



DECLINE IN THE LEGAL IVORY TRADE IN CHINA IN ANTICIPATION OF A BAN

LUCY VIGNE and ESMOND MARTIN



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SAVE THE ELEPHANTS
PO Box 54667
Nairobi 00200
Kenya

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Front cover:

This ivory court fan with cranes is typical of the intricate carving a top master carver in China can produce, an artistic skill that the Chinese government does not want to lose.

Title page:

In outlets licensed to sell ivory in China, brochures explain these items are banned from export, but soon such items will be banned in China too, as stated by the government. Worked mammoth ivory (on left) will still be permitted for sale in China and for export.

Back cover:

Guangzhou in southern China is famous for producing this so-called magic ball consisting of many concentric layers carved from the inside outwards, a technique that carvers in no other country have mastered. We were offered for sale this 30-layered ivory magic ball for nearly USD 32,000.

Photographs:

Lucy Vigne:

Front cover, title page, pages 6, 8-10, 12-14, 17-18, 20-24, 26-34, 37-38, 39 (bottom), 40-45, 47-61, 63-70, 84, back cover

Esmond Martin:

Pages 16, 36, 39 (top)

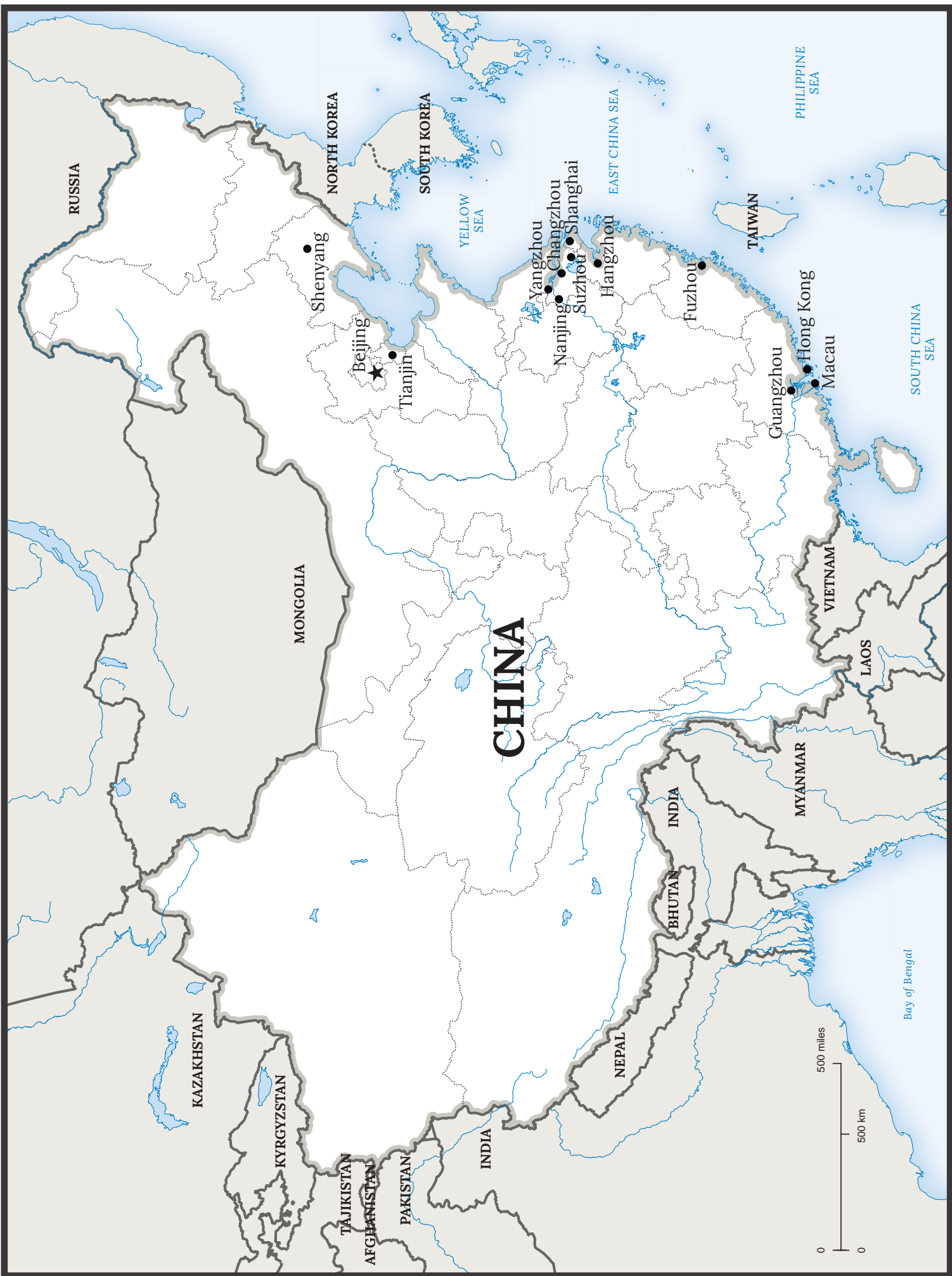
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Contents

07	Executive summary
09	Introduction
11	Background and legislation
13	Methodology of fieldwork
15	Results of the survey
15	<i>Sources and wholesale prices of raw elephant tusks in China, late 2015</i>
16	<i>Sources and wholesale prices of raw mammoth tusks in China, late 2015</i>
19	<i>Shenyang</i>
19	History
19	Ivory and mammoth ivory carving in Shenyang
19	Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Shenyang
21	Vendors' views in Shenyang
23	Substitutes in Shenyang
25	<i>Tianjin</i>
25	History
25	Ivory and mammoth ivory carving in Tianjin
26	Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Tianjin
28	Vendors' views in Tianjin
28	Substitutes in Tianjin
29	<i>Nanjing</i>
29	History
29	Ivory carving in Nanjing
30	Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Nanjing
32	Vendors' views in Nanjing
33	Substitutes in Nanjing
35	<i>Changzhou</i>
35	History
35	Ivory carving in Changzhou
37	Number of ivory and mammoth ivory items, licensed retail outlets, types of items and their prices in Changzhou
38	Vendors' views in Changzhou
38	Substitutes in Changzhou
41	<i>Hangzhou</i>
41	History
41	Ivory carving in Hangzhou
42	Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Hangzhou
44	Vendors' views in Hangzhou
45	Substitutes in Hangzhou
47	<i>Suzhou</i>
47	History
47	Ivory carving in Suzhou

47	Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Suzhou
48	Vendors' views in Suzhou
49	Substitutes in Suzhou
51	<i>Beijing and Shanghai retail ivory price trends, 2014–2015</i>
51	Beijing's retail ivory price trends
52	History
52	Ivory carving in Beijing
53	General observations in Beijing regarding retail outlets
53	Worked ivory retail prices in Beijing, 2014–2015
54	Worked mammoth ivory retail prices in Beijing, 2014–2015
54	Vendors' views in Beijing, 2014–2015
56	Shanghai's retail ivory price trends
56	History
57	Ivory carving in Shanghai
57	General observations in Shanghai regarding retail outlets
58	Worked ivory retail prices in Shanghai, 2014–2015
59	Worked mammoth ivory retail prices in Shanghai, 2014–2015
59	Vendors' views in Shanghai, 2014–2015
61	Discussion
62	<i>Public awareness</i>
62	<i>The future of the ivory trade—dealers' views</i>
62	<i>Comments from legal ivory carvers</i>
62	Substitutes
63	Wholesale ivory sales
63	Carving
63	Mammoth ivory
64	Licensing
64	Legal ivory issues
64	Smuggling
65	Illegal ivory competition
65	Retail ivory sales
66	<i>Price trends and demand for ivories</i>
67	<i>Prices for worked ivory and mammoth ivory in the six cities surveyed</i>
67	<i>Prices for worked ivory and mammoth ivory in Beijing and Shanghai, 2014–2015</i>
69	Conclusion
69	Postscript
70	Acknowledgements
71	References
72	Tables



RUSSIA

NORTH KOREA

SOUTH KOREA

PHILIPPINE SEA

YELLOW SEA

EAST CHINA SEA

TAIWAN

Shenyang

Beijing

Tianjin

Yangzhou

Changzhou

Shanghai

Suzhou

Hangzhou

Fuzhou

Guangzhou

Hong Kong

Macau

SOUTH CHINA SEA

MONGOLIA

CHINA

VIETNAM

LAOS

INDIA

MYANMAR

BHUTAN

KAZAKHSTAN

KYRGYZSTAN

TAJIKISTAN

AFGHANISTAN

PAKISTAN

INDIA

NEPAL

500 miles

500 km

Bay of Bengal



Detailed carvings have been produced in China for centuries for emperors of the imperial palaces, such as this ivory bottle displayed in the Imperial Palace in Shenyang, dating to the Qing Dynasty.

Executive summary

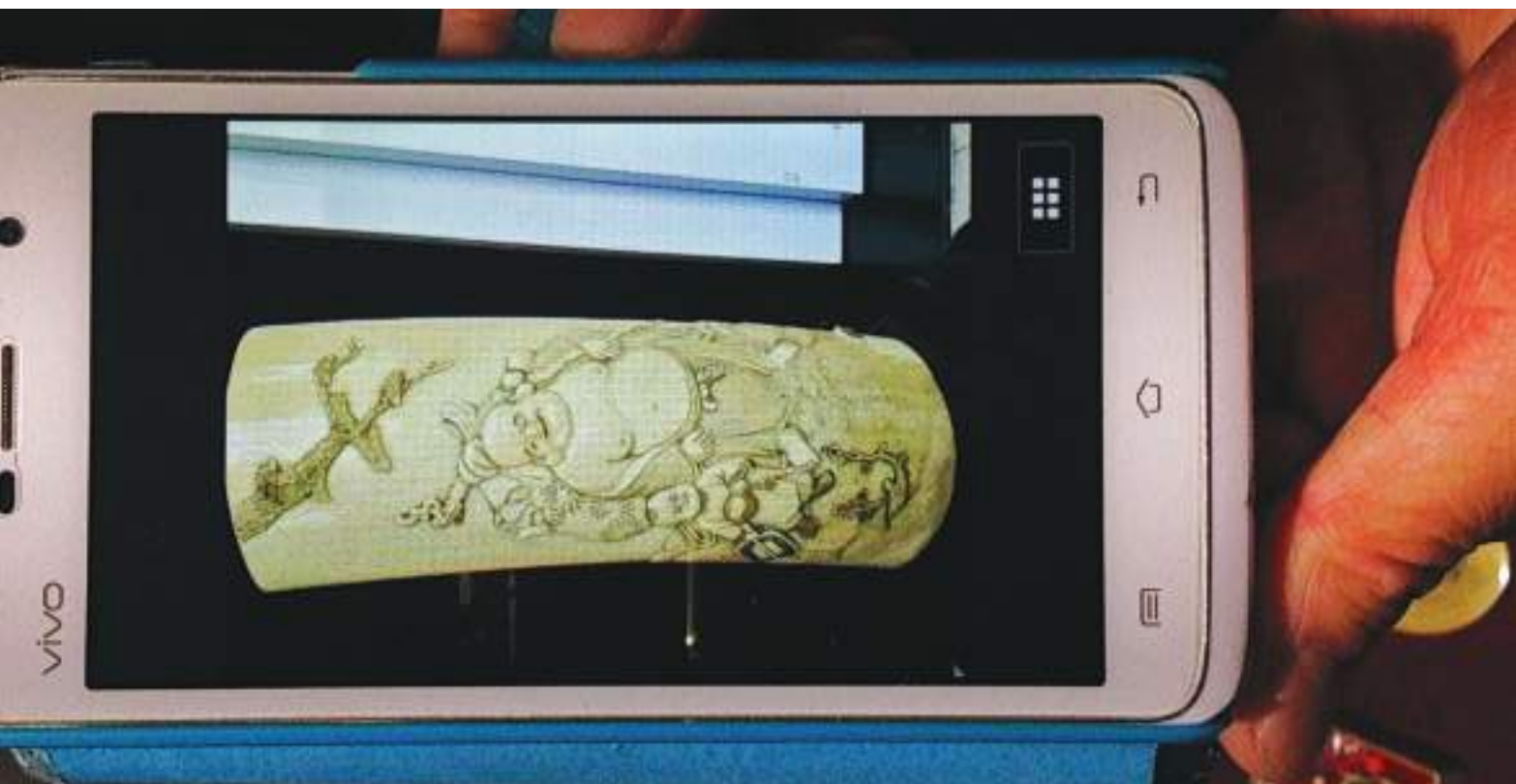
- More tonnes of elephant tusks, mainly from poached elephants, are smuggled out of Africa and imported illegally into China.
- Mammoth ivory dug out of the tundra in Russia has been traded legally with China in growing amounts of tonnes since 1995, much of it transported via Hong Kong. Mainland China remains the largest importer and consumer of mammoth ivory in the world.
- The wholesale price in China for an illegal small to average-sized (about 1–5 kg) good quality, raw elephant tusk fell by almost 50%, from about USD 2,100/kg in early 2014 to USD 1,100/kg in late 2015. The latter was also the price for official raw ivory offered to one ivory workshop in late 2015. The wholesale price for legal tusks of 5–10 kg was slightly higher than for the same tusks that were illegal: about USD 1,582/kg versus USD 1,266/kg.
- The wholesale price for raw mammoth ivory in China in early 2014 was USD 1,900/kg for a tusk of 5–10 kg; in 2015 it was USD 1,400/kg.
- In 2015 wholesale prices for large, good-quality illegal elephant tusks of around 10 kg were about USD 1,582/kg, which was the same price for similar-sized good quality mammoth tusks in China.
- In 2015 the government of China announced that the legal ivory trade would be phased out. Officials reduced the number of licensed ivory factories from 37 in 2014 to 34 in 2015, and the number of licensed retail outlets from 145 to 130.
- We visited six cities in eastern China in late 2015 to see ivory factories as well as count and itemize ivory for sale in retail outlets seen. The six cities chosen were Changzhou, Hangzhou, Nanjing, Shenyang, Suzhou and Tianjin.
- Regarding licensed ivory factories, three were in Changzhou, one in Hangzhou, one in Suzhou and one in Tianjin; we visited all six that were all private companies. There was none in Nanjing or Shenyang.
- We visited all three of the retail shops in Changzhou that had licences to sell ivory items. We found three of the four shops in Hangzhou. Nanjing had six shops; we were able to visit four, of which one had stopped selling ivory. Shenyang had three but only two were displaying ivory items. Suzhou had only one. Tianjin had six; of the five we could visit two had closed down.
- In the six newly surveyed cities, we saw on display for sale 3,378 ivory items in 159 retail outlets, of which 31% were in non-licensed outlets and 69% in licensed outlets. Of our total ivory count, 1,060 items in the non-licensed outlets made up 31% of all the ivory items counted. We surveyed 18 licensed outlets out of 23 and these displayed 2,318 items with ID cards, making them legal. There were 141 unlicensed outlets that displayed 1,060 items with no ID cards, making them illegal.
- Hangzhou had the most ivory objects offered for retail sale with 1,129 seen on display.
- The most common ivory item was a pendant; next were other jewellery items, with large tusks and figures witnessed virtually only in the licensed outlets for which the legal master carvers operate.
- The most expensive ivory item seen in the six cities was a 38-layer magic ball, for retail sale at USD 284,810 in Nanjing.
- In these six cities we saw on display for sale 2,426 items of mammoth ivory in 47 retail outlets, 30 of which were selling elephant ivory items as well.
- Shenyang had the most mammoth ivory objects offered for retail sale with 1,023 seen on display.
- The most common mammoth ivory items seen were also pendants; next were carved figures and jewellery—all legal as there are no restrictions on mammoth ivory sales in China.
- The most expensive mammoth ivory item seen for retail sale in the six cities was a 90-cm carved tusk, for USD 126,582 in Nanjing.
- We also re-visited Beijing and Shanghai to compare retail prices for ivory items with our earlier survey in mid-2014. We found in late 2015 that generally the prices in yuan had remained the same for identical items still displaying the same price tags in certain licensed outlets where

exact comparisons of many items on display can be accurately made.

