to new supplies of raw materials and natural resources. Meanwhile, back in the homeland of Europe, industrial development and Asian exports were making many entrepreneurs, traders, shareholders, businessmen and their families very wealthy.

The name Assured Tranquility was the name given to the English East India Company’s factory in Canton, by the local Chinese traders. Ironically, relations between English and Chinese traders in Canton were often far from tranquil – they rather, tolerated each other for the sake of business.
Chinoiserie — An Introduction

What is Chinoiserie?

Chinoiserie was the European romantic concept of what the Orient was or, should be. It was an idealized, fantastic construct formed by European imagination, based on sources gathered from an array of imported objects and travellers’ tales of the Far and Near East.

This concept was a wholly European phenomenon, initiated by the wealthy class’ insatiable demand for this manner of style. Chinoiserie ornamentation and decorative images were found on the surface of a wide variety of objects and structures produced by European craftsmen, while its forms manifested in clothing, ceramic ware, furniture, architecture, interiors and gardens. Chinoiserie vignettes appeared in prints, paintings, ceramic ware and textile designs. It was characterized by particular iconography: idealized images of Chinese maidens or men in peaked hats or pig-tails, drinking tea, playing instruments or, engaged in other gentle pass times; tranquil gardens planted with bizarre foliage and fruit; pagodas with upturned roofs; peasants
floating in boats on lakes, fishing; floating, overhanging, rockery outcrops and curved bridges; parasols, banners and canopies; cranes, phoenixes, pheasants and dragons.

Up until the 19th century the average European did not often travel and if so, not often outside their own country or Europe. The educated population generally had a vague concept of the relative distances between known countries around the world and their locations. Maps were also changing through advancement in mapping techniques and additions made with each new European discovery of lands and oceans. Also, in the early days of sea trade, by the time the trade ships arrived in Europe filled with wondrous commodities from the East there was the occasional confusion as to which countries the products originated — more especially, if the products came from a plundered ship. Keeping these in mind, it is not so strange that the European concept of Asia sometimes appeared confused.

For the Westerner who also had little understanding of cultural differences within Asian countries (nor a need to distinguish or, acknowledge the diversity due to their superior attitude) the tendency was to bundle the various cultural images and forms, conflated descriptions and facts into generalized visions. The view was strictly from a European perspective with no involvement from the Other. This tendency was embodied in terms such as ‘the Orient’, ‘the East’ or ‘the Far-East’ and ‘Cathay’ — words, often used to refer to a general or indeterminate geographical area, located in the eastern part of the world. That is, located east of a Eurocentric, Christian world. ‘The Orient’ was variable and could encompass a diversity of countries and cultures, stretching from Turkey through to the east, as far as Japan and south, as far as India and Java. In actual terms, ‘the Orient’ was located more in the European mind than any ‘real’ geographical place.

The Orient or, the East became a symbol of the exotic. The exotic was everything that was not European — bizarre, extraordinary, unfamiliar, unreal and curious. It was the Other against whom Europeans could define and compare themselves. The East also became the symbolic site for paradise. Paradise had never existed in contemporary Europe (in Roman or Greek antiquity perhaps but, not in the contemporary). It was by right, required to be elsewhere in time and place — a place free of urban stresses, political upheaval, war, disease and pestilence, and other woes — preferably, a tranquil garden, much like the Garden of Eden.

Various manifestations of this exotic garden appeared in chinoiserie imagery and it was in fact, one of the most popular themes. Most of the characteristic features of chinoiserie, as listed earlier came together in these depictions. The point of interest in the composition of these surreal vignettes was distortion of pictorial space and scale. It was truly a fantastical space where for example, an otherwise heavy rocky outcrop, draped with a young maiden holding a parasol or lute, hovered independently in the air with the lightness of clouds; structures and objects appeared in the fore and background simultaneously creating a strange interplay with depth; gigantic fruit sprouted from palms or other leafy plants, overshadowing a disproportionately small pagoda. This treatment in composition and imagery within the garden theme was at its most bizarre during the rococo period.

47 Chinoiserie, Oliver Impey, p.37
48 Imagining the Pacific, Bernard Smith, p.10; Orientalism, Edward Said, Introduction
49 Ibid, p.9-10
Designing the East

As designers and craftsmen often incorporated a range of images and forms into their designs, chinoiserie came to encompass a wide range of styles. This resulted in unusual hybrids. For example, an early 18th century, Dutch Delftware decorative wall panel depicted Brazilian Tapuya Indians set in amongst an Eastern narrative — the Indians, copied from drawings by an artist who had accompanied Maurice of Nassau on an expedition to North America and Africa from 1636-1644, did not appear to have any relationship with the Chinese figures within the scene.50 Again, the distortion of space and scale mentioned earlier appears in this composition — perhaps an attempt at mimicking the sense of vertical composition found in traditional Chinese landscape painting however, appearing somewhat discontinuous and dislocated.

Sources for the designs were not necessarily adapted from originals. For example it was common for Chinese potteries to copy Japanese porcelain designs in the Imari or Kakiemon style, for export to Europe. When utilizing chinoiserie it was quite typical for the European craftsmen to combine European styles of the period or, even his personal stamp. In addition, when they copied from an Asian object the European craftsman may have misinterpreted or, had not recognized elements of the original image so, simply replaced it with what they thought was suitable.51

Another level of chinoiserie could be considered: products commissioned in China or India by European companies such as, the East India Companies — especially by their officers who were allowed a certain amount of personal cargo of imports. Products were also made in these countries especially for the purpose of export to Europe. Designs were given to the Chinese or Indian craftsmen by European companies to be copied. These designs could be of European origin or, a European concept of an Asian design. The Chinese or Indian craftsmen interpreted the design in the manner in which they understood it. They did not necessarily recognize an Asian-inspired design given to them by the Europeans to copy as sourced from Asian origins — the original image having altered considerably. The best example that illustrated this process of transformation and circulation was in the textile Tree of Life design. Chinese flowering vine and Indian-inspired designs were appropriated by European designers for chintz patterns and then sent to India to be made up as cotton prints (some sold on to the Chinese market). Then either brought back to Europe or bought by the Chinese (no longer recognizing as having any relationship to their own design) who copied the design into silk embroidery for export to the European market.

Examples of chinoiserie appeared as early as the 14th century, in Italian Lucca silk textiles used in the royal courts and the church. Use of mythical animals such as phoenixes, simurghs and Chinese-inspired dragons came to Europe via Muslim traders, with objects and cloth from the East bearing these figures, as well as through

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50 Chinoiserie, Dawn Jacobson, p.48; Silk, Jacques Anquetil, p.86
51 Chinoiserie, Oliver Impey, p.11
Muslim occupation. Chinoiserie became more extensive from the 17th century onwards, after the expansion in trade with the East.

Japonisme was also another style aligned to chinoiserie. It distinguished itself only marginally, as Japanese elements were already in use in chinoiserie. Chinoiserie in the late 19th century had toned down its extravagance to some degree, casting off a great deal of its rococo flamboyancy. By the 19th century, Europeans had gained a better understanding of the fact there were indeed differences between Eastern styles such as, Indian, Chinese and Japanese — at least the educated members of European society had the means to access to this knowledge. England especially, who had a number of colonial outposts in India, China and Burma to name a few, were better equipped to access information about the cultural differences (although, undoubtedly biased) within each culture.