- In Beijing and Shanghai the retail prices for mammoth ivory items that we could compare with prices 18 months earlier were also the same.
- In Beijing and Shanghai, overall the legal retail outlets had fewer ivory items for sale than 18 months earlier and some were not replacing the ivory items they had sold, with the intention of diversifying into the sale of other items, a few trying to sell more worked mammoth ivory.
- Several licensed ivory specialist outlets in Beijing were now staying closed for parts of the week due to few customers coming to shop for worked ivory (considered a luxury item), mainly because of the economic slowdown at the time, we were told.
- Although we saw the occasional interested customer looking at ivory items for sale in the eight cities we visited, we did not see an actual sale of ivory occur anywhere.
- Vendors all said that mainland Chinese are by far the main customers for their retail worked ivory (perhaps over 90%). It nearly all stays within the country and is not for export (that would be illegal).
- We also saw no customers buying mammoth ivory during our month's visit. Again, vendors said their main customers are mainland Chinese

who also keep most of these items within the country, although, unlike for ivory, they are allowed to be exported.

- Some of China's mammoth ivory specialist companies export their carved mammoth tusks and figures abroad, mainly to Europe and the US.
- Besides the economic slowdown reducing sales in 2015, vendors attributed the crackdown in corruption as reducing sales of expensive ivory items used for gifts for officials, as well as the anti-ivory campaign that may have discouraged some from buying ivory.
- All those involved in the domestic legal ivory trade in China were pessimistic about their future in ivory. They were certain the government would eventually close down this business, as the president of China had given his word.
- Vendors selling worked ivory in non-licensed outlets were not so pessimistic as they were already dealing in illegal items and believed they could probably continue due to the general ineffectiveness of inspections.
- Mammoth ivory vendors are confident about continuing their business as there are essentially no restrictions on this trade in China and in most of the world.



Illegal ivory items have become increasingly available online in China. Most unlicensed vendors do not wish to display illegal items in their shops, but may show items on their smart phones to interested customers.



A large variety of mammoth ivory carvings, especially animal, human, plant, mythological and religious figures, are produced in China today.

Introduction


Despite increased awareness, China continues to be the world's major concern in the consumption of illegal ivory. Media attention and support from international NGOs have drawn attention to the poaching crisis currently facing elephants in Africa; there has been growing involvement and dialogue with China from Western leaders and other prominent figures about this. President Obama of the US and Prince William of the UK both spoke in 2015 on Chinese television addressing fears of the ongoing elephant poaching to meet demand for ivory in China. Within China certain celebrities have been involved in campaigns with NGOs, drawing further attention to the elephant-poaching crisis. There has been less awareness about ivory from the woolly mammoth as its tusks are legal, being from an extinct species; many people in China and around the world remain ignorant about the extent of the use of mammoth ivory in China.

We undertook an ivory trade study in October/November 2015 in eastern China (excluding the southern region) to learn more about the trade in both elephant ivory and mammoth ivory in cities less studied regarding ivory. We counted the retail outlets seen selling these ivories in six cities that had not been surveyed before for ivory items. We revisited the important cities of Beijing and Shanghai for comparative data on ivory prices (Vigne and Martin 2014b). Information was needed regarding current

trade and demand for ivory to help understand more clearly China's ivory commerce and what to do about it, whether in legal licensed outlets or in illegal unlicensed outlets, and also regarding substitute mammoth ivory items.

In this monograph, when the word 'ivory' appears alone, it refers to elephant ivory, not mammoth ivory, which is always stated as such. Antiques refer to ivory carved before the Communist revolution of 1949. Old ivory refers to ivory carved before the CITES ban that came into force in 1990. Workshops and retail outlets were mostly private unless we mention it in the text as state owned. Mammoth ivory specialty shops were all private. We use the word 'substitute', as in our other publications, to describe a material that may be used as an alternative to ivory for consumers, such as shell. But the only true substitutes that serve in place of elephant ivory are mammoth ivory, followed by other ivories, good-quality bone, and good-quality synthetics, although the lower prices of the latter make them less acceptable substitutes.

The exchange rate we used at the time of our field research in late 2015 was USD 1 equalling 6.32 yuan. The exchange rate for price comparisons with our earlier field research in mid-2014 was USD 1 equalling 6.1 yuan, only about a 5% decrease in the value of the yuan against the US dollar over this period.



象牙制品指定销售场所

Accredited Point of Sale of Ivory Carvings

销售地址：南京市北京东路31号

所属企业：南京市工艺美术总公司

《国家林业局公告2013年第5号》规定本场所运营期限截止至2014年12月31日

非经政府特别许可，象牙制品不得携带出境。
Ivory Carving can not be taken out of China without
special permission of Chinese government

Background and legislation

Ivory has been carved in China for thousands of years. Elephants once roamed over much of the country until farming demanded more land. The elephants' habitat was increasingly converted into fields for crops hundreds of years ago. Today, only a remnant population of well-guarded Asian elephants numbering 230–280 remains in an area of about 3,050 km² in the extreme south of Yunnan Province that borders Myanmar and Lao People's Democratic Republic (Burma and Laos). Most are in the Nangunhe, Nuozhadu and Xishuangbanna nature reserves. Due to good governance in China, these animals are not threatened by poachers, although a worrying poaching threat to Asian elephants in the nearby countries for ivory to meet Chinese demand remains.

Protecting the many elephants from the poaching epidemic in Africa is still a huge challenge. These animals inhabit 37 so-called range states, and in 2015 they numbered an estimated 415,428 +/- in sub-Saharan Africa—an estimated 93,000 fewer elephants than in 2006 (Thouless et al. 2016). Most of these range states have poor governance. Corruption and mismanagement have enabled illegal ivory trading to continue to meet the illegal Chinese market.

Between 2012 and 2014 China had the highest mean number of seizures (1,997), and the highest mean weight of ivory seized (41,257 kg) for any country in the world, according to the Elephant Trade Information System (ETIS) of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) (2016a). 'ETIS analyses have identified the China market as the key driver behind the illicit trade in ivory' (CITES 2016a). In 2015 it was believed that China was most likely the largest importer of illegal tusks and worked ivory for any country or territory, coming in mostly by ship. Airborne seizures are much more numerous but smaller in weight as they involve ivory trinkets weighing less than 10 kg found in hand or checked-in personal luggage (Vira et al. 2014).

In Africa we have seen illegal worked ivory openly for retail sale in large amounts in places such as Cairo (Egypt), Khartoum/Omdurman (Sudan), Lagos (Nigeria), and Luanda (Angola). (Martin 2005a, 2005b; Martin and Vigne 2005, 2011a, 2012, 2013, 2014; Vigne and Martin 2014a). The main buyers are Chinese working in Africa, whose numbers have rapidly increased on the African continent since 2000. This illegal trade in worked ivory continues, usually unabated, as pressure on government officials to control it is inadequate, enabling many Chinese and other East Asian nationals to smuggle small

ivory items on flights back home. This illegal trade, and the much larger trade in shipments of illegal consignments of raw tusks, carries on from the African continent to China. Business connections have increased in the past 10 years enabling illegal traders based in eastern Asia (especially China) and Africa to flourish. Criminal syndicates continue their smuggling, only with some countries' customs officials successfully seizing ivory on certain occasions at their entrepot ports, usually destined for China. The criminal traders find roundabout routes for their shipping containers, rather like drugs and other illegal contraband, adapting quickly to pathways of least resistance, slipping through ports where bribes and general mismanagement are common. The East African coast has been a route for much ivory smuggled off the continent in the last 10 years.

The international trade in African elephant ivory was banned in 1989; the ban came into force in early 1990 through CITES. Nevertheless, on two occasions CITES member states voted to allow sales of tusks from certain southern African countries, as their elephant populations were growing and well managed, to Japan in 1999 and to Japan and China in 2008. Demand for ivory has been increasing in China since then, resulting in the booming illegal market to meet expanding demand for ivory in a country with growing middle and rich classes able to afford ivory items for the first time in their life.

As a way to try to block possible loopholes, official legislation tightened up in 2015 to cut back on legal ivory trading exceptions. In February 2015 the Chinese government approved a one-year ban on the import of certain carved ivory pieces that were exempt from the CITES ban (WWF 2015). These were *ekipas* (decorative buttons or amulets) carved in Namibia, and some Zimbabwean ivory carvings that had the required strict permits for export issued by the Zimbabwean government.

China's continuing legal domestic ivory trade has also experienced more restrictions. In May 2015 the State Forestry Administration (SFA), which is in charge of ivory trade, stated: 'it will strictly control ivory processing and trade until the commercial, processing and sale of ivory and its products are eventually halted' (WWF 2015, AWF 2015). On 29 May 2015 the government crushed 662 kg of confiscated ivory in Beijing to demonstrate that the government was taking seriously curbing the illegal trade in ivory, following an earlier crush of illegal ivory on 6 January 2014 of 6,000 kg in Dongguan in Guangdong Province. The government is aware of

its huge task in trying to control its unwieldy ivory industry. In such a big country with so many long land borders separating 14 countries from China (the most of any country), and with their interspersed Customs points and many simple pathways crossing borders with no customs, smuggling of all wildlife products is easy and has become rife. The new wealth in China has ignited a growing demand for all rare and valuable wildlife items.

Illegal African raw tusks mostly come into the ports along China's coast, but some enter overland through the porous borders of Hong Kong, Laos, Myanmar, Thailand and Vietnam. Now that most elephants have been poached from Indochina, it has become easier for traders to obtain ivory in bulk from Africa for the growing illegal market in China, aided by corrupt officials in many countries along the trade routes who accept bribes with impunity.

In September 2015 President Obama of the US hosted President Xi Jinping of China on an official visit. They issued a joint statement: 'The United States and China, recognizing the importance and urgency of combating wildlife trafficking, commit to the positive measures to address this global challenge. The United States and China commit to enact nearly complete bans on ivory, import and export, including significant and timely restrictions on the import of ivory as hunting trophies, and to take significant and timely steps to halt the domestic commercial trade of ivory' (CITES 2016b).

The Government of China, during our visit in October/November 2015, was thus deeply considering the future of the ivory industry. Owners of legal factories and legal retail shops with ivory were holding their breath regarding the outcome. Although the official licence list on the website had been approved for the January 2015 to December 2016 period for licensed companies making and selling ivory, at the time of our visit these outlets had not been given their updated licence certificates, which they are required to display in their factories and shops. The licence certificates were being delayed while the government was rethinking its strategy. All the licence certificates we saw were for the previous two years. Compared with January 2013–December 2014, most company names on the official website remained the same, with a slight reduction from 37 to 34 factories carving ivory and from 145 to 130 for retail outlets selling worked ivory.

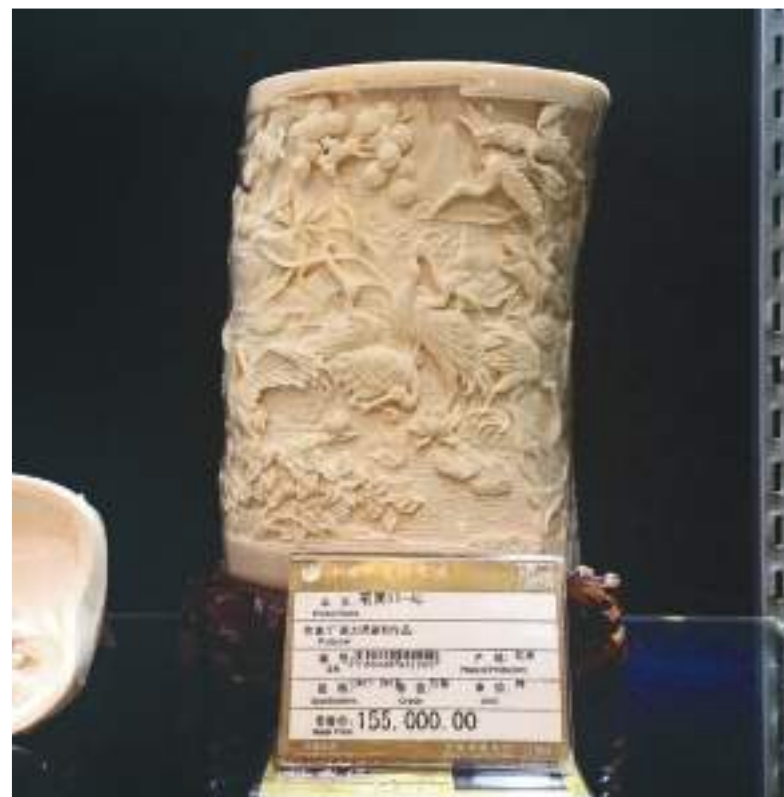
In January 2016 the SFA further tightened restrictions on the legal ivory trade by announcing it would ban imports of all antique ivory (Cruise 2016). Two months later the SFA announced it would extend the ban on the import of all elephant

hunting trophies from any country until December 2019 (Qijun 2016).

More recently at the CITES Conference of the Parties in Johannesburg, South Africa in September/October 2016, the Chinese delegation said during a working group that the China government would ban the internal ivory trade soon and thus no further discussion was necessary at this time, and then left the room (Ben Okita, Save the Elephants, pers. comm., October 2016).

Much of the wealth of China is on or near to the eastern seaboard, so in a follow-up to our earlier surveys of the legal and illegal ivory trades in Guangzhou, Fuzhou (Martin and Vigne 2011b), Beijing and Shanghai (Vigne and Martin 2014b), we selected six more significant locations to give us more general knowledge on the ivory trade in China in cities known for carving and selling ivory. It is hoped this monograph will help to provide a greater understanding of aspects of the ivory trade issues.

The international and domestic trade in both raw and worked mammoth ivory items is legal in almost all countries. The major exception is India, which banned mammoth ivory, following the CITES elephant ivory ban, because of the look-alike appearance of mammoth and elephant ivory. From 2014, certain states in the US recently prohibited this trade within their boundaries: New York (2014), New Jersey (2014), Washington (2015) and California (2016). People can thus no longer bring worked mammoth ivory from China into these places.



Larger ivory items over 50 g, such as this paintbrush holder, must have an official ID card with the exact photograph of the item with it.



Delicacy and detail are key features of Chinese art, as captured in this ivory lotus leaf in a museum in Beijing.

Methodology of fieldwork

Similar to our surveys before, we spoke to ivory traders, carvers, vendors, and the general public about ivory items, and collected data to add to our baseline information obtained from our past surveys for comparisons and trends. We spent approaching a month in China in eight cities: six cities near the eastern seaboard known for ivory carving and retail sales of worked ivory that we had not surveyed before, and two large cities—Beijing and Shanghai, which we had surveyed 1.5 years earlier—in order to compare any price changes for raw and worked ivory since our previous visit (Vigne and Martin 2014b). We started with Beijing and then travelled to the far north-eastern region of the country to survey Shenyang, then southwards to Tianjin, Nanjing, Changzhou, Hangzhou and Suzhou. We spent our last few days in Shanghai. The new cities we chose to survey each had at least one licensed ivory workshop/retail outlet listed by the SFA. This list is available in China on the internet.

In the six new cities surveyed, we searched the downtown areas for outlets selling ivory, concentrating on shopping centres with a high chance of displaying these items—those with shops selling antiques, jewellery and curios, for example, and in shopping areas near licensed ivory outlets

where sometimes more outlets may sell illegal ivory. We counted and priced the ivory items displayed for sale (not spare items in drawers which are sometimes numerous) and recorded the types of retail outlets selling ivory, both elephant and mammoth. We noted whether these outlets were licensed to sell elephant ivory and whether the items were new/recent or old/antique, distinguishing them by appearance and from vendors' comments, in keeping with past surveys. We also took note of items made of other elephant ivory substitute materials. We talked to workshop owners and dealers to learn about the wholesale prices of raw elephant and mammoth ivory. We interviewed carvers, traders and vendors where possible about the ivory trade for their views, and also asked potential customers, where possible, for their opinions on the future of the ivory trade, both elephant and mammoth.

We collected information from books, journals, newspapers and from the internet on China's current economic and political situation that could be affecting trade patterns in ivory. We also gleaned information and viewpoints from our guides, Chinese friends, interpreters, taxi drivers and others willing to divulge their knowledge and feelings on ivory.



These raw elephant tusks were sold wholesale legally by the Chinese government to a licensed ivory carving company in China to produce legal ivory carvings for the Chinese market.



Results of the survey

We spent four full days collecting data in Shenyang, two in Tianjin, five in Nanjing, one in Changzhou, four in Hangzhou and one in Suzhou, varying the length of our visits according to the number of shops we found that we needed to survey. We learned that the legal ivory trade was in limbo, with ivory dealers not having yet received their updated licence certificates. They were aware of the government's uncertainty as to how to proceed regarding the country's legal ivory trade, and there was general gloom about the future, as without the government permitting their trade, the licensed legal ivory industry with its famed master carvers could not

continue. Ironically, we did not find this feeling of stagnation for the illegal ivory dealers who sell mainly processed or machine-made worked ivory more cheaply at a more rapid speed, as they do not need official endorsement because they work illegally.

In outlets selling elephant ivory, vendors usually did not want photographs to be taken and were suspicious of our interest, knowing that foreigners are not allowed to take ivory items out of the country. In outlets selling mammoth ivory items only, most vendors did not worry about photography of their items, hoping for a sale.

Sources and wholesale prices of raw elephant tusks in China, late 2015

At the 2008 CITES-approved auctions for raw tusk sales held in southern Africa, there were four companies, mostly government (China National Arts and Crafts Group Corporation, Beijing Ivory Carving Factory, Guangzhou Daxin Ivory Factory and the Beijing Mammoth Art Company Ltd.) that bought about 62 tonnes of tusks. These tusks reached China in 2009 (Gao and Clark 2014). This ivory is managed by a committee set up by the SFA. This committee decides which licensed companies get what quantities of ivory and at what price. Beijing and Shanghai prices tend to be high and Fuzhou lower (Dan Stiles, ivory researcher, pers. comm., November 2016), along with some of the other cities where ivory carving companies are fewer. Some traders sell illegal raw ivory from Africa to private carving businesses, individual ivory carvers or stockpilers in China in much larger quantities than the legal suppliers.

Regarding past wholesale raw ivory prices collected from licensed ivory carvers in the six new cities that we surveyed, in 2009 a licensed master ivory carver paid one of the four companies named above and approved by the SFA for his workshop 200 kg of good-quality tusks of his choosing for USD 1,318/kg (at 6.6 yuan to USD 1). In January 2014 another private registered workshop paid USD 1,582/kg for a medium-sized tusk of 3–5 kg of good or very good quality (at 6.1 yuan to USD 1).

Regarding prices paid to the four approved companies in late 2015, a licensed factory bought the following (at 6.32 yuan to USD 1): USD 316–475/kg for very poor-quality pieces ('almost useless', the factory owner who gave us this information remarked); USD

791–949/kg for poor-quality, cracked tusks; USD 1,108 for good-quality medium-sized tusks; and USD 3,165/kg for large, top-quality tusks of over 15 kg. In September 2015, another licensed workshop owner received, after several years of waiting for his ivory allocation, 200 kg of raw ivory, with prices depending on quality. He said his top-quality tusks (over 20 kg) were offered for USD 2,532/kg. His larger good-quality tusks of up to 10 kg were USD 1,582/kg, his medium tusks were USD 1,108/kg, his small or broken tusks were USD 617/kg and his small poor-quality tusks were USD 475/kg. This carver/vendor could choose the tusks he bought, mostly buying the lower grades of smaller and broken sections of tusks that he could afford. He bought 200 kg based on his consumption of 30–40 kg a year in his workshop.

Studies by 't Sas-Rolfes et al. (2014) on legal ivory prices show that the government offers different prices to different companies for its legal raw ivory stocks. Thus there is no average legal ivory price. Prices cannot be compared without knowing the purchase price and exact date for every single licensed workshop—information that has not been made publically available.

Regarding the illegal raw ivory wholesale prices, we learned that medium-sized good-quality tusks of 3–5 kg averaged at USD 1,108/kg. This was the same price as some of the equivalent-sized legal ivory tusks (that are more comparable than small pieces and very large tusks). Small pieces of illegal raw ivory or poor-quality tusks were USD 475/kg and larger good-quality tusks of above 5–10 kg were USD 1,266/kg on average. These statistics came

from a Beijinger who was selling legal worked ivory and worked mammoth ivory, but knew all about the black market. Prices usually depend on the quality, quantity and the amount of bargaining. He explained that the illegal market is like a very small club among 'friends', with no outside buyers involved without good referral. We were told this in other cities as well; 'if you want to trade in illegal ivory you have to have references and contacts' a trader elsewhere said. We were informed that large tusks are very expensive and most buy tusks of less than 20 kg. Being illegal, they have to be careful in finding space suitable for storing large tusks before using them. Everybody knows the tusks are illegal so 'people just want to make money by creating links between buyers and sellers quickly

in order to reduce their stocks and avoid punishment' a dealer remarked. This opens the question as to whether some of the estimated 200 tonnes/year of illegal raw ivory which left Africa (much ending up in China) from 2009 to 2014 (Stiles pers. comm., November 2014) was just being bought and sold by smaller dealers, as opposed to only being stockpiled by major traders. A curio shop vendor in one of the cities we surveyed said that wholesale prices in late 2015 for illegal, poor- to medium-quality raw tusks averaged at USD 791/kg while for the very best piece of tusk, which is the tip, the wholesale price was USD 4,747/kg. The tip is sometimes not carved but sold in its entirety for its beauty as an object.

Sources and wholesale prices of raw mammoth tusks in China, late 2015

Mammoth tusks are found in their tonnes every year in the tundra of north-east Russia and have been traded legally, being from an extinct species, mostly to carve in China (including Hong Kong) since 1995. Virtually all the best-quality mammoth tusks are imported from north-east Russia while some are also found in north-east China; these tusks have been preserved for thousands of years in the icy conditions.

Mammoth tusks, as official statistics from Hong Kong show, have been brought via Hong Kong into the mainland in large quantities from 3,392 kg in 1995 to a peak of 41,551 kg by 2011 (Martin and Vigne 2015). In 2014 the figure was 37,652 kg (Hong Kong government 1992-2015). It is not known how much is kept and how much is sold, but it is likely that

most of this is processed/carved for sale as similar quantities of tusks are brought in from Hong Kong annually. Officially recorded supplies also come in in their tonnes annually directly from Russia, but these statistics are not made available to the public. Some tusks are also taken illicitly across the Russian-Chinese border, to avoid tax, in unknown amounts, usually in smaller quantities however, and some generally poorer quality tusks are found in China's north-east tundra.

Chinese dealers told us that within the country they buy their raw mammoth ivory from Beijing, Fujian, Heilongjiang and Guangdong provinces and also via the internet. Some traders said that they do not get involved in elephant ivory as it is illegal 'so why bother to risk carving it', they claimed (although



This piece of raw mammoth ivory was being offered wholesale, by weight, in the northern city of Shenyang.



Raw mammoth ivory is excavated from the tundra of Heilongjiang Province in north-east China, but most of the high-quality material seen in China originates from north-east Russia and is bought wholesale by government and private carving companies in China for legal trade.

obviously many do). Smaller traders usually buy and sell cut mammoth tusks instead of complete ones and negotiate a lower price that both sides will agree on. These traders may buy 30–100-kg pieces or just 5–6 kg of very small pieces of the outer layer of the mammoth ivory. A small buyer said that occasionally, among the pieces he buys, there would be some of extraordinary good quality, ‘an encounter that is truly rewarding’.

Unlike elephant tusks, mammoth tusks have a dark outer layer or cortex, generally called ‘peel’ by Chinese traders. This varies in colouration and can determine the grade. The colour depends on conditions such as how deep in the permafrost the tusk had been frozen and the amount and types of minerals the tusk had absorbed. Blue, called ‘ice’, is considered the best quality, preserved in pure ice in Russia, followed by greenish and then reddish, called ‘water’, washed ashore from the Baltic or from rivers in Russia (but they can be powdery inside); the cheapest peel, called ‘metal’ or ‘earth’, is yellowish and is retrieved mostly in China’s Heilongjiang Province. Poorer artisans and traders, especially in this province, carve this peel for sale, usually making simple pendants.

In late 2015 wholesale prices for the best-quality mammoth tusks, ‘ice’, in Beijing were USD 2,057/kg. In another city we surveyed, top-quality mammoth ivory was selling in very small pieces for USD 1.1/g (which extrapolates to USD 1,108/kg). For very large tusks of good quality in excess of 30 kg, the price can be at least USD 2,500/kg; the best large unblemished tusks sell for more, and may not be carved but simply polished to sell to customers later in retail shops in their full form. For good-quality tusks of size similar to fairly large elephant tusks (around 10 kg), in late 2015 the price of both tusks was the same at USD 1,582/kg. Small mammoth tusks (less than 5 kg) were USD 475–949/kg.

Wholesale prices for small tusk pieces in Heilongjiang Province could be as little as USD 158/kg for the poorest material. One trader offered us a wholesale good-quality 2-kg chunk of mammoth tusk for 2,600 yuan (USD 411)/kg in a flea market. According to a mammoth ivory carver, the minimum requirement for a wholesale purchase is 1 kg. He may buy 5–6 kg of small pieces of peel for 3–5 yuan per gram (USD 633/kg on average).



Souvenir outlets located near the famous historic monuments of Shenyang sell poorer-quality objects, sometimes including imitation jade and fake ivory jewellery, as is the case with many souvenir outlets in the country that do not sell these genuine items.



This painted Qing Dynasty leaf and cross-section of a gourd with bats and insects are examples of the fine works of the time, on display for the predominantly Chinese tourists to see in Shenyang's Imperial Palace.

Shenyang

Shenyang is the capital and largest city of Liaoning Province in north-east China (see map) and has a population of 6.3 million. The city is a major industrial and transport centre, especially with Japan, South

Korea and Russia. The city has three licensed outlets selling ivory, and also has an interest in mammoth ivory from animals found in the north-east part of the country near Russia in Heilongjiang Province.

History

In the 17th century, Shenyang was conquered by the Manchu people and was briefly the capital of the Qing Dynasty, when it was named Mukden, during which time an imperial palace was built. Until the 19th century the region around Shenyang was mostly steppe, populated by nomadic tribes. Then, industrial nations started to exploit the natural resources, such as iron ore and coal. After the Boxer Rebellion (1899–1901), with the building of the South Manchurian Railway it became a stronghold for Russia. In the

early 20th century the Japanese conquered most of the province and developed Shenyang into an industrial city. Most of the province's natural resources and finished products then went to Japan. The Chinese defeated the Japanese in 1945. Then the Communists took control of Shenyang in 1948 after a bitter battle with the Kuomintang, the political party that controlled all or part of the Chinese mainland from 1928 to 1949.

Ivory and mammoth ivory carving in Shenyang

There are no licensed ivory carving factories in Shenyang. Most ivory items for sale in the licensed three outlets are from Beijing and Guangzhou. The old generation carvers in Shenyang are too old to work, and the young people are not keen on carving, but 'as it is our cultural heritage the local government is trying to attract young people into carving, offering subsidies to apprentice carvers to help them', one vendor remarked.

A repairer of ivories was located in one of the shopping centres specializing in antiques; he showed

a piece of elephant ivory on his desk and how you can recognize it by holding it to a light –if organic the light shines through it, he explained. Many vendors can trick customers, however, so some customers, he said, prefer to buy carvings from a reputable source.

Carvers of small pieces of mammoth ivory work in Shenyang. Some artisans obtain these pieces from near the Russian border, buying usually the poor-quality rough outer peel that they process into smooth oblong pieces as pendants for sale in the flea markets.

Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Shenyang

We counted in total in the city 424 elephant ivory items and 1,023 mammoth ivory items in 33 retail outlets (18 with elephant only, 6 with both and 9 with mammoth only) (Table 1).

Three licensed retail outlets were allowed to sell ivory, each item officially recorded with the usual ID card. One of these outlets had stopped selling or displaying ivory items and instead was specializing in items made from the giant clam shell from which can be made shiny white beads or various carved items. The second licensed outlet was in a large shopping centre filled with many stalls selling curios; it was a small

shop displaying worked ivory, wood-bead jewellery and curios. The third was a larger state-owned outlet specializing in ivory with some mammoth ivory items for sale as well. The two licensed outlets surveyed with ivory had on view for sale 274 ivory and 94 mammoth ivory items.

Twenty-two unregistered outlets carried the rest of the items seen (150 ivory and 1,023 mammoth). Thus, non-licensed outlets had just less than half of the ivory objects for sale (usually jewellery items often beaded), and more than 90% of the mammoth ivory items seen for sale in the city. Three expensive mammoth



A Sunday flea market in Shenyang attracts crowds of shoppers looking for bargains or unique collectors' items, including sometimes small mammoth ivory items and illegal ivory objects.

ivory specialist outlets in shopping malls displayed 312 items; one was Russian-owned. Two more were mammoth ivory specialist stalls in a Sunday flea market selling pendants (numbering 260) made mostly of the brown outer peel of the tusk that is polished to look more attractive; these are much more affordable (than the best mammoth white ivory pendants) and the raw material is more easily collected in this province near the Russian border. The remaining mammoth ivory items were of good quality white ivory, found in small shops in five shopping centres specializing in antiques.

Most seen for sale of both elephant and mammoth ivory items were pendants, followed by bangles, beaded bracelets and beaded necklaces (Table 2). There was an array of carved figures and figurines in both ivories, with mammoth ivory only clearly distinguishable in larger sculptures due to the brown outer layer that is so typical of mammoth ivory or with the Schreger lines that are seen in cross-section of a tusk with a more acute angle than for elephant ivory. We counted 12 processed elephant tusks but no fully processed mammoth tusks for retail sale. There were boats, cigarette holders, and floral/landscape scenes in both ivories. Chopsticks were only in elephant ivory (they are never made from mammoth ivory, which is more brittle and also considered by some as dirty from being buried underground), magic balls, name seals, cutlery, fans, paintbrushes, plaques and snuff bottles, sometimes old items. Rings were made only of mammoth, and no old items of mammoth ivory were seen, as they have been readily on the market only in recent years.

It was generally possible to get a 20% reduction in retail prices, for all ivories. Old ivory items: plaques, snuff bottles with ivory lids, yellowing cigarette holders and name seals with red-stained bases, were seen, but no valuable antiques. The older, shabby items were at least half the price of the new items made of ivory. Nobody bothers that these old items are technically for sale illegally. They are not in fashion like new ivory. The licensed outlets do not sell old or antique ivory, concentrating on the more popular newly carved items with their compulsory ID cards. Prices are higher for similar items in licensed outlets due to the expensive bureaucracy involved in getting ID cards and generally due to their being in more expensive shops with larger overheads. The most expensive ivory item we saw was a polished tusk of the most common size of about 40 cm priced high at USD 159,590 in a state-owned legal outlet (Table 3). Mammoth ivory prices varied hugely according to whether an item was in an expensive mall outlet, where also the authenticity of the material is guaranteed by a label versus a curio market centre catering to most people who enjoy the challenge or finding something special at a bargain price.

If a mammoth ivory object were top quality (identically resembling elephant ivory), as for beaded bracelets, for example, it can be the same price as elephant ivory. A mammoth charm or very small pendant was the cheapest item at USD 71 while the most expensive was a composite for USD 47,073 (Table 4).

Vendors' views in Shenyang

One licensed outlet was no longer displaying ivory and the two others were very sensitive to our presence. A vendor explained that recently he had been reminded by officials, once again, that what he is selling is very sensitive. China has received a very negative press from the West so he has to be careful, he was warned, so he asked us to go to the mammoth ivory shops instead. He explained there is a chain of pressure: media pressure leads to pressure on their legal ivory businesses in general who passes it on to the legal shop owner who passes it on by asking the Western customer to leave the shop.

A vendor in the second licensed outlet actually followed us out onto the street, nervous of our interest. This shop sold many Chinese souvenirs, especially jade and lacquerware of high quality, but the floor space allocated for ivory sales had been shrunk to a small corner of the shop in the past year or so due to dwindling government support. Mammoth ivory was not being promoted officially either, with only a small tabletop of displays of pendants and carved figures and no information about mammoths.