Japonisme’s influences were essentially Japanese with the occasional mixture of other Asian elements. This fashion for the Japanese style emerged after the mid 19th century, after Japan re-opened its doors to the West due to forced American intervention. Approximately, up until the late 19th century, Japanese design and style was fashionable and imitated by Westerners. It was some time before the influence of Japanese design went beyond mere imitation within European design. Japanese influence manifested in modern European design of the late 19th century, in the Aesthetic movement and the early 20th century, in such styles as Art Deco. The simplicity of Japanese design and composition appealed to the modern thinker who sought relief from the clutter and excesses of chinoiserie.

Though the use of Asian imagery was being used in Europe for some time, the intention to consciously imitate or include Eastern styles as a fashion really began during the 16th century, onwards. There were particular periods in Western history where the fashion for the chinoiserie style was more prominent. Approximately in the late 16th century to early 17th century, during the late baroque period and then, late 17th century to late 18th century, during the rococo period (keeping in mind the baroque and rococo periods occurred at different times in different parts of Europe). Ceramics however, was an exception, where there had been continuous use of eastern design over that period. It was during the rococo period however, where the chinoiserie style was at its height and most extravagant.

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52 Ibid, p.87
53 Ibid, p.12
54 Ibid
The Enchantress 2000

Porcelain, MDF wood, enamel paint, mixed media, electro-mechanical components. 1m x 0.48m 0.40m

A porcelain doll kneels inside a large white rococo, porcelain ginger jar, mechanically blowing kisses. The jar rests on a highly elaborate, black, grotesque-rococo style shelf. The persona of the doll is based on a hybrid of Cho Cho San, a character from Puccini’s tragic opera, Madama Butterfly and contemporary Japanese animation.

In the opera version of the story, an American naval captain marries Cho Cho San, a poor, fifteen year old, geisha girl. He is captivated by her beautiful, doll-like features and naïve, child-like sentiments. To him, she is a plaything, not a real woman. His intensions are not honourable, as he plans to stay with her for only a short time, until he has to return to America. When he does go back, he does not intend to keep his promise of return, to her. Blinded by love, she naïvely awaits him, disregarding all the advice and comments from relatives that he will not return. One day she sends a letter, telling him of their son, thinking he will surely return if he knows he has a son. He does so, but to take away their son to America so he and his American wife can care for the child. Heart broken and in despair, Cho Cho San kills herself.

The opera itself was inspired by a play, based on a 19th century novel called Madame Chrystantheme by Pierre Loti. The original novel was about the exotic, erotic adventures of a Westerner and his conquests in the Far East.
Cho Cho San's character embodies the Western male fantasy of the young, pretty, demure Japanese geisha girl. She stands in stark contrast to the superior white Western male. Much like the character of Cho Cho San, the cute porcelain doll in the jar repeatedly blows kisses to the viewer while they peer through the porcelain lattice. The act of 'looking' becomes a more conscious action, as the viewer is required to make an effort to see inside the jar. The interior of the jar has a soft warm pink glow, rendering the scene with kitsch, sentimental qualities. The light emanates from a pot of Chinese flowers made of jade, quartz and amber that sit carefully arranged, beside her.

The porcelain doll is modelled in the genre of contemporary Japanese animation, of a young, wide-eyed, pre-pubescent, cutesy girl — perhaps more so a fantasy of the contemporary Japanese male. Her synthetic, glittery kimono belongs to the nightclubs of today's Japan rather than the interiors of the traditional paper screen homes of the past.

Detail of ginger jar interior with porcelain doll and flower arrangement.
PART II

_Silk and Cotton – the Lure of Eastern Textiles_

**Silk**

Silk had always been one of the most sumptuous, sensual and sought-after commodities throughout history. Its intrinsic ability to catch and reflect light in iridescent modulations had inspired the imagination of European consumers and textile designers for centuries. Associated with wealth and status across many cultures, silk had always been a luxury commodity, endowing its owner or wearer with prestige and separating them from the common or peasant classes.

Sericulture (the rearing of silk worms) and the production of silk began in China more than 4000 years ago. Another variety of silk, though much more coarse was also being produced in India. Silk had always been a high value luxury item with the traders of the Silk Road from China to India, right through to the Middle East and Persia. It had already found its way into the Mediterranean region by 600BC through its Greek traders who had settled near the Black Sea.  

As a result of the Chinese and Indian silk trade, Eastern weaving techniques and woven patterns and images were disseminated across the Middle East, influencing their designs. The drawloom, used to weave patterned fabrics was a Chinese invention that made its way westward, first to the Middle East, Persia and Byzantium and then into Europe via Sicily. Although Sassanian weavers who occupied Persia, received unspun silk yarn from the East, it was believed they also unravelled lengths

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55 _The Book of Silk_, Philippa Scott, p.78
56 _Looms and Weaving_, Anna Benson and Neil Warburton, p.13
of woven cloth and rewove it using their own patterns (a technique also adopted by European states). In turn, Sassanian silk entering Europe during the 3rd century onwards, had a profound influence on European textile design.

By the 4th century AD, the Sassanians had developed a strong monopoly in the silk trade with Byzantium and the West. As demand for silk continued to increase, Sassanians exploited the situation by increasing prices and taxes. This led Byzantium’s emperor in the 6th century, Justinian the Great to search and develop a silk industry locally. A group of Nestorian monks from the environs of Central Asia or India offered to smuggle silkworm eggs and knowledge of sericulture to Byzantium from their district. They did so, concealing the cocoons in the hollow shafts of their bamboo canes. Byzantium thus began a sericulture industry and trade of its own which came to rival the Sassanian trade. This however, did not entirely diminish Sassanian trade in silk to the West, as they remained a strong force both, in their trade and cultural influence until Muslim invasion.

**Sassanian Influence on European Design**

Typical motifs of Sassanian silk which strongly influenced European church and court textiles were the single, confronted (face to face) and addorsed (back to back) animals; Tree of Life motif; hunting scenes; mythical animals and birds. These figures were contained in large repeated roundels, framed by pearls or beads. Generally, the composition was rigid, linear and symmetrical. The Tree of Life motif, usually depicted as a palm, often shared a place with the animals within the centre of the roundels.

The motif of the confronted or addorsed animals itself was derived from earlier Han silks and did not appear on Sassanian silk until later. The heraldic pose of these animals (elephants, lions or birds) was later seen on Mediaeval and Romanesque European silks associated with royalty or the church. Subsequently, a derivative of this style emerged in Moorish Spanish textiles, with the double-headed bird motif, which later appeared in heraldic emblems, notably in the Habsburgs double-headed eagle.

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57 *The Book of Silk*, Philippa Scott, p.79
58 This is one theory of how silk entered Byzantium and even so, the story varies to some degree from each source. Ibid, p.90; *Silk*, Jacques Anquetil, p.18-19, and *The Pleasures of Pattern*, William Justema, p.60
59 Description of Sassanian silk patterns: *Silk*, Jacques Anquetil, p.16-18 and *Chinoiserie*, Oliver Impey, p.63-64
*The Three Muses* 1993

Leather, lacquered copper wire, electronic components.
1.50m x 3.50m x 0.50m

*The Three Muses* is an artwork that was produced in Thailand during an Artist in Residence in Chiang Mai in 1993. Throughout the residency, I undertook research on general embroidery patterns across all cultures, in addition to general research on Thai history and culture, its arts and crafts and traditional mythologies.

Three leather capes are accompanied by three leather cow-masks. Agricultural hooks, hung from a steel rod, suspend both capes and masks. Children's LCD games have been recycled into pseudo-talismanic ornaments attached to the forehead of each mask. Lacquered copper wire has been embroidered as decorative patterns into the surface of the capes. These patterns function as the circuit path that channel electrical voltage to the LCD games from batteries located at the base of the capes. The background images in the LCD games correspond to the decorative pattern of each cape. In the foreground of each game, a typical cartoon-like sea or space battle plays out, accompanied by incongruous electronic musical jingles, which sound out through the speakers.
Each of the three patterns is based on repeat religious designs. The first is a French fleur de lys patterned medallion of the 12th century. The presence of Sassanian influence is apparent in the roundel composition, while the floral design appears to be Christian in that it forms a cross or star. The composition is also reminiscent of early Christian mandalas.

The second pattern is a Thai Buddhist design of a stylised Naga's face. The Naga is a Thai Buddhist mythical serpent that resides below Mount Meru, guarding the earth's waters and the riches that lie underground. Naga sculptures commonly decorate Thai temple roof gables and staircase balustrades acting as benign guardians.
The third pattern is an Islamic geometric interlaced medallion. The interlacing forms a star, in Islam, a symbol of the manifestation of God when faith has diminished.

The three cape and mask sets evoke the theatrical and shamanic. Shamans wear animal skins in order to adopt the spirit or qualities of that animal — as a way of transforming from the mortal to the spirit world. The role of the copper wire is at once symbolic and functional — the tracery of pattern resonating on a physical and molecular plane as well as cultural and, or spiritual level. These capes suggest a point of convergence between the primitive, spiritual and animistic with the high technology of today’s electronic gadgetry.

The seemingly innocent gameboy-style of the caricatures of war in the electronic game take on a more serious air, disembodied from their plastic case and reassigned a new role, placed onto each of the horned masks. Their transformation into electronic amulets, centred on the forehead of the masks suggests they have gained a kind of ritualistic significance — perhaps for the contemporary techno-nomad.
Birth of the European Silk Industry

Although Muslim weavers first established sericulture and silk weaving in Spain by the 8th century, production had not spread to other parts of Europe from here. Woven silk was rather, produced for local consumption or, exported to other parts of the Islamic Empire. It was from Italy that silk production was to flourish in Europe. Byzantium monopoly in silk was broken in the mid 12th century when Roger the II of Sicily forcibly brought Peloponnesian weavers from Byzantium into Palermo during the Muslim occupation of Italy, establishing an Italian silk industry. Raw silk was imported from China, Persia and Syria through Venice and Genoa — Chinese silk being the favoured variety for Luccanese weavers due to its bright white colour, superior quality and lower cost. From Palermo, the industry spread to other parts of Italy. The town of Lucca already with a thriving wool industry adapted to silk and came to be one of the most important sites for woven silk production, not only for Italians but also for the rest of Europe. Used predominantly for the royal court and church vestments, the distinguishing feature of Luccanese silk was the rich, fine velvets and extravagant use of gold and silver thread. The high quality and lush, complex designs of their silks ensured it remained in high demand.

In the early decades of the 14th century, weavers were forced to flee from Lucca to Venice and Florence due to political persecution. The Venetian silk industry was already prosperous by the time Luccanese weavers settled in Venice. As well as the introduction of Luccanese styles, there were already apparent Near Eastern influences on Venetian design due to the trade and political relationship with Byzantium.

The Chinese influence on Luccanese silk came after the Mongol conquest of the later 14th century. The conquest increased the trade of Eastern commodities to the West, including greater quantities of Chinese silk. In turn, the influx of Chinese design had a significant influence on Luccanese silk — in fact, on all of European silk design. The major aspect of change was a break from the rigid roundel forms of Sassanian design. The dynamic and asymmetrical compositions of Chinese textile design were appropriated, opening up the pictorial space. Diagonal was introduced into the composition, rendering it with movement and vitality that was not present in the earlier, formal, heraldic forms. Animals became more animated in their interaction with other animals within the design. Chinese plant forms such as, peonies, vines and lotus flowers influenced the palmette and pomegranate patterns. Local European motifs were readily mixed in with such Chinese motifs as dragons and phoenixes.

As the Renaissance progressed, leaf and flower motifs became more abundant, larger and bolder, while animal forms became less and less represented. Islamic influence was also prominent with large, repeat floral patterns, pomegranates, pineapples or, pinecones featured amongst ogival, leaf scrolls and arabesques. Italian weavers had

60 The Illustrated History of Textiles, Ed. Madeleine Ginsburg, p.19
61 Chinoiserie, Oliver Impey, p.64 and 5000 Years of Textiles, Ed. Jennifer Harris, p.165
62 Silk, Jacques Anquetil, p.29
63 Ibid, p.31-32 and The Book of Silk, Philippa Scott, p.152
64 Chinoiserie, Oliver Impey, p.65; 5000 Years of Textiles, Ed. Jennifer Harris, Ch.18 and The Book of Silk, Philippa Scott, p.152
developed new techniques, which allowed for larger repeats in the design as well as new designs. *Ciselé velvet*, originating in Venice involved a complex process of shearing different heights of the velvet loop pile in order to create an intricate, textured, carved relief effect. The luminous, reflective gold threads stood in contrast against the rich, dark red, purple, green or blue velvet pile background. *Feronnierie* (ironwork), also from Venice, was inspired by the patterns and forms of wrought iron in Gothic churches. Again, the contrast of red or green velvet against gold thread was a feature where a tracery of delicate pattern was cut into the velvet revealing the gold satin beneath.  

*The French Connection*

Competition from other Italian cities and the emergence of silk weaving in other parts of Europe by the end of the 16th century, contributed to the decline of the Venetian patterned silk weaving industry. France was to be the next important producer of high-quality patterned silk. Although plainer silk patterns and velvets were already woven in France by the 15th century, the industry for elaborate, patterned silks was developed with the aid of royal patronage from King Charles VII, Louis XI and subsequent kings. From the mid 15th century the cities of Lyon and Tours became the centres of silk production with sericulture also established. Italian master weavers, dyers and producers of silk, enticed by Louis with the promise of low taxes populated royal factories set up in Tours and later, Lyon.  

They brought with them Italian designs and techniques which had an indelible influence on French design.

The demand for silk in France became high with royalty, nobles, the church, socially ambitious wealthy merchants and emerging bourgeoisie being the main consumers. As well as for clothing, silk was in high demand for furnishings. Silk tapestries, bedding, curtains and upholstery were important ostentatious symbols of wealth. In the 16th century chairs of the wealthy were beginning to be upholstered rather than just made from heavy wooden frames, woven latticed seats and cushions. Beds were one of the most prized pieces of furniture, heavily draped with elaborately embroidered satin, velvet or damask curtains and covers.