The vendor explained their shop was supposed to close at 8.30 or 9 pm, according to the season, but for the past 12 months they had been shutting early, at 6 pm, as business was not good for any of their

luxury items. For this reason the management has reduced the space for selling all their arts and crafts items and has sub-let space to other businesses with artefacts instead. It is a state-owned company; thus it enjoys a prime location, the manager remarked. The purchasing power in Shenyang is not generally as great as in Beijing and further south so it is really hard to sell expensive items here, according to the manager; thus over the past two or three years the ivory items for sale have been dwindling in number.

In certain expensive modern department stores, mammoth ivory items were clearly labelled with prices. In the shopping centres specializing in antiques and curio markets, items were usually not priced, and shopkeepers often simply said an item was ivory, meaning elephant ivory, having no idea about mammoth ivory. Vendors explained that to most Chinese, ivory is a beautiful material and that most buyers do not distinguish between mammoth or elephant, as they have no knowledge of the two types of ivories, only being interested in the appearance. As long as the item looks white and lustrous and is called ivory, the customer is happy. Most customers do not want ivory that looks brownish or cracked and old. Vendors sometimes tell their customers that 'blood or quasi blood ivory items' are the rarest and most valuable, having a slight amber-like translucency.



A vendor displays a collection of plain mammoth ivory pendants made from the brown outer peel of the tusk.

Vendors do not talk of this being from forest elephants from Africa and Asia (versus the African savanna elephant) but this can often be the case.

One vendor said that officially crushing ivory in large amounts created the perception that a reduced supply of ivory meant a shortage. While the government is in favour of destroying illegal ivory, the businessmen understand the burn the other way around, a potential customer explained. The biggest traders (who feel safer from prosecution) have thus been trying to accumulate elephant ivory (‘t Sas-Rolfes et al. 2014) since they perceive it to be becoming scarcer with the tight regulations. This view was supported by some Chinese individuals who said ‘it would be natural for the price to go up rather than down if restrictions continue. This is the nature of the Chinese people: the more difficult it is to get something, the more eager many are for it.’

One antique shop owner who also lives in the US said his antique business in Shenyang was down by 20% in the last year as luxury items had been hit by the economic slowdown in the Chinese economy and that this included ivories and other valuable materials.

We asked another vendor in a non-licensed shop whether customers preferred elephant or mammoth ivory, and his reply was ‘elephant ivory, as it is illegal so of course it is in more demand, and it has a great tradition as opposed to mammoth ivory’.

Parked outside one shopping centre specializing in antiques in Shenyang was a row of new, very expensive cars, showing the wealth being made by some shop owners. Chinese men enjoy finding and collecting authentic rare items, antiques especially. The Communist regime obliterated many antiques in China. Today antiques, especially Chinese ones, are extremely sought after, now that people have the freedom and financial ability to buy them. Ivory, similarly, is part of China’s rich cultural heritage, and many more cultured Chinese are proud of the intricate carvings that can be made still today. It is not just those who love Chinese culture and collecting who choose ivory; frequently the customers we saw were young men, often with partly shaven heads, tattoos, black leather jackets and jeans who wear ivory bracelets, thumb rings and pendants to ward off evil spirits. Some ivory is carved into tiger teeth or into human skull-shaped beads for bracelets for these young men. Although the clientele is varied it is important to note only a fraction of the Chinese population actually buy or have ivory items.

Carvings generally follow common and repetitive themes popular in China: copies of items found in the imperial courts, religious figures—especially from Buddhism and the Chinese zodiac—and amulets. Older ivory items displayed with other memorabilia, such as coins and calligraphy scrolls, are usually found in dusty, older shopping centres specializing in



An outlet selling mammoth ivory jewellery in a smart new shopping mall was promoting this material with posters of a famous celebrity, Huang Bo.



A tri-toggle, used for rosaries in place of a pendant, and a disc pendant are often seen among jewellery items, in this case, made of mammoth ivory.



The zigzag lines on synthetic pendants, such as this one, can sometimes fool customers into thinking they are seeing genuine ivory.

antiques, consisting of dimly lit long corridors lined with small, congested stalls.

In Shenyang, expensive worked mammoth ivory was visibly being promoted at one mammoth ivory specialist outlet in a new mall with posters of the celebrity movie star, Huang Bo. He is most popular with middle-aged women, suggesting the company was marketing its mammoth ivory jewellery to that age group. Companies are aware that it is middle-

Substitutes in Shenyang

The giant clam shell is made into jewellery and ornaments as is ivory and appears to be a growing alternative. Banyan tree nut bracelets and necklaces are another popular material, but sometimes these have a small ivory pendant as well, which may also be mammoth ivory, or synthetic—too small to tell easily.

The most common look-alike ivory is a synthetic material that has been on the market for some time but appears more convincing nowadays. This material has a criss-cross pattern, but is too uniform, when seen, for example, in a large disc shape, to be ivory. If the item is quite small, such as a tiny bead, the lines and feel of the material can be difficult to gauge. This

aged people who have the purchasing power.

People we asked in malls told us they have heard on the internet that ivory is from the elephant and believed it was all illegal so it was not seen for sale; they generally had no understanding of the word 'mammoth'. A customer said 'allowing some ivory and banning some ivory was very confusing, when it seems to be the same thing'.

synthetic ivory is often used for edging on bamboo containers for singing or fighting crickets, incense stick holders or tea containers, for example.

Other small items in the curio shops of Shenyang were carved from so-called deer antler, ox bone, whale teeth (some carved into netsukes from Japan), sea elephant tusk (walrus), unicorn whale (narwhal), and mystery animals such as so-called white deer from Africa and sea horse teeth, according to shopkeepers. Vendors would often be irritated if asked what the material was, saying they would tell only if we bought the item.



This is a typical ivory composite scene (also made of mammoth ivory and bone pieces glued together). Such composite scenes depict China's landscapes, gardens, houses and people long ago.



This carver/vendor sells his mammoth ivory pendants, made of the outer peel of the tusk, in both Tianjin and Shenyang on different days of the week to try to maximize his sales.

Tianjin

Tianjin is 100 km south-east of Beijing on the coast, bordering Beijing Municipality and Hebei Province (see map). The city lies at the northern end of the Grand Canal of China that connects with the Yellow River and the Yangtze River. It has a

population of 10 million, the fourth largest city, after Shanghai, Beijing and Guangzhou. Tianjin is one of China's largest industrial port cities. There is one licensed ivory factory in the city and six licensed retail outlets selling elephant ivory items.

History

During the Sung Dynasty (960–1126 AD), Tianjin became an important commercial centre, based on the grain trade. The city further prospered when the rulers moved their official capital city from Nanjing to Beijing in 1421 during the Ming Dynasty (1368–1644). With Beijing's growth as the new capital, Tianjin expanded as the port supplying

Beijing. During the 19th century Tianjin's wealth declined due to conflicts with various foreign powers, including the British and the French. After the Communist revolution in 1949, the economy of Tianjin grew from one mainly of trade and commerce into large-scale manufacturing as well.

Ivory and mammoth ivory carving in Tianjin

We visited the one licensed ivory carving workshop in Tianjin, which was, like many businesses, operating out of a new residential flat in a high-rise building complex. Many Chinese have adapted to meet their business needs in pragmatic and flexible ways, such as working from their homes to economize, we were told. During our visit, the apartment door into the kitchen happened to be open, giving us a view into the adjoining room and revealing two large ivory composite pieces on a shelf. One person, who was cooking lunch, told us we would have to make an appointment to see the main ivory carver in charge, but that he was out of the country for a month. We learned that only two carvers and about 20 helpers from all over the country come and go. We met some neighbours, but they did not know anything more, not even that any activity such as carving occurred in this particular flat. Many Chinese like to remain private, and unless a social function is arranged by the management of a building, they tend not to know their neighbours 'as they are too busy working to make money and are secretive about sharing their lives, a result of their strict communist past', as was explained to us.

Mammoth ivory master carvers are not active in Tianjin as there is little demand for such carvings here. The best-quality mammoth ivory items that closely resemble elephant ivory are to be found in state-owned companies in China, generally not seen in the smaller private outlets that do not have the resources and connections to get the top-quality material called 'ice' to carve. Most private

mammoth ivory specialist outlets in China carve tusks that have some brown colouring, covering up the blemishes with originality and creativity to deal with any lines and cracks, thus producing unique animal and people sculptures. But here in Tianjin, only one maker/seller of mammoth ivory items was seen. He had the poorest-quality material of all, selling pendants made of the outer peel. These he mostly polishes, perhaps making a little simple carving. He sold his items in a flea market outside on the ground in a space he rents for 200 yuan (USD 32) a day—about the price of the sale of one of his pendants.

This carver had a brochure in Chinese to advertise to new customers his mammoth ivory. Its words discouraged elephant ivory and then remarked on the lure of mammoth ivory. It said: 'When the buying stops so will the killing—please protect wild creatures [elephants].' Chinese-carved mammoth tusks were long ago called dragon bones. Modern elephants that are hunted are considered unclean in Buddhism, as the elephant dies with anger, making the carved object have bad energy that will negatively affect your fortune and luck. Mammoth ivory is good as it is a symbol or embodiment of experienced art collectors; small items are low key but elegant luxuries. Items carved from 'chewing teeth' [mammoth molars] 'bring on wealth and good health and also strengthen the *fengshui* effect of your home and office. Mammoth ivory amplifies your good wishes and brings good luck that can be passed down to your offspring and future generations. The mammoths are grateful

for their tusks to be carved as this allows their rebirth or rejuvenation. Just like dead trees, when recycled [carved into objects], they are welcoming spring again, continuing to be part of life. These ancient items carry the essence of the Earth and

the Universe. Mammoth ivory items are extremely effective in bringing you wealth.' This carver/vendor was keen to promote his mammoth product business to us in preference to elephant ivory, which he does not carve.

Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Tianjin

We counted in the city central area 613 elephant ivory items and 239 mammoth ivory items in 17 retail outlets (6 with elephant only, 6 with both and 5 with mammoth only) (Table 1).

We found the locations of five out of six currently licensed outlets, but two had closed their premises in newish shopping malls. We were told business had not been good there. The first active shop we found was in a smart mall; it was a well-established private ivory specialist shop with expensive display cabinets and modern lighting. The shop had 245 ivory items (mostly pendants, figurines, paintbrush holders and name seals) and 61 mammoth ivory items (charms, figurines and pendants) on view for sale. The vendors were helpful and relaxed about our interest in the carvings, knowing their outlet and items were all legal. Items carved legally in Tianjin are sold here, they informed us. The next licensed outlet was an ivory

specialist shop in a popular tourist shopping area. In this outlet we counted 217 elephant ivory items on display, but the vendors were busy with a stock inventory and could not talk to us. They pointed to their signs saying no photos, but items were priced. The final licensed outlet we visited was a small shop in a low-end jade market. This shop had 55 ivory items, mostly pendants. One, the vendor claimed, was mammoth that we could buy. The usual licence sign (of last year) was on the wall and the usual ID cards were available to one side, as is customary for pendants with only larger items over 50 g requiring an individual card with the exact item's photograph beside or below the item (Vigne and Martin 2014b).

There were other outlets with the other ivory items seen: 97 illegal ivory and 177 (legal) mammoth ivory items. This is an underestimate, as shops were closing early during our visit due to poor weather conditions.



With a backdrop of modern high-rise buildings and an old European church, today's architects are reproducing traditional Chinese architecture, seen here with a traditional gateway leading into a tourist shoppers 'China Town'.



Old Tibetan discs made of yak bone, and nowadays synthetic ivory copies, are used as pendants, but some are also made of genuine ivory that has been part of Tibetan culture, unlike mammoth ivory.

The shops were mostly jewellery and curio outlets as well as Buddhist outlets selling mammoth ivory only, their shopkeepers claimed. Tibetan Buddhist outlet vendors pointed out they had mainly old ivory items or yak bone pendants and necklaces, but not mammoth ivory, which is not part of Tibet's old culture. There was one street stall, as already mentioned, in the tourist flea market specializing in mammoth ivory pendants. We had seen this same carver/vendor in Shenyang as he goes back and forth weekly between these two cities to maximize the sale of his mammoth products. He had on display about 85 outer tusk 'peel' brown oblong pendants mixed up with about 85 similar-looking ones of mammoth bone, 145 pendants made from mammoth molars with striations, and 19 mammoth molar marble shapes coloured blue. There were 71 other brightly coloured marble shapes he said were 'from an extinct beast from Japan', but the real material was not clear.

We saw the usual items of both ivories for sale: jewellery (bangles, bracelets, charms, necklaces, pendants), as well as the usual religious and animal figures and figurines (Table 5). Thirteen whole

processed tusks of elephant ivory were for retail sale in the two licensed shops. We also saw ivory cigarette holders, chopsticks, dice, fans, name seals, netsukes and paintbrush holders. Of the larger items, there were some composite ivory pieces in Perspex boxes. The latter, despite their size, are less expensive than other carvings as they are made from small pieces of ivory glued together, making up the composite style that is so typically traditional Chinese.

Retail ivory prices were clearly labelled in the licensed outlets. Prices for ivory ranged from a small heart pendant for USD 28 to a pair of polished tusks mounted on a wooden stand with tusks measuring 105 cm and 107 cm for USD 234,177 (Table 6). Polished tusks are revered, being blemish free and thus valuable. These were legal items. For worked mammoth ivory in Tianjin, prices ranged for a cheap brown pendant of USD 32 to a netsuke of USD 2,452 (Table 7). No large mammoth ivory objects were seen for sale as although legal they are difficult for visitors to Tianjin to carry away in their luggage, we were told.



Name seals, for stamping signatures onto documents, may be seen in less expensive name seal outlets made of synthetic ivory as shown here, not to be confused with genuine ivory.

Vendors' views in Tianjin

In some expensive jade and Buddhist shops that also carried small ivory or mammoth ivory pendants, the vendor admitted the two kinds of ivory were difficult to tell apart. The criss-cross (Schreger) lines are not clear in small items as they can run the opposite way if the tusk has been cut across the grain longitudinally. One vendor, seeing we were interested, tried to explain how to recognize a mammoth ivory pendant, and we

examined it together, only to find that the lines resembled elephant ivory!

It was interesting that two of the five licensed outlets we visited had closed down in new shopping malls due to poor sales. We were told there had not been enough marketing for ivory and other 'relic crafts', so general customers preferred to buy 'fashionable' Western goods with brand names.

Substitutes in Tianjin

So-called elephant bone bangles and cigarette holders, which were actually synthetic, were offered to us expensively for USD 400 each, and also name seals for USD 200 each. Usually prices of synthetic items are reasonable and provide an alternative to those Chinese who cannot afford real ivory, customers told us.

In one of the licensed outlets were two very large composites clearly labelled as bone. Composites, being made of small pieces stuck together, can consist of a variety of materials, but bone is a common material used.

In one display were small human Japanese figurines (7 cm) made of whale tooth that apparently sell mainly to overseas Chinese visitors for 20 yuan each (USD 3)/g. Mammoth bone pendants were also displayed, the best carved from the shin bones of the mammoth. These bones are limited in supply as they do not preserve as well as tusks and skulls or are less easy to find, the vendor pronounced. These were 5 yuan/g (less than USD 1/g) or 300 yuan (USD 47) for an average simple pendant. This vendor also sold mammoth molar pendants with striated lines; they felt cold and heavy like stone.

An expensive alternative to ivory is the casque of the endangered helmeted hornbill, *Rhinoplax vigil*, that is most sought after nowadays. It is made of keratin and can be carved. We saw a group of tattooed young men in their leather jackets buying this product in an outlet that also sold illegal ivory pendants. There were also claws and teeth from endangered mammals, such as tigers and bears, and pendants with tortoise shell for sale, all illegal, not that such customers are interested in the legal status of an item, preferring to discuss its rarity and quality. Outlets selling these items also sometimes displayed saiga antelope horns offered both as ornaments and for traditional medicine to substitute for rhino horn. We did see in a jade outlet three small pieces of authentic rhino horn being sold by the gram on the label at extortionate prices, but these are rare to see in the open. In another outlet in a flea market a cup that resembled rhino horn with similar hair follicles and an amber-like translucency was too perfect to be rhino horn and the vendor admitted it was synthetic, offering it to us at the high price of 750 yuan (USD 119) in the hope of making a good profit. We were to see these elsewhere too.