French silk became very fashionable and high in demand both within and outside its national boundaries, with designs copied all over Europe. Designs continued to be heavily influenced by large Italian floral forms, pomegranates, palm leaves, cones and scrolling leaves up until the late 17th century. The increasing number of Asian commodities entering France, especially after the establishment of the Compagnie des Indes Orientales, shifted the direction of French textile design significantly to include Asian subjects, imagery and landscape painting composition.

Most of the Asian subjects and imagery applied in these later designs were derived from Chinese sources. The abundance of figures on blue and white porcelain ware,

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Ibid, p.65; *Silk*, Jacques Anquetil, p.37 and *The Pleasures of Pattern*, William Justema, Ch.1  
66 *Silk*, Jacques Anquetil, p.42, 53-54  
67 *The National Trust Book of Furnishing Textiles*, Pamela Clabum, p.148
paintings and lacquer ware provided French designers with ample imagery for woven
textile patterns, embroideries and tapestries. Another source for designs included
written descriptions from traders and travellers' impressions of the East. Romantic
written descriptions of gracefully robed people in peaked hats, curved wooden
bridges, pagoda towers with up-swept roofs and much more, added more detail to the
imagery appearing on objects. As the textile images were pieced together from these
second or third hand sources rather than through any direct observations or experience
with China and its people, the resulting pictorial or patterned compositions became
fabulous, romanticised depictions of the East.

These kinds of images — generalised under the term, chinoiserie — were already
appearing in baroque design of the 17th century. Few Chinese subjects appeared in
amongst the extravagant, exuberant style of the baroque, though elements did appear
in the grotesque phase of the style. Grotesque baroque was a style which began in
this period and continued well into the rococo. It was based on Roman grotto
paintings found at the Golden House of Nero in the late 15th century. Often used to
decorate the walls of interiors, Grotesque Baroque was characterized by classical
figures alongside chinamen in peaked hats, gothic-inspired gargoyles-faced mythical
beasts and singeries (monkeys in human clothing and attitude). Symmetrical, Roman
style pillars and pediments draped with swags and garlands of flowers framed these
figures.68 Within textiles, the Grotesque appeared in tapestries, embroideries and
woven silks.

In the closing years of the 17th century, a short-lived but unusual style of design,
influenced by a mixture of Indian, Eastern and Near Eastern motifs, had been in use.
This style, known as bizarre silk also coincided with the emergence of the rococo
style in France, which also incorporated strong elements of chinoiserie. The bizarre
style's more extreme form lasted from approximately 1700-1705 in France and later
in England. Distinguishing features were: an overall semi-abstract, composition of
flat, bold shapes derived from Islamic motifs and Indian chintz; asymmetrical
movement and bold colour; elongated and diagonal forms, heavily overlaid across
each other; chinoiserie and japonaiserie temples and figures; arabesques and
fragments of exotic architectural structures juxtaposed amongst strange plants of
wildly various scales.69 Mainly used in clothing, these designs suited the voluminous
dresses of the period, as they were able to clearly show off the forms.

Shareholders of the Compagnie des Indes Orientales wielded great influence on
French design during this period, as did the French court. Madame de Pompadour,
who became King Louis XV's mistress, was a shareholder of the Compagnie70 who
had a powerful influence on the taste of French fashionable society. She was a style
setter who avidly collected large amounts of Eastern textiles and decorative art objects
as well as local paintings, sculptures, decorative art, furniture and textiles;
commissioned artists, artisans and architects and bought houses for the King, to
decorate. Madame de Pompadour also commissioned chinoiserie fabrics from Lyon
designers for both, furnishings and clothing. Tapestries designed by François
Boucher from the famous Beauvais tapestry works were also commissioned. Both
Louis XIV and XV, arbiters of taste, coupled with a substantial desire for Oriental

68 *Chinoiserie*, Oliver Impey, p.83
69 *Silk, Jacques Anquetil*, p.85 and *Silk Designs of the 18th Century*, Natalie Rothstein, p.37
70 Ibid, p.88
goods, commissioned many artisans and architects to work in the rococo chinoiserie style, making additions and changes to the palace of Versailles and its contents. As a result of the Kings’ passion for Eastern style, the French royal collection amassed huge amounts of Chinese, Japanese and European Chinoiserie objects during their reign.\footnote{\textit{Taste}, Stephen Bayley, p.40-44 and \textit{Chinoiserie}, Dawn Jacobson, p.78}

The high point of French chinoiserie lasted until about the 1760s - 1770s, when a trend towards the more restrained Neo-Classical style began to take over, introducing simpler patterning for clothing. This new style was supported by Napoleon and Josephine who commissioned designs from Lyon and Tours. The size of floral pattern was reduced to small sprigs and often included vertical lines, which suited the simpler, less voluminous dresses of the period. Furnishing fabrics however, remained large in design but restrained in composition with formal medallions, musical instruments, floral garlands, wildfowl and classical themes — a contrast to the frivolous, flowing, scrolling forms of the rococo and chinoiserie styles.\footnote{\textit{Silk}, Jacques Anquetil, p.90-92 and \textit{5000 Years of Textiles}, Ed. Jennifer Harris, p.182-184}

\textbf{Technological Intervention}

During religious Protestant-Catholic conflict of the late 17th century, large populations of Huguenots fled France to neighbouring countries — included were a large variety of skilled craftsmen, especially from the silk industry. Tours and Lyon were severely affected, with thousands of Protestant weavers fleeing with their looms. They settled in England, Germany, Holland and other neighbouring countries. Many of the weavers and textile designers settled in London, setting up their looms and hence a silk industry in England. As a result, the French silk trade with England nearly collapsed except for the fact France still produced higher quality silk thread than England, ensuring a slow but steady flow remained.\footnote{Ibid, p.66-68 and \textit{The Old Derby Silk Mill and Its Rivals}, Harry Butterton, p.8}

For quality, England was forced to import Chinese or Italian silk thread, which was a very expensive option. It took the initiative of London textile merchant John Lombe in the early 1700’s, to take a risk and steal the closely guarded design of the water powered silk throwing machine from the Italians — in Italy an offence, if caught, punishable by death. Industrial espionage was not new to the textile industry and was often an option, adopted by some. The throwing machine enabled Italians to process silk in a manner, which produced very strong, even thread for warp yarns.

Lombe studied the Italian language, mathematics and craftsmanship in order to take up a position as a machine winder in an Italian throwing mill. Within time he had secretly made many detailed drawings of the throwing machine and smuggled them back to his brother in London, concealed inside bales of silk thread. Although discovered by the Italians, Lombe managed to escape safely, return to England to patent the silk throwing machine and built England’s first water-powered textile
While England had recently established its first silk throwing factory, across the waters in France other issues within the silk industry was emerging. More speed and accuracy was required to weave complex designs. Inaccuracies during weaving reduced the quality of the finished product. In order to increase efficiency weavers turned to the technology of machines to find solutions to their problems.

Lyon re-emerged as the centre of silk production and export in Europe during the 18th century. To compete with other weaving centres and to keep up with the pressure of demand and the ever-changing new fashions for patterned fabric, mechanisation was sought. The traditional system of changing patterns and operating the loom was difficult, labour intensive and required very experienced workers, taking up to two weeks to change a complex pattern. Two workers were required to operate wooden draw-looms, which had been used to weave both plain and patterned fabrics and virtually remained unchanged for centuries. The drawboy pulled strings attached to ropes controlling warp yarns that formed the pattern, while the weaver, wove.

In the early 18th century a master weaver from Lyon named, Basil Bouchon who, inspired by the engineering involved in popular clockwork dolls, automata and musical boxes of the period came up with an idea to apply the same principle into weaving patterned fabric. The complex movements of clockwork gears and springs in automata consisted of rotating drums affixed with jacks arranged to trigger various movements in sequence. He adapted the idea by punching holes onto a continuous roll of paper (as in a pianola) in order to control the movement of the warp yarns — essentially doing the job of the drawboy. He had not quite managed to achieve a fully workable design.

A few years after Bouchon’s invention, another weaver, Falcon exchanged the paper roll with punched cards stitched together to form a chain. The chain of cards rested on a square cylinder, which was rotated by the drawboy lifting the harness with a treadle. A couple of decades later a mechanic, Jacques de Vaucanson, varied the system by reverting to the paper roll but placing it above the loom rather than behind. Great opposition from French weavers prevented this loom from being introduced.

It was yet another Lyon weaver, Joseph-Marie Jacquard who was to develop and perfect this system by the beginning of the 19th century. Joseph-Marie, who had himself been a drawboy as a child, adapted de Vaucanson’s selection mechanism and Falcon’s card system, which became known as the Jacquard loom, producing a jaccuard weave. Each card represented one shuttle movement. As many as 30,000 cards were required to produce the fashionable patterns of the day. The production and economic benefits of this new system were numerous for the weavers: it meant patterns could be changed more frequently and quickly to keep up with changing

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74 The Italians may still have had their revenge as Lombe died suddenly, six years after he returned to England, aged 29. Believed to have been from slow poisoning by an Italian employee, who was coincidentally, no longer seen on site soon after his death.
Roads to Xanadu, John Merson, p.134 and 138
Evolution of Technology, George Basalla, p.84 - 85
The Old Derby Silk Mill and Its Rivals, Harry Butterton, Ch.3
fashions; the cards could be stored and reused any time and only one worker was required, as the drawboy was no longer necessary. Drawboys were enraged by the loss of their jobs and in 1810 stormed the streets of Lyon smashing Jacquard looms and nearly killing Jacquard himself. Within a short time, all of Lyon’s patterned weavers were forced to adopt the Jacquard loom — to compete with other weavers who had adopted the loom or, be forced out of business. 

From Looms to Computers

It is interesting to note that this system of utilizing punch cards to store information became the seed for the 20th century technology revolution. Inspired by Jacquard’s system, Charles Babbage, a 19th century English Mathematician, proposed two machines that could calculate and print mathematical tables automatically: the Difference Engine and later, the Analytical Engine.

The Analytical Engine was to be steam-powered, more complex and larger than the previous design of Difference Engine. It could store information for calculations (with 60 additions per minute) and a device for printing the results. A central cog turned a series of smaller drums, calibrated with sequential numerical values. The instructions for calculations were stored on stitched punch cards like Jacquard’s (Babbage himself, referred to these cards as Jacquard cards) which were fed through the machine and the results printed out onto paper strips or soft metal which could be made into printing plates, in similar fashion to the previous engine. The cards stored the information very much like in a binary system, where the punched holes in a prearranged sequence formed a code. The machine could read the stored information on the card as it passed over the pegs, which penetrated through the holes, triggering levers. 

This system of encoding information had continued to be used even in later electromechanical computing machines of the early to mid 20th century. Utilized up until the early 1950’s such as in the 1943 Mark I calculating machine, stored information on punched tape was fed into the machine and results came out on individual punched cards. From the 1950’s onwards, magnetic tape and discs largely replaced the punched tape and card system.

As computers have developed throughout the rest of the 20th and into the 21st century, with digital systems superseding electromechanical technology, it is ironic to think the weaving of textile fabric has come full circle. While once the inspiration for early computers was based on the principle applied within the Jacquard loom, today it is the highly sophisticated, digital computer that operates the textile looms — from simple plain weaves to complex jacquards and brocades.

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75 Story on the development of the Jacquard loom: Looms and Weaving, Anna Benson and Neil Warburton, p.13-14 and Roads to Xanadu, John Merson, p.136-137.
76 Foundations of Computer Technology, A. John Anderson, p.397
77 Ibid, p.398
Pursuing Paradise 1997-98

Pine wood, lacquered copper wire, electronic and audio components. 3 frames @ 1m x 0.50m x 0.60m each.

*Pursuing Paradise* is an audio sculpture comprised of three freestanding, simple weaving frames affixed to wooden stands. Red lacquered, copper wire is woven into these frames, producing delicate, insubstantial metallic gauze. European Chinoiserie textile designs from 15th, 18th and 19th are embroidered onto this gauze with additional copper wire. Like the earlier work, copper wire forms the basis for a circuit track, connecting speakers with operating circuits and power. In this case, though, the wire also becomes the textile fabric, like a fine organza, in which the embroidered design is placed. As a metaphor for the silk monofilament, the brilliant red lacquered, copper wire conducts audio signal. Mylar speakers sit on the wire gauze, integrated with the designs. The audio component is comprised of three sound loops with music and voice-text.
The first screen, woven in a satin weave catches the light, highlighting the diagonal structure of the weave when seen at a particular angle. The screen depicts a fragment of an Italian Lucca, silk brocade of the 14\textsuperscript{th}-15\textsuperscript{th} century. Sassanian simurghs with deer or stag in their claws alternate with Chinese-inspired phoenixes, seemingly chasing hawks. A leafy meandering vine integrates the two motifs. The sound emanating from the tails of the simurghs are a fusion of Italian Renaissance music with traditional instrumental Chinese opera, forming a bizarre musical hybrid.

The second screen, a plain weave, is appropriated from a small section of a 19\textsuperscript{th} century French chinoiserie textile design on paper. On a floating piece of turf, a young woman holds a tray of tea, while an elderly man places a basket of flowers down near her, beside an incense burner. In the distance, a male figure reclines at the entrance to a pagoda. Behind the pagoda looms an enormous palm tree bearing fruit (presumably a coconut tree), which appears to hover between the fore- and background. Exotic, leafy plants abound in the scene. This design typifies French chinoiserie cotton prints of the 18\textsuperscript{th}-19\textsuperscript{th} century. The speakers in this screen pose as the fruits of the trees, speaking of Marco Polo’s encounters with “cloth of gold” and other tradable luxuries.
The third screen, also a plain weave, has taken an 18th century Chinese-inspired, floral design by English textile designer, Anna Maria Garthwaite. Speakers are embedded in the flower centres. Italo Calvino’s tales of an idyllic East emanate from these speakers. The dynamic and asymmetrical composition of Asian textile design is apparent in this design.