Nanjing

Nanjing in Jiangsu Province (see map) with a population of 7 million is famous for its industries as well as having several renowned cultural world heritage sites from the Ming Dynasty that

History

Around 500 AD, Nanjing was already a city of about a million people. The city was then known for silk production, paper making and pottery. In 1368 the city reached the peak of its political importance, when the first Ming emperor chose Nanjing as the capital of the united China. Artworks and handicrafts continued

Ivory carving in Nanjing

In the 2013/2014 list of licensed ivory carving factories, there was only one factory remaining in the city, but it had been eliminated from the 2015/2016 list, with no new factories on the list either, according to an informer who read about it in the Chinese media. The reason appeared to have been that the factory was allegedly involved in illegal ivory trading, working in an undesignated venue that was illegal; so the last ivory factory in Nanjing was closed down after a centuries-long tradition.

Some of Nanjing's most complicated and very old ivory carving techniques have disappeared entirely in China now, having not been passed down to new

attract many tourists. No licensed ivory carving factories in the city remain, but there were six licensed retail ivory outlets, one state owned.

to be the major economic activity for centuries. Ivory was also carved in the city. Just before the Chinese Communists took over the government in 1949, the economy of Nanjing was still based on handicrafts. Soon afterwards the government turned Nanjing into a huge industrial city.

carvers, such as their specific method of weaving ivory strands into a lattice, as seen in a Qing Dynasty (1644-1911) multi-drawer jewellery box in the Aito Art Museum. Other skilled techniques are in danger of being lost with the reduction in the number of carvers, a staff member in this museum lamented.

The ivory carving school of Nanjing was famous for its curlier style of carvings rather than the more regal Beijing style of dignified figures from the imperial court. Nanjing was also famous in the past for its unique 'antique finish' ivory carving. Artisans would dye their ivory items, called 'imitation antiques', but they were not copies of antiques; rather, they



Nanjing was famous in the past for carving 'woven' ivory, as in the intricately carved drawers of this antique jewellery box, as well as producing swirling curved carvings such as in this section of a fantasy scene carved from wood.

were unique creations. The buyers understood this specialty, and did not expect a copy or reproduction.

We were told that the city still has carvers who can craft ivory, but there is no supply of ivory provided to them, with raw ivory now under tight official regulation. We met a former ivory carver in his shop who was a third generation carver. He had started to carve in his teens. He explained: 'The majority of items, mainly stone and wood, you see here in my shop are my work and some were made by my father

or my grandfather. The carving of different materials is interrelated. Once you are skilled and experienced at carving on one type of material, it is easy for you to adapt to a different material.' He prefers to work on stone, saying for ivory, for the smallest detail, you need to work through a magnifying glass for precision, which he finds a strain. Another vendor said his ivory items on display were all carved in Fujian Province 'where there are many wood and stone carvers and it is not difficult for them thus to carve ivory as well'.

Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Nanjing

We counted in the central region of the city on view for sale 882 elephant ivory items and 496 mammoth ivory items in 40 retail outlets (36 with elephant only, 4 with both and 1 with mammoth only) (Table 1).

Although Nanjing has six licensed ivory outlets, we could survey only three. The first had no ivory for sale as due to irregularities with a supplier who was arrested and sentenced to imprisonment about five years earlier, the shop is not obtaining more ivory items to sell. The second shop was closed for a week as a big food fair had taken over the area. The

third shop was not located at the address provided so could not be surveyed. The three other licensed ivory outlets we surveyed. The first had on view items numbering 142 ivory and 130 mammoth in a popular tourist area near a famous temple; the second had 19 ivory and 347 mammoth items located in the same tourist area; and the third was state owned and the largest with 457 ivory items and no mammoth. The normal objects were for sale, mostly from the Beijing, Changzhou, Fuzhou and Guangzhou areas (Table 8).

One licensed shop, keen for a sale, would give a 20% discount for ivory. For a tiny mammoth ivory 2-cm



Nanjing has several antique shops selling unusual older or second-hand items that are not seen carved today, such as ivory quails.



This exquisite ivory paintbrush holder was typically in a state-owned shop; these usually sell high quality and the largest pieces of both ivory and mammoth ivory objects, compared with those in private licensed shops in China.



Private shops licensed to sell ivory sometimes offer items at much lower prices than in the expensive state outlets in the modern shopping malls. This mammoth ivory foot, with detailed hand-carved toenails, was USD 71 and a cigarette holder was USD 186.

foot with a spider on it, priced at 450 yuan (USD 71), she even offered a 30% discount, aware we were more likely to buy mammoth ivory as foreigners. (Items usually have a Chinese story or important Chinese meaning often based on a play on words. In this case, the word in Chinese for foot is *jijoo*, which also means spider, as well as meaning you are satisfied/you feel happy, hence the significance of the tiny carving).

The vendor claimed some of her prices had gone up by 10% since the previous year, but many price labels were dusty and tattered with ID cards often in aged plastic wrapping, suggesting these items had been on the shelf for well over a year, indicating poor sales and stagnant pricing. The vendor in another licensed shop tried to encourage the virtues of mammoth ivory arguing it was in limited supply from an extinct species and so he was diversifying from ivory into mammoth ivory and also clam shell items for his customers. Meanwhile, the one state-owned outlet in the city had recently held an exhibition with a large array of items brought into the shop to try to stimulate sales. These vendors were cooperative and glad for our interest in their worked ivory on display.

Everything was clearly priced, and items in the state-owned shop were usually at least double the price of those in the smaller licensed outlets, being, they boasted, of best quality and a very large selection.

We found other outlets that were not licensed but had ivory for sale: four sold mammoth ivory items as well as ivory, and one jewellery outlet sold a little mammoth ivory only. In these outlets we counted 264 ivory and 19 mammoth ivory objects. Most were in the usual antique/curio/jewellery outlets in antique centres, with some in Tibetan shops and a few in wood or bamboo outlets. No mammoth ivory specialist outlets were seen.

Ivory prices of items such as chopsticks and cigarette holders in the state-owned shop were at least double the prices of the other licensed shops, and quadruple the older ones being sold in the curio stalls. Old/antique items could be seen to be genuinely old due to wear and tear and also style of the item. More of these old items versus new illegal ivory items were for sale in the unlicensed outlets; expensive ivory antiques were rare. New illegal ivory items were the usual jewellery pieces that were normally less expensive



Tourists flock to Nanjing to see the famous Ming Xiaoling Tomb, which includes a tree-line pathway with large stone elephants. But most tourists just window-shop, ivory vendors complain.

than those in licensed outlets. The cheapest priced legal ivory item in Nanjing was a ring for USD 25 and the most expensive was a typical pair of polished tusks for USD 284,810 (Table 9). The cheapest illegal ivory item was also a new ring for USD 32 and the

most expensive was an old urn for USD 13,924. The cheapest mammoth ivory piece was a charm for USD 63 and the most expensive a 90-cm carved tusk for USD 126,582 (Table 10).

Vendors' views in Nanjing

One vendor we found selling ivory (without a licence) complained that business was really bad: 'we have sold hardly anything recently, so we are closing down this shop; we have for sale mostly large, carved blocks of jade and sandalwood carvings, but a little ivory is for sale too, carved by my family in the past. If you come back next month you won't be able to see us. I am not particularly worried about the collection as I am a collector myself and I know all these pieces are worth passing down to future generations. So I will ship all the collection to Suzhou, where I am originally from, and I plan to build a museum there. As long as I own a carving museum for my wood, stone and ivory items, I can charge an entrance fee; it won't bother me much even if the visitors never buy a thing'. The vendor explained that buyers are less inclined to purchase special works of art, much of it carved in the 1970s and 1980s, due to the ongoing economic slowdown.

Nowadays, some buyers are turning to online outlets that sell poor-quality illegal ivory items more cheaply.

Another vendor at a licensed outlet commiserated that the rental is high and business not good, with many passersby each day who are just window shoppers instead of true consumers. Of course, 'money is not a big concern for the boss, since he is a big boss', the shopkeeper mentioned, 'but it is discouraging not selling things', although the ivory items were reasonably priced. Buddhist sculptures, especially Gwan Yin, were in most demand, but not much else, the vendor lamented.

At another licensed outlet the vendor remarked that mammoth ivory was better for trade as there are no restrictions on it. He again regretted that business was not good and the tourists who keep entering his shop are mostly just window shoppers.

Some vendors tried to sell artificial ivory as genuine to unsuspecting tourists in unlicensed outlets, even, for example, putting a synthetic bangle into a Perspex container to look more valuable and selling it as ivory for 4,000 yuan (USD 633). Another salesperson in an antique store priced a pair of chopsticks at 15,000 yuan (USD 2,373), first saying they were special, but then collapsed the price to 250 yuan (USD 40), seeing we did not agree, as they were synthetic! Other synthetic items were being sold as old ivory in certain Tibetan-style shops, kept guarded in closed glass cabinets to seem valuable; the vendors would not open the cabinets, sulking 'you are just window shopping'. Many Chinese tourists here cannot tell the

materials apart and the shopkeeper may make a sale.

Shop owners and salespeople in the unlicensed outlets reacted differently on seeing Western foreigners. Some warned right away that foreigners are not allowed to take ivory artefacts out of China. As a result they were not keen on selling us an ivory item nor on answering our questions. Others, however, tried to lure us into a deal, saying that they did not mind risking selling ivory items to foreigners, stealthily of course, and that we would not be able to buy ivory in other shops as it is tightly regulated in China, trying to encourage us to buy.

Substitutes in Nanjing

Carvers now use animal bones to replace ivory, a museum ivory expert informed us. Some items are made of leg bones from the ox, camel or yak—all large animals providing big bones that are preferred for carving. The bones are bleached before carving to make them look like ivory.

One shop licensed to sell elephant ivory was now also selling clam shell items carved in Fujian Province. Chinese traders have been recently taking giant clams in large quantities from the South China Sea reefs that have raised great concern (Bale 2016), and

perhaps some of these have been used to make into items for sale recently (Stiles, pers. comm., 2016). A white shell bangle of 2.5 cm was 6,500 yuan (USD 1,028) compared with one of mammoth ivory selling for 5,000 yuan (USD 791) in the same shop.

Some shops use look-alike beads (mammoth ivory, bone or synthetic), being too small to always distinguish, such as in scented sandalwood or other sought-after wood-beaded jewellery. One new shop chain used mammoth ivory beads in wood necklaces on an elastic string.



An itinerant seller was offering this ivory pendant illegally among various stone and jade pendants that are popular alternatives/substitutes for ivory.



A master carver, with just a light bulb to help him and a remarkably steady hand, was 'shallow carving' Chinese characters into an elephant tusk, with detailed precision.

Changzhou

Changzhou, also in Jiangsu Province, is located on the southern bank of the Yangtze River, about half way between Nanjing and Shanghai (see map). It has a population of 3.3 million and is famous for its cotton mills and textiles as well as food processing

History

Following the construction of the Grand Canal in 609 AD, Changzhou became a canal port and transshipment point, mainly for locally grown rice, and continues in this role. Even during the Cultural Revolution (1966–1976), the city remained prosperous, being in a fertile area with plentiful rice,

Ivory carving in Changzhou

We met a master carver in his house who explained, ‘This city is famous for its “shallow carving” technique that is enshrined in our national intangible cultural heritage’. A new Mercedes was parked on a marble-floored front room of the house, and displayed on shelves were wood, jade and stone carvings in the room next door. In a back room was his worked ivory display with his workshop behind that.

He was a friendly man, passionate about his art, who had started shallow carving in the 1970s. Unlike 3D carving (copies of items from Beijing’s imperial court, such as the Chinese cabbage and various courtly figures, or Guangzhou’s magic balls and dragon boats) shallow carving, also called ‘relief carving’, consists of lined drawings using Chinese ink to fill the shallow hand-cut lines. The ink never fades or washes out. No electric tools are used. This artist works here with his son, and his wife helps, and they were modestly proud of their detailed art pieces. He is the chairman of the local ivory trade guild called the Arts and Crafts Association in Changzhou, remarking that ivory carving is their family heritage. One of his two sons joined this profession after university. The father would not let him take up another profession, being dedicated to art and heritage. As well as his sons, he has 10 carver assistants. He remarked that elite scholars and the educated rich preferred this sort of shallow carving calligraphy work and drawings.

He likes to carve on the best ivory he can obtain with ‘yellow’ ivory being his favourite as it has a nicer colour than white, he believes. He had not heard the term ‘blood’ or ‘pink’ ivory that vendors may use to describe more valuable ivory, except to say tusks

and engineering. This city had three licensed ivory carving factories that had four licences to sell ivory as well. No other retail outlets were surveyed; more people shop in Nanjing, but there are growing efforts by the government to increase tourism here.

fish, tea, silk, bamboo and fruit. The city has been making combs of wood, ox horn, bone, boxwood and also ivory for over 1,500 years. In the 1980s the Palace Comb Factory employed 368 people who produced 12 million combs per year, a third for export (Kaplan et al. 1985).

can be more coloured if the elephant’s food was rich in minerals. He does not work mammoth ivory as there is a risk that it may be powdery inside. For this detailed, meticulous calligraphy work you cannot have ivory crumble, he explained.

Another licensed factory and retail outlet we found with difficulty. Sometimes there is a mismatch between the address that is registered and the actual address, often due to the fast urbanization across China, meaning companies have no option but to submit a ready address elsewhere. This circumstance can cause finding places sometimes impossible. Addresses are supposed to be updated in the official list, but for factories and shops in many cities this does not always happen. In this establishment, the owner’s main concern about his work was also a lack of supply of raw ivory—even if he could get just a little, his dormant carvers could come back to work, he remarked.

At the third licensed carving and retail company, we met a welcoming master carver and his master carver wife. He had started as a painter of ivory, and then became a carver from 1973 on, employed in the local ivory carving factory. In the 1970s this factory had 400 ivory carvers trained by the government; of these 100 became masters. He stopped his carving work 10 years ago at age 50 due to poor eyesight, but he employs others. His wife still carves ivory. Their daughter also knows how to carve, but her profession is banking.

This master carver said proudly that the city of Changzhou is indisputably among one of China’s top ivory carving hubs, on a par with Beijing and

Guangzhou. 'Even Shanghai, in comparison, is invisible as a location for ivory carving in China,' he commented. He regretted that Nanjing had no ivory carving today, so items carved here go there for sale, such as to his own licensed retail shop that we had visited. 'Overall, our business used to be quite satisfactory, as we are suppliers for many big retailers nationwide, but sales of new items are on halt at the moment as ID cards have not yet been provided from the government due to uncertainty about the trade,' the master carver mused.

We were taken upstairs to see an area of benches for five carvers, but only two young carvers were active, using electric drills to carve pendant Buddhist and Gwan Yin faces that are popular in China, along with other religious or floral oval and rectangle pendants. They were working on about a dozen pendants each on their desk. In another room with nine desks, only one was occupied by a big tusk with a Chinese landscape being stencilled onto it from tracing paper for shallow carving, but the carver was not back from lunch.

There was a man in his 50s working downstairs in a back room producing tiny Chinese characters with a steady hand along one side of an elephant tusk that he was copying from a page of text. He let us take many close-up photographs, without being distracted from this calligraphy work of great precision.

The carving couple, like all artists, loved their work and were delighted to share their enthusiasm about it with us. They have about 12 carvers and do not use mammoth ivory due, they said, to its poor quality. They do not pay salaries but pay for what a carver produces. Generally, an experienced carver earns about USD 20,000 a year, while a less experienced carver earns about USD 12,000 a year.

They had African elephant posters on their walls promoting elephant conservation, fully aware of the animal's plight in the wild, unlike some of the

uninformed salesgirls in the large city shopping centres. They told us that the government arranges for them to donate to wildlife conservation and that this was compulsory, although the amount they donate is their choice. They were so 'in love' with their tusks that we were asked to feel and wonder at the texture of a large smooth, cool, polished tusk along its length with the full palm of our hands. For them, the animals, thanks to their tusks, can live on through art; the carvers openly expressed their reverence for the elephant and its tusks. They had a cupboard storing raw tusks to be polished or carved, and others ready for sale when the government would permit this.