The work is inspired by the relationship between the Jacquard loom with Charles Babbage’s calculating machines, where silk weaving converges with technology. It draws a parallel between today’s electronic trade with the silk trade of past centuries. Today, cheap disposable watches to highly sophisticated computer components are produced by, and exported from Asia to a Western consumer market, just as silk was done in the past (and still is today).

This installation endeavours to fuse the technical, pragmatic language of electronics with the visually decorative language of textile design that has culturally based origins, creating a hybrid, or multi-layered language. The sound component of the work extends and adds a poetic dimension to the work both, visually and metaphorically.
Cotton

A first century AD Greek text, *Periplus of the Erythraean Sea* is believed to have been the earliest record that sited the trade of cotton from India to the West.\(^78\) Although Arab traders purchased a great deal of cotton from Indian merchants, in general there were very few examples entering the West before the Renaissance. It was only in the 16\(^{th}\) century, when the Portuguese began trading with India, did cotton begin to enter Europe in any notable quantity. Small quantities of muslin, plain calico and chintz cotton bolts were shipped back to Europe along with the prized spices.

The popularity for cotton cloth in Europe developed during the 17\(^{th}\) century with increasing amounts brought back by the East India Companies. By mid century, the Companies purchased significant quantities in order to fulfil demand. Throughout this period, Europe began producing and selling its own printed cotton alongside the Indian chintzes — the fashion for cotton, especially for chintz became well established. Chintz did not only appeal to the European consumer for the fact it offered a cheaper alternative to silk for informal ware and comfort; its exotic pattern with new, brighter colours was colourfast. The mordant paints and resist dyes utilized in Indian cotton enabled the fabric to be washed repeatedly — Indian dyes were simply of higher quality than their European counterparts.\(^79\)

Popularity of Chintz

Influences derived from Indian chintz were already appearing in European textiles by the 16\(^{th}\) century, more so on embroideries rather than in woven patterns. In addition to plant forms, these embroideries included Chinese-inspired motifs and animals such as unicorns, lions, monkeys, deer, birds and elephants (Indian elephants were one of a number of metaphors for the East, during 16\(^{th}\) century).\(^80\)

The basis for most chintz designs was the Tree of Life motif. From the tree sprung curling, winding branches, palmettes and other exotic plant forms. Exotic birds such as phoenixes, peacocks and pheasants also proliferated. The motifs were heavily detailed with fine pattern filling the surface of each leaf, flower petal and feather. These brightly coloured forms were usually set against a plain calico background, though sometimes a base colour such as red or brown was used. Composition was rather flowing and organic — as if the plants were ready to burst with a new spurt of growth. The painted or printed technique had not constrained the design, as did the grid of weft and warp in woven fabric pattern. Chintz composition had thus more in common with the organic composition of embroidery of that period rather than with the strong repetition of woven pattern.

\(^{78}\) *Woven Cargoes*, John Guy, p.41
\(^{79}\) *5000 Years of Textiles*, Ed. Jennifer Harris, p.224
\(^{80}\) *Chinoiserie*, Oliver Impey, p.66-67 and p.79
The origin of European-designed chintz was not purely based Indian originals. Designs were also sourced from a range of examples such as, Western floral designs, Chinese and Japanese floral pattern. Although early chintzes entering Europe were essentially of Indian design, by the 1660’s commissioned designs were also being sent to India to be painted onto cotton, which were used for clothing and furnishing fabric.\(^{81}\)

These designs, copies of chintz or variations on the theme, were so popular that by the 1670’s, local European producers who were forced to compete with Asian products began to experience a lack of demand for their product due to increased imports. The well-established wool and silk industries, as well as the emerging cotton industries of Europe were loosing custom to Indian chintz. Pressure from both wool and silk industries urged governments to enact laws to ban the import of cotton fabric, particularly chintz. Civil unrest and riots led by unemployed silk and wool craftsmen finally led the French and English to impose import restrictions on Eastern textiles: the French, from 1686 until 1759 and the English, from 1720 until 1774 (Asian textiles for export was exempt. For example, for export to their American market). These laws however did not entirely reduce the trade of cotton as it also continued to sell steadily on the black market. Restrictions were removed when local industries were doing well with a strong growing demand for their product.\(^{82}\)

**Designing in the Chinoiserie Style**

The French had a strong influence on cotton printed designs since the 17\(^{th}\) century. By mid century the French were producing imitation Indian chintzes called, *Indiennes*. These were block printed in bright colours. In the mid 18\(^{th}\) century, silk brocade designs were sourced for copperplate designs. Red, blue and brown were the main colours used in copperplate printing while the plain calico background offset the fine detail. Since cotton copperplate printing was derived from intaglio printing on paper, the general quality was not only one of fine detail but also had a strong sense of gradation in tone and light. Book illustrators, painters and printmakers inspired cotton textile designers.\(^{83}\)

The print works established at Jouy in France shortly after the lifting of prohibition laws, became the most famous in Europe. Its cotton was called *toiles de Jouy*. Floral subjects were initially the obvious choice for cotton printing — a woven silk-inspired theme. By mid to late 18\(^{th}\) century pictorial scenes became popular, including pastoral scenes, chinoiserie, classical mythology with Roman and Etruscan ruins, genre and other ideal, historical or, commemorative scenes.\(^{84}\)

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\(^{81}\) *Chinoiserie*, Oliver Impey, p.66

\(^{82}\) Ibid, p. 66; Silk Roads: China Ships, Voller, Keall, Nagai-Berthrong, p.135; *5000 Years of Textiles*, Ed. Jennifer Harris, p.224-225; *The Illustrated History of Textiles*, Ed. Madeleine Ginsburg, p.46

\(^{83}\) *5000 Years of Textiles*, Ed. Jennifer Harris, p.224-225

\(^{84}\) Ibid, p.226-227
Artists, influential in the chinoiserie style were Antoine Watteau and François Boucher. Watteau, a painter and engraver, was on the scene in the early 1700s and was to influence later artists and designers such as Boucher, Pillement and Huet. Although he was not a chinoiserie painter as such, he did execute a number of rococo-chinoiserie engravings and paintings in the grotesque style, characterized by figures set amongst dramatic ornamentation with swags and garlands of flowers, combining European and oriental motifs. Although in oriental clothing, his figures tended to look European.\(^5\)

Boucher, mainly a painter for tapestries, influenced textile designers in the chinoiserie style. His long career in tapestry, painting at the Gobelins and Beauvais factories stretched from the late 17\(^{th}\) century to mid 18\(^{th}\) century. Earlier paintings included reposeful figures set in ideal and romantic, pastoral or garden landscapes, fishing or performing some other leisureed task. The gardens he depicted were rather like French gardens, certainly not oriental and like Watteau, his oriental-robed figures, appeared more European than Asian. Information for his designs was also sourced from written descriptions and sketches from Johan Nieuhoff’s book of travels and Jesuits’ descriptions.\(^6\)

Jean-Baptiste Huet was one of Jouy’s most noted designers. His high quality designs influenced other French and European cotton print designers.\(^7\) He produced many Chinoiserie themes for copperplate prints, usually in blue or red. Huet was himself influenced by Jean-Baptiste Pillement. In fact, Huet’s designs were very much in the style of Pillement’s. Pillement was very influential in the rococo-chinoiserie style, designing for numerous commissions including interiors, textiles, ornaments and design journals. His influence spread widely — working as a designer in various European countries including England.\(^8\) Characteristic features of Pillement’s style were the overall light, whimsical fantasy in his images. The imagery consisted of abstract bridges and semi dilapidated huts perched precariously on crooked stilts; animated, caricatural, pixie-like Chinese figures carrying an array of bells on posts or parasols; exotic birds reminiscent of the ho ho bird (A fantastic bird derived from the phoenix and peacock, often seen in early chinoiseries); large, strange flowers and plant sprigs springing from every crevice.