A very small number of ivory carvers are officially recognized with the title 'national-level ivory carving skill inheritors'. They can earn about 750,000 yuan or USD 119,000 a year from selling their carved ivory objects. Officials and rich business people may approach them directly to carve masterpieces; the master carvers may have no work for a few days and then someone negotiates with them a top carving. These carvers are expected to pass down their skills to students to keep the techniques alive. A small number of ivory carvers whose ability is recognized at the provincial level earn about 400,000 yuan or USD 63,300 a year. All those carvers who are recognized by the government as 'cultural heritage inheritors' receive a monthly or yearly allowance from the government as a gesture of support to protect China's cultural heritage. 'These carvers are famed and respected in the profession; it is considered a glory to be given extra money from the government, joining top scientists and professors with government endorsement. In the cultural arts, if you get this you are recognized in China; for example if you are hospitalized you have the privilege of priority treatment with better doctors for operations and good wards', master carvers explained to us.



This unique newly carved ivory screen depicted the writings of a whole book. Each panel is filled with minute characters the size of a full stop, readable only with a magnifying glass.



Some of the cultured elite in China consider an unblemished elephant tusk with calligraphy and 'shallow carving' ink drawings to be the most refined of all ivory artworks.

The local government is supportive of the development of ivory carving, but the central government 'may have other considerations', we were told. 'The government in Beijing is definitely the final decision maker; local governments must carry out whatever Beijing wants'. The day after our visit, government officials from Beijing, Nanjing and Changzhou were visiting together ivory factories and shops in Changzhou in the morning to listen to the views of the ivory carvers and to help with future policy direction regarding ivory supplies and regulations. In the afternoon was to be a large meeting in Yangzhou. 'So this day will be crucial to the life or death of the ivory carving industry here, and we will certainly seize the opportunity to candidly express our views', they said.

We learned later that the central government officials indeed came to hear the grievances of the Changzhou carvers, but apparently 'they only listened'.

The biggest challenge the carvers face is receiving their required supply of ivory, and although they said there are many tonnes in the central government inventory legally obtained from Africa, the government was not selling it and without it the carvers are underemployed. Many have switched to other trades. The second problem is that ivory carvers must receive an official quota to allow them to sell their work with ID cards and without this quota their finished works have nowhere to go, even though there is a demand for them in the legal market in China.

Number of ivory and mammoth ivory items, licensed retail outlets, types of items and their prices in Changzhou

The three licensed outlets we saw displayed 218 ivory items and 31 mammoth ivory items for sale (Table 1). These pieces were mostly larger than the small jewellery items that dominated other outlets, hence explaining the smaller number (Table 11). As the owner of one establishment said, 'what a boring waste of ivory to make and sell items such as chopsticks that have no artistic merit whatsoever'. There were no shops nearby in this area of Changzhou specializing in mammoth ivory, but two of the licensed outlets had 20 and 11 mammoth ivory items for sale each.

The first retail outlet displayed 13 ivory items: 3 calligraphy tusks, 2 fans, a paintbrush holder, and 7 screens with ID cards ready for sale. The screen average size was 26 x 10.5 cm weighing 35 g of ivory as written on the ID card, and the item was held in a wood frame, priced at around USD 80,000. The *piece de resistance* on display was a screen with over 20 panels

of miniature writing. It was a huge feat of diligence to have produced this painstakingly perfect work of art that had taken him two years to finish. It was the copy of a book with each Chinese character the size of a full stop that you needed a magnifying glass to read. On each panel were also detailed coloured pictures he had painted in the shallow carving technique. It was not for sale until the master carver could receive an ID card when he planned to sell it for USD 2 million.

Prices for the usual items that were available for sale were low, being outlets next to their workshops with no extra overheads. A pair of chopsticks was 750 yuan (USD 119) and 5-cm pendants and cigarette holders both 1,000 yuan (USD 158) (Table 12). One outlet had magic balls with 30 layers out-sourced from Guangzhou for 200,000 yuan (USD 31,645), this shop's most expensive items for sale.



This ivory carving 'factory' or workshop had tusks with detailed calligraphy, screens and fans stored in a back room, awaiting their ID cards from the government before they could be distributed to licensed shops for display to customers.

Vendors' views in Changzhou

As elsewhere, the master carvers felt pessimistic about the future of China's ivory carving, saying that in whatever direction the future policy shift goes, commercial ivory trade will eventually be banned. They only wished that the government would prolong the grace period, making the implementation of the domestic ban very gradual to enable the whole ivory industry to adapt to its closure.

Our taxi driver in Changzhou said that campaigners had been advertising all over China on television and

the internet not to use wildlife products, including furs and all ivory (mammoth too). He had heard of mammoth ivory that comes 'from the north'. He had also heard Prince William during his China visit, on prime television time, talk about not buying ivory, but he still would prefer to buy a bit of ivory compared with artificial synthetic ivory, if he could afford it, 'as it is the real thing', although he found telling the difference rather difficult, except by price, he admitted.

Substitutes in Changzhou

Carvers can also use wood for 3D carving and shallow carving, but the appearance and fine detail is notably the best with ivory, they said. They can produce shallow carving also on pottery tea pots, as seen for sale in the first outlet we visited. They also like to produce rosewood and jade carvings as advertised in a brochure. Carvers in China are versatile and adaptable with their work in order to meet market demand.

Also displayed for sale here were a hippo tusk and an 'ox bone' (cow or buffalo bone) coloured Chinese

cabbage with the leaves glued together. Bone can work as a realistic alternative for ivory Chinese cabbage and composite pieces. But customers who can afford it prefer ivory.

A man in Changzhou who was wearing a rosary bracelet (also worn as a necklace) of banyan tree beads with an imitation synthetic ivory Buddhist pendant liked to think of it as elephant ivory, but he could only afford synthetic (it was 700 yuan or USD 111).



Ivory pendants are the most popular item for sale in China. Legal carvers use hand tools and electric drills, as seen here. Growing numbers of illegal processors churn them out with no skill sometimes using computer machines, to the dismay of legal vendors.



Master carvers consider nothing to be a substitute for elephant ivory, as ivory has the best texture for carving both 3D and also 'shallow carving', as seen here.



Whole, best-quality mammoth tusks can be easily distinguished from elephant tusks by their slightly spiral shape.



Some of the most commonly carved ivory animals, apart from elephants and rhinos, are those from the Chinese zodiac.

Hangzhou

Hangzhou in Zhejiang Province (see map), situated 150 km south-west of Shanghai, is considered one of the most beautiful cities in China. Tourists come to enjoy the lakes, gardens, temples and museums. The city is surrounded by lush vegetation, hills and valleys. Chinese poets and artists have proclaimed the classic beauty of Hangzhou for centuries. The

History

Hangzhou had its city wall constructed in 591 AD during the Hang Dynasty. The city was at the southern end of the ancient Grand Canal waterway that originates in Beijing. It is considered one of the Seven Ancient Capitals of China, being made the first capital of the Wuyue Kingdom in 907 AD, whose leaders were noted patrons of the arts. It was later the

Ivory carving in Hangzhou

We found the city's one licensed factory in a hilly tea-growing area. It was situated unobtrusively in an unlikely block of flats where a direct neighbour did not know of its existence. We finally met two young apprentices who worked and lived there. We briefly saw their workshop beyond their bedroom with two desks, each having the usual angle-poise lamp lighting their tools and ivory dust on their tabletops.

Both students had learned fine art at college and, at the suggestion of their teachers, they were learning to carve, to carry on China's carving tradition, using both wood and ivory, but not mammoth ivory. They stated they much preferred elephant ivory as it is the most refined in composition, allowing one to carry out meticulous carving. They carve small items such

city has a population of six million. It is a wealthy city thanks to its tourism and it is a popular destination for conferences. Hangzhou has one licensed ivory carving factory and four retail outlets licensed to sell ivory items (one state owned), as well as several shopping centres specializing in antiques where small illegal ivory items and worked mammoth ivory tend to be found.

capital of the Southern Song Dynasty in 1132 AD and grew as a major commercial and cultural centre. In the early 1860s most of the buildings were destroyed and many people killed during the Taiping Rebellion. It was taken over again in 1949 by the People's Liberation Army when the city, as everywhere in mainland China, came under communist control.

as pendants. Acceptingly, they were not worried if the supply of ivory stops as they can carve other materials. When these two graduate students started their apprenticeship, they received 500 yuan (USD 79) a month, plus board and lodging. It is not a profession that makes money quickly. A master carver was teaching them at his apartment 'to keep the carving tradition alive'. One apprentice had started six months ago and now received 1,500 yuan (USD 237) a month; the other had lived there training for two years and now earned 2,500 yuan (USD 395) a month. Their supervisor, aged 33 and with no children yet, was a fourth generation carver. He had learned carving in Beijing from two masters who taught him the techniques to carve imperial figures and Gwan Yin statues, which were now his speciality.



The finest carvings are never sold by weight, but according to beauty and exquisite intricacy of the piece. The number of top master carvers, however, has shrunk considerably since the 1980s.

We later met another master carver in the city who was 63 and had started using ivory at age 13, helping his carpenter father with ivory inlay. He showed us in his shop some of his ivory items for sale, pointing out his fine workmanship, noting the sensitive facial details and flow of the gowns of his statues. The beads of his bracelets were hand carved with a slight irregularity, ‘far superior’, he proclaimed ‘to regular machine-made beads’. He mentioned, ‘I do not have a preference between types of elephant ivory. But I can tell with a chisel on a sector of tusk whether the elephant has died years ago or died more recently—

the former is more powdery, the latter is better and fresher’.

You can often recognize ivory carvers by their clean, well-kept hands and nails, but master carvers may also have small cuts on thumbs and finger tips from using a chisel and hammer for achieving precise initial sculpture shapes, as with this master carver who showed us his cuts. He explained he never uses computers and machines to churn out poor-quality items as do the illegal, fast processors of ivory.

Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Hangzhou

We counted on view for sale 1,129 elephant ivory items and 619 mammoth ivory items in 80 retail outlets (67 with elephant only, 11 with both and 2 with mammoth only) (Table 1).

Hangzhou has four currently licensed retail outlets, but only three were found at the addresses on the official list. Another previously licensed large and expensive gift shop had given up ivory and had mammoth ivory only for sale, along with other valuable ornaments. The first licensed outlet had 439 ivory items, the second had 113 ivory and 184 mammoth ivory objects,

while the third had 32 ivory and 85 mammoth ivory items on display for sale. Thus 584 ivory items were being offered legally for sale and 545 offered illegally, the latter mostly jewellery (Table 13), old and new, in about equal numbers, in the antique/curio/jewellery stalls in the antique centres. These unlicensed small outlets sold only a few ivory items and very rarely mentioned the word ‘mammoth’. Two of the three licensed outlets we visited were selling 269 mammoth ivory items; two shops specialized in mammoth ivory alone with 302 objects, and the remaining 48 items of mammoth ivory were sprinkled elsewhere.



A pendant of a Gwan Yin face was being offered illegally in a shopping centre selling curios, gifts, jewellery and antiques. It was being sold according to its weight, as seen on the scale (29.8 g).

Of the licensed shops, one was on a wealthy shopping street, selling high-quality carved ivory at very reasonable prices. Another was state-owned in a shopping centre, where a vendor remarked he had been working for a year during which time prices for worked ivory and mammoth had remained the same. The third was in a smart shop in a shopping centre specializing in antiques and displayed both ivories, as well as stone and wood carved items.

Vendors in one legal outlet said that when ivory and mammoth ivory items were sold off, they would not be replaced and they would probably close down the shop. Another vendor remarked the legal outlet had sold nothing but an ivory cigarette holder for 3,000 yuan (USD 477) in the past 10 days. She said this reflected the poor sales of both ivories. She said correctly, if you wished to buy mammoth ivory there was very little in the city available except in the licensed outlets.

In an unlicensed outlet displaying ivory, a shopkeeper, hoping for an ivory sale, brought out from a drawer a selection of illegal new ivory figurines that were bigger and more expensive than the display items. The illegal ivory prices were lower than illegal for these with an oblong 5-cm pendant offered for 1,000 yuan and she would reduce it to 900 yuan (USD 158 to USD 142). She said the carvings were from Fujian Province.

A carver working at a nearby small outlet was selling

pendants, mostly stone, but he offered an ivory oblong one for 2,600 yuan reducing it to 2,300 yuan (USD 411 to USD 364). New illegal ivory pendants were mostly offered by weight starting around 42 yuan/g but negotiable to about 35 yuan/g. They were weighed on a small scale on the desk and priced. They are sold by weight, being quickly made, not skilfully carved. There was a Gwan Yin face pendant of 30 g for 1,050 yuan (USD 166) and a Buddha face of 15 g (511 yuan or USD 81). One shop girl offered her ivory bangles, bracelets, necklaces and pendants at 30 yuan/g (USD 5/g). Items that were old, such as chopsticks, were generally less than half the price of a new pair, about 1,200 yuan (USD 190).

In these small illegal outlets, sometimes carvers or travelling salesmen offer shop owners their ivory items to display for sale, negotiating a price. Sometimes among jade bangles in a jewellery shop would be an ivory bangle to attract the eye of an interested customer, but the vendors were cautious to disclose the price or say what it was made of to us, presuming we were not actually interested in buying the ivory bangle. Some were also fearful of wildlife protectionists and journalists. Ivory is not seen for sale in areas popular with foreigners in order to avoid a negative press, but this practice makes sales more difficult, we heard from some vendors, who largely must rely on local market demand.

Prices of ivory items varied from USD 40 for a new illegal tri-hole rosary toggle to USD 149,684 for a

legal large carved tusk (Table 14). We did not see very large carved tusks. Prices of legal and illegal items were sometimes the same, such as for charms, but for new ivory pendants, prices could be 80% less for the poorer quality illegal items. Mammoth ivory netsukes were similar to those of ivory, but could be half the price for tri-hole toggles at USD 19 (which was the cheapest item priced of mammoth ivory). The most expensive mammoth ivory pieces were a carved tusk and a polished tusk pair of the same weight priced similarly at USD 90,981 and USD 90,633 respectively.

Vendors' views in Hangzhou

A master carver/vendor we talked to was very proud and passionate about his work as he maintains a traditional art form 'in a country that is fast copying the West', he lamented. 'People who can afford luxury items nowadays prefer to shop for Western brand names that are the same everywhere. Poor-quality Chinese disposable goods are in high demand also, whereas my ivory carvings are of unique beauty and will last forever', he said praisingly. The difficulty, he said, is in keeping his livelihood and skills alive for future generations, with so much pressure against ivory. He sees a gloomy

future, unless the government thinks out workable solutions clearly 'without being pressurized by politics and economics, but considering what is best for the cultural heritage of China and encouraging some to continue this art form'.

In a Tibetan unregistered outlet, the vendor admitted that his ivory items (mostly old) should not be on sale as the law does not allow this. When asked why he was selling them, he justified it by saying that it was Tibetan and elephant ivory has long been part of their culture.



Carvers/vendors were struggling to sell their ivory items due mostly to the economic slowdown, even in the less expensive private licensed outlets, such as this one.



These bamboo cricket holders (with the antennae of one cricket visible) had ivory lids, although often those seen for sale in bamboo and wood shops have synthetic ivory lids: the vendors sometimes do not know the difference!

Substitutes in Hangzhou

In the many small outlets in the shopping centres specializing in antiques, we found synthetic ivory items that some claimed were more durable than ivory, not changing colour with age. Some of these were faked to look old (stained and cracked), such as large beads on necklaces and pendants. We also found pieces of antler, with their spongy bases and distinct knobby edging, carved into pendants.

In a Tibetan shop were so-called wolf teeth that some men wear as pendants selling for 1,000 yuan (USD 158) each and leopard teeth for 1,500 yuan (USD 237) each. These shops often sell yak bone jewellery. Tibetan sellers, who on certain days in shopping centres specializing in antiques can display their wares laid out on pieces of cloth on the ground, pretend their large bangles are ivory, but they are synthetic. One tried to sell to a Chinese man a fake ivory bangle for 12,000 yuan (USD 1,900) which the customer took into an antique shop for a second opinion and negotiations carried on with no conclusion witnessed. These artificial ivory bangles were also selling as yak bone, although yaks do not have bones of that circumference, and the bangles did not have joints. Fake synthetic ivory disc pendants were selling for 5,000 yuan (USD 791). Customers often enjoy the thrill of seeking out an authentic item among the

Tibetan pieces on view, aware of the risk, but hoping for a rare find. These floor stalls were attracting more Chinese customers than the curio shops around them.

In a jewellery outlet were four saiga antelope horns with hair attached selling for 700 yuan (USD 110) each. In many of the small jewellery stalls were trays of beads, and at first glance some looked like ivory. A synthetic tri-hole of an average 3 cm was 25 yuan (USD 4). Pricing an item in such a shop can be a simple way to tell if it is ivory or not. Most bead sellers are honest about the material types, such as coral, shell, porcelain, wood, plastic. When made into jewellery, ivory and similar-looking beads may be combined with semi-precious stones or coral; the price will be decided by the more valuable stones not by the small ivory or ivory look-alike beads that are used as fillers. Some shopkeepers in curio shops, either accidentally or on purpose, especially with second-hand items, muddled the materials or admitted ignorance. A rhino carving was said to be made of whalebone when it was actually mammoth ivory. Hippo ivory was rarely mentioned, but there was a pair of pre-1990 quail unusually carved from hippo ivory (10 cm each) for 6,000 yuan (USD 949).



Suzhou's famous ivory fan-carving factory no longer has a licence to make intricate ivory fans, such as this one, nor ivory screens. Below, is a young artisan making a wooden screen.



Suzhou

Suzhou, only half an hour on the bullet train west of Shanghai in Jiangsu Province (see map), with a population of 1.5 million, is well known for its water gardens that attract many tourists. The city is a

famous intellectual centre where the arts flourish. It is one of the most highly developed and prosperous cities in China. Suzhou has one licensed ivory carving factory with a licensed ivory retail outlet.

History

Suzhou is one of the oldest continually inhabited cities in China. In the 13th century, it was a merchant city famous for silks and textile production. During the Ming Dynasty, it reached its peak in prosperity being a major producer of handicrafts. Artists, scholars and wealthy individuals were attracted to Suzhou for its cultural activities. Canals and water

gardens were built, with bridges and pagodas, as well as temples, creating tranquility and beauty. Over the years, silk production remained the main source of revenue. Since the 1950s, the government has also supported cotton textiles, lacquer and wood handicrafts, as well as modern industries.

Ivory carving in Suzhou

There are 20 ivory carvers in Suzhou's single licensed ivory workshop, which is situated above its legal retail outlet. We could not see the carvers, as we might 'spoil their focus on their detailed work as they are not used to visitors', the vendor claimed. The carvers also work from home on wood carvings, but carry out their ivory carving in the workshop. We visited a famous fan factory near the Arts and Crafts Museum that was a joint venture with this outlet owned by several private investors. The artisans carve jade, wood and bamboo, but the focus is still fan making, and they insert tiny pieces of ivory for decoration in some of their fans. In the 1980s fan makers here carved whole ivory fans when it could take a carver using hand tools a whole month to complete just one fan rib for a fan consisting of 32 ribs (Martin 1988), but now wooden fans have taken over.

Fans are in huge demand so most of those on sale in Suzhou are mass produced. The flat fan called the court fan is famously made in Suzhou. Batches of 200 made of wood and bone may be factory produced with a single design, selling cheaply compared with hand-made fans. In the 1980s and 1990s there were 300 employees but now there are only about 100 fan makers in the factory. We watched four women artisans making miniscule holes through the wood ribs and also painting fans. Some fans were displayed for sale. The artisans also make miniature wood screens, inserting very small pieces of bone or ivory, but not mammoth ivory, they said.

Ivory carvers in Suzhou may earn about 150,000 yuan annually or double in a good year (USD 23,734 to USD 47,468). They work on other materials to guarantee their income level but do not carve mammoth ivory.

Number of ivory and mammoth ivory items, retail outlets (licensed and unlicensed), types of items and their prices in Suzhou

We counted in the one licensed retail outlet 108 ivory items and in its 'sister' fan outlet (which did not have its own licence, another four items. The licensed shop also had 18 mammoth ivory carvings. During our one-day visit, we saw no other worked ivory or mammoth ivory for sale in the central tourist area of the city.

The licensed retail outlet offered ivory bangles, charms, necklaces, pendants and figurines/figures

(Table 16). There were also a boat, cigarette holders, chopsticks and name seals. From mammoth ivory 18 small sculptures with the recognizable brown edging were in a separate table cabinet (Table 16). These carvings ranged in size from 5 to 20 cm and were mostly of animals. It was difficult to survey the elephant ivory items thoroughly as the vendor grew suspicious and turned the lights out in the elephant ivory cabinet permitting us to see only the mammoth ivory items.

The sister outlet had four traditionally made fans of wood with very small ivory inlaid pieces among others hand-carved of all wood.

Items in the licensed outlet were labelled with prices in yuan. For ivory they ranged from USD 98 for a

tiny foot charm to USD 8,703 for a figure (Table 17). For mammoth ivory the sculptures ranged from USD 506 to USD 5,316 (Table 18). The mammoth ivory sculpture display had been there for only six months 'to follow the other players in the industry and try it out'.

Vendors' views in Suzhou

A vendor remarked, 'the ivory business is quite good', as Suzhou, like Changzhou, is famous for ivory and there is a love for the material here. Families revere and support the arts in this city, especially artistic practices going back thousands of years. The vendors said they were worried they would not get enough elephant ivory in the future to run the business adequately, but they still had stock for the time being. They complained that business was not good for mammoth ivory: 'elephant definitely sells much better'. They could not remember selling a single mammoth ivory item during their six-month display.

Sales of the highest-quality fans with ivory have been falling over the last 10–20 years. People now have air-conditioning and they prefer to spend their money on the latest iphone as a sign of merit or status, we were told.

A vendor also remarked, again using the iphone analogy, that in Suzhou economic changes in society had been massive in the last 10–20 years and as a result, 'ivory items here are treated like iphones, with people obtaining the very best. Worked ivory sales have increased among the art-loving people of Suzhou who can now afford these pieces.'



Fans with ivory pieces, one seen here, are rarely for sale nowadays compared with factory produced fans that are a fraction of the price.



Many tourists visit Suzhou, famous for its water gardens and unique stone features, attracted by the culture and beauty of the city.



Pairs of walnuts, like ivory hand balls, are sold for exercise and finger dexterity. These, along with walnut carvings, are a popular alternative to ivory.

Substitutes in Suzhou

The largest items seen for sale were human figures 30 cm high using red sandalwood instead of ivory for the body and only ivory faces and hands as a way to save ivory. Some woods, like ivory, are considered very valuable. Small 1-2 cm bone pieces are most commonly inserted into the famous wooden fans as replacement for ivory. The one

licensed ivory shop sold court fans mass produced with bone, the vendor stated. Before experimenting with its worked mammoth ivory display, this shop had also displayed jade, wood and walnut carvings that sold much better than mammoth ivory, we learned, and the shop may return to selling these items again.



This mammoth ivory figure from Chinese folklore is wrapped in plastic, as is usual for most new items for sale, to prevent desiccation and cracking. This is also the reason why display cabinets of both ivories usually have a glass of water inside them to counteract the dry air of Beijing.



Vendors of antiques and old ivory items, as above, generally said that prices had remained the same for their ivory items, along with all their antiques. Due to the economic slowdown in the past year or two, sales have been poor.

Beijing and Shanghai retail ivory price trends, 2014–2015

We spent five days in Beijing (see map) at the start of our visit to China and four days in Shanghai at the end, collecting ivory price data in both cities. We did not carry out a count of all shops and items found with average prices as we had already conducted such a survey in May 2014. This time we needed specific price data to see if there had been any changes in prices following the recent anti-ivory campaigns, high-level political involvement, China's crackdown on corruption and expensive gift giving (Gao and Clark 2014), and the recent economic slowdown in the country. Thus we re-visited outlets where we could compare prices of a cross-range of

identical ivory items in some of the same shops seen before (Vigne and Martin 2014b).

Photographic evidence proved the most foolproof way of comparing items with price labels attached. Despite vendors' frequent and increasing concern over photography, by being sensitive, we were able to update our photographs to enable price comparisons. Realizing that we would have difficulties in re-visiting some outlets so soon after our last visit, we avoided places where we would be recognized by a vendor who would be suspicious and not compliant.

Beijing's retail ivory price trends

Beijing, the capital of China, currently has a population of 20 million. It is famous for its ancient sites and nowadays also for its modern

architecture. It has 8 registered ivory factories and 39 licensed outlets, down from 10 and 45 respectively in 2014.



Beijing's state-owned shops sold the largest and highest-quality ivory items, compared with other outlets. Prices for the same tusks had not changed from mid-2014 to late 2015.

History

Beijing's recorded history stretches back three thousand years. Since 1272 the city has been China's political capital for most of this period. In the 15th century, the famous Forbidden City complex was built, which included royal workshops, some carving ivory. In 1912, after the Chinese leaders declared China a republic, the emperor abdicated. The ivory workshops continued, but were no longer supported by the royal family. In 1949 the Communists took over the government; the new regime destroyed the outer wall of the city

as well as many traditional archways and houses in order to modernize Beijing. Some handicrafts continued, such as carpet making, jade work, lacquer production and also ivory carving, supported by the new government that promoted, for example, artworks of revolutionary figures. During the government's Cultural Revolution (1966–1976), there was a lull in certain arts in the capital, and all over China, although ivory continued to be carved in some government factories, primarily for export to earn hard card currency.

Ivory carving in Beijing

Many of the carvers, we were told, are now working in Guangdong and Fujian provinces where the climate is moist and better for carving. In Beijing, carvers said, skills have been passed down from the imperial courts of past dynasties, but as there are few master carvers now, it has become increasingly difficult in recent years to obtain the most skilfully made new large sculptures. Many more small legal items such as pendants, including miniature magic balls for USD 71, are instead being machine made in the south for the popular market, purist master carvers in the north commiserated.

About 20–30 years ago apprentices put their heart and soul into their carving. Today there is a drain of those learning traditional arts as society is now more

money orientated and few want to learn laborious skills. 'How can you expect young people to be so devoted to this career?' an older carver sympathized. 'It is the skill, passed down for generations, not the material itself, that is the most valuable. Many of the best ivory items seen today for sale were made before 2000.' A 52-year-old woman carver said hers was a family trade and she did intend to pass her skill to her son, 'but we have to surrender to reality. It is upsetting. I earn USD 411 a month. The company wants me to work as a saleswoman for ivory items, rather than to carve in their ivory factory, as I can sell more than others, having the knowledge to express to potential customers about the carvings. My son, meanwhile, is 27 and earns USD 3,165 a month working for a petrol company.'

General observations in Beijing regarding retail outlets

We returned to eight licensed retail outlets specializing in ivory. We chose a cross-section of state-run and privately owned shops in both new, expensive shopping malls for businesspeople and rich officials, and in older shopping centres specializing in antiques and curios. We also visited retail outlets selling illegal ivory items, although it was more difficult in them to get price comparisons as the scattering of old and new illegal ivory items on display in the shops and stalls varies, and items do not have price labels. We also compared prices of mammoth ivory items.

Our main overall observations were that the displays, especially of licensed ivory items, has shrunk, and vendors confirmed this, saying they were moving into other items. Some licensed private ivory specialist shops in Beijing were not even bothering to open on a daily basis due to lack of business. Smaller, sometimes dubious, mammoth ivory specialist outlets seen in 2014 had closed down entirely by late 2015 or were selling mostly jade instead. Illegal ivory items both old and new were less frequently seen in the shopping centres specializing in antiques.

Worked ivory retail prices in Beijing, 2014–2015

Prices were nearly always given in yuan and a range of exact ivory items we could compare remained the same. In US dollar terms the price had fallen very slightly. In 2014 the exchange rate was 6.1 and in late 2015 it was 6.32 to the US dollar (Table 19). Ivory items that we could compare ranged from the less expensive objects such as jewellery (bangles, beaded necklaces and pendants) to certain figures and carved or painted tusks. An ivory carving of a specific banana, for example, remained the same yuan price, as did certain pairs of chopsticks, magic balls, name seals, and at the most expensive end, full ivory walking sticks and a traditional ivory sword (see Table 19). Most vendors confirmed that there had been no change in prices, either up or down. The market was stagnant because of the slowdown in the Chinese economy. They regretted prices are determined by the initial cost of the raw material for

the carving. So, as the raw material was bought at a high price, prices for the carvings corresponded, vendors explained. They did not mention to us that they were keeping prices high because they were hoping for government compensation.

Prices remain the highest in the state-owned outlets in expensive malls where the newly rich customers come to shop. They need clearly labelled items to be sure they are buying genuine ivory. These customers like to receive extra help in buying an authentic ivory piece and are prepared to pay the premium. This is unlike collectors or other experts in ivory who take the greater risk of shopping in the least expensive markets and shopping centres, being able to differentiate real ivory from fake materials, as in other cities we visited.



In some outlets, the number of cabinets displaying ivory objects had been reduced noticeably between 2014 and 2015, especially in the state-owned shops.

Worked mammoth ivory retail prices in Beijing, 2014–2015

Many of exactly the same mammoth ivory new pendants also remained the same price in yuan during this 18-month period. For example, 2–3-cm pendants, were 1,500–2,000 yuan, giving average prices of USD 287 in 2014 and USD 277 in 2015. The 4–5-cm size ranges that we priced remained from 2,400–3,300 yuan or an average of USD 467 in 2014

and USD 451 for those same pendants in 2015. The Chinese do not convert such items into US dollars so for them, in their currency, the prices remained the same over these 18 months. For a foreigner converting US dollars to yuan, the price for such pendants had fallen little due to the tiny devaluation of the yuan against the US dollar. This difference is insignificant.

Vendors' views in Beijing, 2014–2015

Generally customers could be offered a 20% and sometimes a 30% discount on marked prices for luxury items of both ivories, as we had been told in 2014. Business in general was poorer now, vendors all confirmed. The economic slowdown plus the cutback in ivory buying for official gifts with the anti-corruption drive were both mentioned as the main problem, along with a general gloom in buying worked ivory as a good investment, due to the uncertain future for the ivory industry with the government then showing signs of prohibiting it.

In a shopping centre specializing in antiques, we were told if we wanted to buy an antique ivory item from the Qing Dynasty (in reality rare to find) it would be no problem for the vendor to send it to

us abroad by express delivery if it were a small item only, and that it would not have to be declared at Customs. While new items have clear rules, vendors selling antique or old ivory are more relaxed about selling it to foreigners, claiming special receipts are not needed. Unlike new legal ivory items, which have ID cards, the old items do not, so technically, as in the other cities visited, it is illegal to sell them. In practice there is still a scattering of them on display—usually old, rather small worn-out name seals and cigarette holders, for example, that are priced more cheaply than new ones. Some obviously new small illegal ivory items were occasionally seen in a curio shop. There appeared to be fewer of them than 18 months previously, perhaps as safer online sales have become more popular for illegal ivory



In 2014 this shop specialized in worked mammoth ivory, but in 2015 switched to more profitable jade. It still had a few mammoth ivory objects for sale, but the vendor said the new rosary necklaces, seen here, were made of elephant ivory (all illegal).



Chinese artisans are famous for producing miniature ivory items, as seen here in a state-owned outlet. The writings in the left picture are in a container with a magnifying glass. These items require little ivory and are more affordable (USD 278 for the little books on the right), compared with the large carvings in the state-owned outlets.

trading. This is an extremely important question that needs to be addressed and dealt with by the government for effective law enforcement. Online sales have been negatively affecting the legal ivory trade and thus the legal master ivory carvers and vendors are suffering, they lamented.

The large shopping malls that we visited usually had many more vendors than customers, similar to 2014. It is difficult to understand how the shops can survive with so few sales. Some of the expensive gift/curio outlets in the newest, plush antique centres had indeed closed down since the boom growth witnessed up to 2014.