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\(^{5}\) Ibid, p.62-71 and Ibid, p.80-82  
\(^{6}\) Ibid, p.70-73 and Ibid, p.82  
\(^{7}\) Ibid  
\(^{8}\) Chinoiserie, Dawn Jacobson, p.75-78 and Chinoiserie, Oliver Impey, p.83
Trading with the White Devils is a site-specific installation in a suburban Sydney shop window. The shop trades in gifts, decorative home wares and furniture from all over Asia. A three-meter, laser printed-paper banner hangs from the ceiling, simulating a length of cloth of red print on calico. The image on the banner is sourced from a chinoiserie textile design, circa 1786 by Frenchman, Jean Baptist Huet, for a copperplate print. Images of posing Chinamen, pagodas and trees abound in a variety of vignettes. Quoted text printed on semi-translucent, Asian-style clouds float down and across the banner in a diagonal sweep.

"The entrance to China may indeed be deemed an epoch in a man’s life, for he may look big on his return and exclaim with an air, ‘I have been to China!’ and may, besides, talk of ‘Chin-chin’ and Chow-chow’, and ‘First-Chop Mandarins’ and ‘Jospigeon’, and other semi-Chinese barbarisms, which will make a party of elderly and ignorant women open their eyes and smack their lips over the tea which comes from the Celestial Empire."  

The above quote, drifting across the banner is the voice of an indignant Englishman, Sir James Brook, from a letter he wrote to his mother while in Canton, in 1830. The tone in this quote suggests Sir Brook, who spent most of his life in the East, had a low tolerance in his fellow gentry class back in England.

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81 Between Bath and China, Rachel Kennedy, p.3
82 James Brook, as a young man was in the English East India Company’s army in India, the country of
At the foot of the banner, sit three papier maché phoenixes. Painted in blue and white, and covered in lacquer, they appear as delicate porcelain birds. Adapted from plastic, battery-operated toys “Made in China,” the appearance of these birds has been re-modelled to supply them with a higher artistic value.

These phoenixes are sound activated, relying on ambient noises to trigger them. When set off, they become animated, chirping a set of well-known samples of Western tunes such as Mary had a Little Lamb, London Bridge is Falling Down and Ode to Joy. Their heads and tails twist, turn and flap about along with the singing, like the automata figures so popular in the 17th-19th century.

This artwork gathers an array of mediums and references fashionable commodities from Asia both, from past and present. Tea, porcelain and textiles were the most highly exported products from the East to the West during the 17th-19th century. Today, large quantities of all varieties of commodities are exported to the West. Crafted objects, occupying a place in tourism, supply a predominantly Western market who is still in search of the exotic in the East.

his birth. Later, he turned to trading and eventually settled in Borneo to trade. Saving the Rajah of Sarawak’s settlement from local rebel attack, a promise to govern the country was offered to him by the Rajah. He had been appointed as the Rajah of Sarawak (north-west Borneo) in 1840, after the abdication of the former Rajah, choosing to stay in Sarawak, rather than return to England.

In his youth, James spent his holidays in Bath, in England and when his father retired from his position in India, the family moved back to live in Bath. In the Bath family house, which was described, “as having an Arabian Nights aspect”, James kept many Asian birds, “such as brightly coloured avadavats from southern Asia and Java sparrows.” Ibid, p.28.
From Wooden Blocks to Copper Rollers

In Europe, cotton was initially printed by hand with engraved wooden blocks. This process was developed in the late 17th century, based on paper printing processes used since the medieval period and Indian cotton printing processes. Highly skilled craftsmen were required to place the correct amount of ink on the blocks and correct registration of each print. When Englishman, William Sherwin’s patent for printing of broadcloth with a limited range of colourfast dyes based on metallic mordants was granted in 1676, cotton fabric was set to become popular.91

Irishman, Francis Nixon, introduced a new development on this process in the early 1750s: replacing the wooden blocks and hammer with large engraved copperplates and flat-bed presses.92 Copper plates allowed for larger, more detailed designs and greater speeds of production than wooden blocks. Only monochrome colours were used in plate printing as the detail made the addition of overprinting extra colours difficult. Extra colours were sometimes added by block printing them in afterwards. Both processes however, continued to be used alongside each other for a long time. When Scotsman, Thomas Bell added another new development to the copperplate printing process in 1783, the industry was to change drastically. The copperplates were modified into rollers and powered by water initially and later by steam.93 This system allowed great quantities of continuous lengths of cloth to be printed without having to stop and register each set of images as had been done with copper plates and wooden blocks. Detail in design and multi-colours were however, sacrificed due to the problem of registration. Simplified designs for the roller accompanied one to two colours, sometimes finished with block or plate printed detail.94

While copperplate printing had not greatly affected the skilled wood block printers’ jobs, roller printing did. Many workers were displaced from their trades as mechanisation took over and large factories superseded small workshops. Tasks involved in the operation of the powered printers required very little skill, though increased expert skills were needed in design and metal engraving. By the mid 19th century engraving itself became mechanized, with pantographs, mill and die engraving taking the place of hand engravers. The designer’s creativity however, was a skill that could not be replaced by machines. In fact, their role was elevated with each new technological development, as manufacturers became more and more dependant on designers to produce popular designs that would sell and thus ensure the success of the business.

Each new development in cotton printing heralded greater speeds of production. While block printing produced only six pieces of printed cloth per day, steam-powered roller printing produced up to five hundred pieces. Greater output enabled the final product to be sold cheaply and therefore reach a wider market.95 In addition

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91 The Illustrated History of Textiles, Ed. Madeleine Ginsburg, p.46 and Objects of Desire, Adrian Forty, p.45
92 Ibid, p.47
93 5000 Years of Textiles, Ed. Jennifer Harris, p.37-38 and The Illustrated History of Textiles, Ed. Madeleine Ginsburg, p.60
94 Ibid, p.225 and Objects of Desire, Adrian Forty, p.45
to the Asian imports of cotton, the affordability of local cotton products due to mechanisation processes was also a contributing factor in the silk and wool industry’s protest against cotton in the late 17th century.

Innovation in the Industrial Revolution

New technological inventions or developments may have been the impetus for meeting escalating demands for cotton however, as surplus outputs resulted due to these technological improvements, prices on the finished product were able to decrease, broadening the market for cotton cloth. Fabrics were specifically made for various social classes and purposes. Elaborate, high quality designs for the wealthy classes and simple, cruder designs for the working class. Over time, general quality of all cotton products improved due to improved machinery, dyes and finishes so, that even the working classes were able to wear fancier clothes, imitating their wealthier counterparts.

One of the early improvements to the loom was John Kay’s flying shuttle, invented in 1733. The flying shuttle increased the speed of weaving as it propelled the shuttle containing the weft yarn across the loom from one side to the other via a central handle. The handle was connected to a pick that struck the shuttle. Weaving accelerated due to the introduction of the flying shuttle, increasing the requirements for raw cotton and yarn.\[96\]

The spinning jenny (jenny was a local diminutive term for engine) invented by James Hargreaves in 1764, enabled up to eight cotton spindles to be operated by a single power source. It only produced a soft yarn suitable for weft threads. A few years later, Richard Arkwright developed the concept, which became known as the water frame — a water-powered spinning frame. The water frame was able to make a coarse yarn appropriate for warp threads. In 1779, Samuel Crompton combined the spinning jenny and the water frame to arrive at the spinning mule.\[97\] It yielded a strong, soft and fine fabric. This machine was particularly suitable for producing fine muslins — a fashionable fabric used in the sheer Neo-Classical dress styles of the late 18th century.

Although water-powered machines were widely used, steam-powered machines were to have a lasting social and economic impact on England’s infrastructure (as well as the Continent’s), as steam power was extensively used within the expansive textile industry. Although steam did not entirely replace water as a power source, locations where water was not readily available, steam power was the only other option to power the heavy machinery developed throughout this period. Steam power allowed factories to be flexible and set up nearer to the raw materials and other necessary

\[96\] Looms and Weaving, Anna Benson and Neil Warburton, p.9 and Roads to Xanadu, John Merson, p.138
\[97\] Hargreaves, Arkwright and Crompton’s developments: The Cotton Industry, Chris Aspin, p.11-15 and Roads to Xanadu, John Merson, p.138-40
supplies, rather than be restricted to locations next to flowing rivers for water supply, as was the case with waterpower. 98

In the early years of the 19th century, an English ironmonger named Thomas Newcomen invented the first workable steam engine called an 'atmospheric engine'. It was specifically designed to pump water from mine shafts. Not until decades later, in the 1760s did the instrument maker, James Watt take this idea and developed it further, made it faster and more efficient. 99 The application of Watt's steam engine to Edward Cartwright's powered looms in 1785, enabled manufacturers to produce more product with the use of less staff. 100 This development came shortly before wages fell sharply due to an economic slump in the textiles industry after the Napoleonic wars. The convergence of reduced staffing needs in factories and economic depression in the industry engendered a great deal of unrest and anger due to loss of jobs amongst handloom weavers and instigated the Luddite riots of the early 19th century, smashing thousands of power looms. 101

Within the next one hundred years many further developments occurred in steam technology, with increased efficiency and safety, reduction in size and even portable units. The portability of later designs such as, the one invented by Richard Trevithick in the closing years of the 18th century, were to have profound social and economic consequences in the form of steam-powered road carriages and later, railway locomotives. 102 Steam-powered locomotives significantly changed the perception of distance and the landscape through increased physical speed. Locomotives facilitated communication and the transportation of materials, goods and people across vast tracts of land in contracted periods.

**Making Machines of Men**

Textile trade and production had always been of major economic importance in Europe but it was to reach its height within the cotton industry during the 18th century. This was the age of the Industrial Revolution where machines, cast iron, steam, factories, whistles and clocks were to change and dominate the lives of so many people. The demand for cotton and the growth of the industry in Europe was stimulated by the importation of cotton from India. Although the industry took root in a number of countries, England was to be at the centre and forefront of production and technological development of cotton cloth.

Textile workers in Europe had largely been independently employed for many centuries, buying wool, silk or, linen then spinning and weaving it themselves on their own wooden drawlooms located in their homes. With the introduction of mechanized machinery gradually taking over hand powered processes, which had been in place for generations, the independent weaver, spinner or dyer was forced to

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98 Evolution of Technology, George Basalla, p.148-151
99 Richard Trevithick, James Hodge, p.6-9 and Roads to Xanadu, John Merson, p.110
100 The Illustrated History of Textiles, Ed. Madeleine Ginsburg, p.57
101 Looms and Weaving, Anna Benson and Neil Warburton, p.10
102 Richard Trevithick, James Hodge, p.17-22
become part of the machinery of the factory or mill. As these people lost their livelihood to machines, they had little choice but to seek employment in the very same factories that led to their dispossession. Men were assigned to weaving, women to spinning and children to do the most menial tasks. Working conditions were severe with long hours, low pay and poor health and safety conditions. Workers were controlled by strict rules, with penalties handed out for errors and tardiness. Clocks were built into the architectural structure of the mills as a symbol of efficiency while bells and whistles punctuated daily tasks and movements. Discipline was the order of the day.\footnote{The Cotton Industry, Chris Aspin, p.29-31; Roads to Xanadu, John Merson, p.141-144 and Machines as the Measure of Men, Michael Adas, p.241-243}

The effect of the enormous growth of the cotton industry in Europe was to have far reaching consequences beyond its own boundaries. Production of raw cotton took place in India and later followed by America. British-occupied India had a vast amount of cheap labour at its disposal (who were virtually treated as slaves) for the production of raw cotton. From Africa, hundreds of thousands of African slaves were forcibly shipped to the cotton fields of the southern states of America. Many of the slaves were first taken to the ports of England before sold on to American traders. The vast quantity of labour required for the cotton plantations of both, India and America can be surmised from the amount of raw cotton being traded in the 1830s. Raw cotton amounted to fifty percent of imports entering the United Kingdom during this period, while it was approximately thirty percent of American exports.\footnote{The Illustrated History of Textiles, Ed. Madeleine Ginsburg, p.55-56}

The cotton industry, which developed throughout the 18\textsuperscript{th}-19\textsuperscript{th} century, exemplified the global trade networks initiated by the East India Companies. The actions of these Companies began a system of trade and a network of supply and demand of raw materials and finished goods that set the foundations of contemporary globalisation. It signalled the dawn of a new era in capital systems of production: from an independent, rural decentralized mode (the cottage industry) to one that was controlled in large centralized, urbanized sites (the factory system). This system was dependant on the creations of new markets to sustain it. New developments in mechanical technology decreased time taken to shift large volumes of materials, goods and labour, across the globe. From the 17\textsuperscript{th} century onwards, trade and production of materials and goods became increasingly reliant upon global transactions where disruptions, due to either war, widespread famine or disease or, natural disasters could interfere with the flow in the system of exchange between countries. Nations such as England, France, Spain, Portugal and Holland became dependant on their colonies as part of this network, especially for the supply of raw materials and cheap or slave labour.

This trade model continues to exist in contemporary modes of practice, where large corporations and even smaller manufacturers from first world countries rely on the cheap labour in many parts of Asia, Africa and South America to supply raw materials and manufactured goods. The contemporary textile and clothing trade in the West is exemplary of this mode. Production of textile fabric and clothing is largely undertaken in Asia on contract and shipped back to first world countries. Contracted work is often sub-contracted numerous times enabling the original
contractor to make vast financial profits in contrast to their comparatively modest outlay.
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