Vendors in the more established outlets were quite philosophical about the general lull in sales. It can take a while to find a buyer for expensive items at the best of times, let alone during an economic slowdown, some replied. In the 1980s many of the highest-quality ivory figures were exported to Japan (in those days the Chinese could not afford such works of art and it was before the CITES international ivory ban). But now shop owners are aware that their market is nearly all within the country among the growingly prosperous people of China. Thus, they were waiting for the economy to pick

up to sell more of their ivory and mammoth ivory items. Vendors in general did not feel pressurized to offload urgently their ivory items, whether small or large, by reducing prices.

The big change, especially with the large state-owned, ivory outlets, was that they were now displaying considerably more mammoth ivory items than elephant ivory, or were reducing floor space for ivory to other merchandise. Certain vendors remarked that as they sold off their worked ivory, the items were not being replaced. Some believed that if the government increased ivory restrictions, it would be by reducing future production of items first, before legal retail sales would be stopped, so they felt no pressure to slash prices.

Owners of mammoth ivory outlets to whom we spoke in Beijing were not fearing a ban on mammoth ivory items in China as they were confident about selling their items, despite the economic slowdown in China because mammoth ivory can be imported into and exported from China to sell abroad. Some of the big specialist mammoth ivory outlets have branches in Western countries, as well as in Hong Kong, so they can offset the current economic slowdown in China with sales elsewhere.

Shanghai's retail ivory price trends

Shanghai (see map), on China's central coast, has a population of 25 million and is the country's largest city and financial hub, specializing in industry, communications, transport, and today supporting both Chinese and Western cultural activities. The famed waterfront promenade, with its colonial buildings, overlooks the Huangpu River and the

futuristic skyline of Pudong that was started in the 1990s. Shanghai people are considered to be some of the best educated and most cosmopolitan in China. The city has three registered ivory factories and 13 licensed outlets, compared with the same number of factories and 15 licensed shops allowed to sell ivory in 2014.

History

Before the 18th century, most of the land around Shanghai was cultivated for cotton; 20 million people in the region were cotton spinners. From the mid-1800s the government was forced to open Shanghai to foreigners to trade and settle, and the economy subsequently expanded. Its port became the largest in China. In the 1890s the city started to become a major industrial centre with much foreign

investment. By the 1930s the Japanese managed half of Shanghai's yarn and textile enterprises. There was also extreme depravity with many thousands of opium addicts and many young children working in slave-like conditions. During the Second World War, much of the city was destroyed. When the Communists took over in 1949, the new government dramatically reduced the city's social decadence.



A mammoth ivory bangle has V shape criss-cross lines at the top.



This was an illegal elephant ivory bangle offered for sale at an itinerant seller's stall in a mall.



This legal elephant ivory bangle had its ID card displayed behind it.



A man took off his bracelet for a photograph, showing if worn extensively the ivory condition deteriorates; so those people with ivory jewellery do not normally wear it frequently.



It is difficult in Shanghai to attract young ivory carvers into the profession these days, as it requires years of apprenticeship. Many fear, even without a ban on ivory, some traditional carving techniques will be lost. Most young ivory carvers concentrate on making small, simple items such as pendants, as seen here.

Ivory carving in Shanghai

We interviewed a master ivory carver who was also an engraver. At the time of our meeting he was engraving a stone name seal. He was part of a licensed workshop with about 10 ivory carvers engraving name seals made of ivory and other materials. He said for carving he prefers elephant to mammoth ivory, finding these two ivories generally very different.

In Shanghai the ivory carving industry, he said, was facing a crisis as it lacks ‘new blood’. There is little incentive to take up this profession, he commented, even without the uncertain future of the ivory industry. Young people here have more opportunities and choices for jobs and are unwilling to become ivory carvers, even if they have family pressure from parents who want to pass down their skills and techniques, as we were also told emphatically in Beijing. There are more people carving ivory in Fujian and Guangdong provinces, and in Changzhou, where carving is promoted with the most skilled carvers receiving adequate local government support for their traditional carving. Shanghai is a city of financial more than cultural interest and does not have a long history in ivory carving.

We learned that the SFA had not been giving the factories in Shanghai more supplies of raw ivory in 2015, strictly regulating the market generally so that carvers have only just enough to get by. Their main issue, as elsewhere, was thus lack of supply of the raw material.

The carving style in Shanghai is called by some ‘cute’, with smooth egg-shaped carvings of babies or old men, for example, as well as pleasant natural items, such as lotus leaves, bamboo shoots and seedpods (the latter representing lots of children, thus more blessings and happiness)—items popular in *fengshui*.

We met a young ivory carver in a large licensed factory working on a floral pattern of a round pendant with an electric drill. He was in a well-equipped, modern, spacious room with rows of desks, but only a few artisans were present. He said he likes carving ivory and has never tried mammoth ivory. He was aware of the current scarcity of elephant ivory as allocated by the government, and that supplies have not been forthcoming in recent months, and he remarked fatalistically that he had ‘no idea of the solution: the management will decide’.

General observations in Shanghai regarding retail outlets

We re-visited nine licensed retail outlets specializing in ivory. We visited a range of shops from expensive to cheap to obtain a variety of prices for comparisons with prices 18 months earlier. Often it is the location that determines the price, and also the company name, with well-known

shops selling many items being able to charge more. Shanghai’s government-run Friendship Stores have outlets that are considered to carry the most expensive worked ivory in Shanghai, with the greatest range of items and sizes of objects, from large, best-quality full tusks—either 3D carved, with shallow



This outlet previously had sold mammoth ivory carvings, but had given it up for other materials, such as wood. On display also was a large dragon boat, unusually made of walrus ivory, the vendor said.

carving calligraphy, painted, or simply polished—down to the tiniest of pendants or charms. Items that were exactly comparable in these outlets were, as in Beijing, still priced the same, but some outlets no longer had certain types of items on display or in stock, such as cigarette holders, walnuts and cicadas. When sold off, certain items were not being replaced.

Several other licensed ivory retail outlets, mammoth ivory outlets and also illegal stalls in large shopping centres specializing in antiques are found around the tourist areas of Fanbang Road and Yu Gardens. Chinese visitors throng to see the old Chinese gardens with temples, rockeries, water features and wooden bridges, enjoying the beauty and peacefulness of Shanghai's long-ago artistic culture. This is in sharp contrast to the surrounding towering new buildings, shops, and endless traffic. Although tourist shops here sell cheap souvenirs, certain small curio shops in the area offer collectors' items, antiques and jewellery where ivories can be found.

Itinerant salesmen who travel from city to city are allowed to set up stalls in some of Shanghai's antique

centres during special fairs. At one such fair during our visit vendors sat at a row of tables with jewellery and artefacts, including the odd ivory item, especially new pendants.

Vendors selling mammoth ivory items in reputable outlets, as in 2014, have special green identity cards stating the items are genuine mammoth ivory, and we were told that with this card we would not be harassed if stopped at Customs. These cards are not official or compulsory to display (unlike the official ivory ID cards), but they are a tool to aid sales to customers who want a genuine mammoth ivory item from a well-known outlet. The largest such shop focuses on the best and most skilled big carvings and does not make or sell mammoth ivory processed into jewellery, which the salesmen consider a waste of the material.

With the threat of restrictions and official inspections increasing, the dubious outlets selling worked mammoth ivory as a cover for elephant ivory 'under the counter' that we had witnessed in 2014 had mostly closed down in 2015.

Worked ivory retail prices in Shanghai, 2014–2015

As in all licensed outlets, the presence of the official ID card increases the value of an item as it shows it is genuine ivory. Prices of ivory items in yuan remained the same for items such as plain and carved bangles, babies' bangles, beaded necklaces and both smaller and larger pendants. Vendors we spoke to said prices had not been changed for any of their items, as in Beijing. We found prices were identical also for certain cigarette holders, chopsticks, pairs of handballs (used for exercise), name seals, and also certain paintbrush holders, and standard-sized

composites (Table 20). The most expensive item seen was a 32-layer magic ball for USD 39,557 (Table 20). The Friendship Stores displayed several of the same ivory items, all with unchanged prices. As before, the cheapest ivory items were found in shopping centres specializing in antiques, markets and temporary fairs, where a large 5-cm carved oblong pendant of ivory was offered to us for USD 189, the cheapest such pendant by far in Shanghai, whether for ivory or mammoth ivory.

Worked mammoth ivory retail prices in Shanghai, 2014–2015

Some vendors said that retail mammoth ivory prices had been catching up with those for elephant ivory. One vendor in a shop licensed to sell ivory (that sold both materials as did most of them here) said their mammoth ivory items had gone up by 10% this year. Salaries in China had been rising, but he could still offer us 20% off, he said. Mammoth ivory items still priced the same in a range of shops were bead bracelets for 7,500 yuan (USD 1,187 in late 2015) and specific designs of charms/small pendants

averaging at 717 yuan (USD 113 in late 2015), as well as netsukes for 1,400 yuan (USD 222). An extremely large item seen in mid-2014 in a mammoth ivory specialist shop was a 296-cm carved tusk that had the same price label in late 2015, still at 6,500,000 yuan (USD 1,028,481 in 2015). Another very large carved tusk of 275 cm in the same shop (the original tusk as marked inside having been 79 kg before carving) also remained 9,600,000 yuan (USD 1,518,987 in 2015), the most expensive item in Shanghai.

Vendors' views in Shanghai, 2014–2015

In 2014, a vendor explained that he often displayed his ivory items beside mammoth ivory items that he would sell for slightly less if a customer could not afford ivory. Now, as worked ivory is not being replaced in this state-owned shop, the vendor has little choice but to promote mammoth ivory, 'as the state will probably ban the selling of elephant ivory for good'. Vendors generally thought this a pity, as items such as the intricate multi-layered magic balls 'are best made from elephant not from mammoth ivory and uses a secret technique of carving originating in Guangdong Province that would be a tragedy to be forgotten', they lamented. Some salespeople were disillusioned, saying that maybe, in two or three years' time when we come back, their outlet would not even be there.

Vendors were strongly aware of President Xi's state promise, 'whose words cannot be changed and must be honoured', regarding ending the domestic ivory trade, they stipulated. Customers will have fewer ivory items to choose from in the future, as they will gradually run out in the shops, they believed.

In 2014 the local police raided antique/curio shops and arrested certain owners in the Fanbang Road/Yu Gardens area, as they were selling illegal ivory items. Officials destroyed the confiscated ivory objects by publically burning them. This caused vendors to feel that most probably the state would indeed soon ban the selling of all ivory items to stop enabling sales of displayed illegal new ivory items.

A European saleswoman in her antique shop displayed antiques imported legally from Europe, including a few of antique ivory. She said displaying her items for sale was no issue legally as she buys her items in Europe with correct documents giving the provenance of each item. She was concerned, not about the few genuine ivory antiques for sale in China, but about antique fairs where, for example, in Beijing she was 'shocked by

the number of criminals selling new ivory items with nobody stopping them'.

Customers vary in wealth and education, vendors commented. Indeed, in one outlet was a less rich woman who had travelled from the north to see the Shanghai ivory items, taking buses to the different specialist shops. She was looking at paintbrush holders with calligraphy on them—an educated woman who loves calligraphy ivory carvings. Most vendors market items to customers by claiming they will increase in value. This is especially so if the item is kept in its plastic wrapping and near a glass of water to protect it from dehydration and from cracking. Ivory jewellery is often sold simply as an ornament and not to be frequently worn as it can become discoloured. Likewise, utilitarian items such as combs are offered as artefacts, not for use, so as to preserve their value.

Some vendors were fed up with Western opinions, saying Westerners do not understand that ivory carving is a tradition several thousand years old. 'It is really difficult to explain this to foreigners—just like they eat beef. Shall we protect oxen and stop them from eating beef? Sometimes Western foreigners go too far', a frustrated vendor argued!



Shanghai is not famous for ivory carving, but does produce these egg-like babies.



Mammoth ivory calls for carving versatility, uniqueness and, often, some colouring in larger items. Creativity is necessary to cover the brown streaks and cracks typical in this type of ivory.



A new hunting knife with a mammoth ivory handle was offered for sale at USD 30,000; nouveau riche Chinese are able to afford such objects, but few are actually sold.

Discussion

In the six cities surveyed, we counted 3,378 items in 159 licensed and unlicensed outlets. Of these items, 2,318 were in 18 licensed outlets surveyed (out of 23 registered in total). Thus, 69% of the ivory items seen for sale in these 18 licensed outlets made up 13% of the items in the legal and illegal outlets seen with ivory (Table 1).

The remaining 31% of ivory items were seen for sale in the other 89% of outlets with ivory that we found. These outlets consisted of antique/curio/gift shops; jade, wood or jewellery shops; stalls of itinerant travellers; and outlets within department stores and shopping malls or tourist markets.

In the six cities, 141 (or 89%) non-licensed outlets were seen offering ivory for sale illegally, although these shops had on display for sale only an average of 7.5 ivory items each, compared with 129 legal ivory items counted on average in each of the licensed outlets. This equates to 31% of the ivory items counted being illegal versus 69% legal.

Thus, there was a far greater number of illegal outlets displaying a fewer number of items compared with legal shops.

These legal shops were mostly ivory specialist outlets, hence the large number of items. They sold almost all recently carved objects. Virtually all the large items (over 20 cm) seen for sale in our survey were in these

licensed shops. In contrast, the unlicensed outlets consisted of a variety of antique, curio and gift shops, with only a scattering of ivory items. The items were mostly old or new jewellery and small old utilitarian objects (chopsticks, cigarette holders, name seals, older figurines, with just the occasional antique). All six cities were similar in this regard.

Of the total 2,426 mammoth ivory items counted in 47 outlets (30 selling both elephant and mammoth ivory) (Table 1), 951 objects (39%) were in 10 of the licensed ivory outlets in all six cities. Only 796 items were counted in 8 mammoth specialist outlets during our survey. The other items (679), mostly jewellery, were mainly in curio, gift and jewellery outlets, some of which also sold worked ivory illegally.

The licensed ivory carvers we met, some who have been working in ivory for many years, sometimes generations, were all gloomy. Those involved in illegal ivory were not so concerned about a future ban, which would not affect them as their illegal trade could continue. Illegal traders are opportunists, and as long as they can get tusks from Africa they can trade, we were told. Some vendors selling illegal ivory items at stalls and outlets had, however, become more cautious, keeping their items hidden in drawers. Many are moving into online trade, which has not yet been successfully tackled by officials.

Public awareness

Public awareness on the plight of the elephant has been steadily increasing in China, with bloody pictures on the internet and WeChat of poached elephants with tusks hacked out (although Google and Facebook are not available in China). Young people said that if more gruesome pictures are shown on WeChat, for example, it would definitely have an impact on the minds of the educated Chinese young, who use smartphones much of the time for information. ‘We can do less about [the middle-aged generations], but we can teach the young with images to dissuade them from wanting ivory.’

Most people in China have little thought that

ivory equates to elephants’ tusks. One young man in China, after we explained the poaching crisis, sympathized. ‘The slaughtering by poachers is really unfair and a human crime.’ It can take time to change people’s attitudes and behaviour. ‘For most here in China, Africa is really far away and it is really hard to link ivory to once-living elephant teeth.’ The younger generation in China is becoming more environmentally conscious. Traditional Chinese culture emphasizes balance between nature and humans. ‘How can elephants be killed only for their teeth or rhinos only for their horns? That is terribly cruel. People in China need to know that many elephants are killed just for their teeth.’

The future of the ivory trade—dealers’ views

Ivory dealers we spoke to believed the president of China is being pressurized to close down the country’s legal ivory trade. They hoped there would not be a sudden ban but a gradual phasing out of ivory. Some hoped the government would buy tusks from private people as a way of compensation, including from Hong Kong traders, to help stop the trade. Others thought the government would decide to tighten the worked ivory retail sales system, such as by upgrading the ID cards to include a microchip. Some dealers wished that a few of the master carvers would be allowed to carve great works of art for museums and educational institutions, and keep the art form going by training apprentices. In this way, the government could act as a patron for ivory works of art, without the items being in trade.

Although there has been an attempt at forming a mammoth ivory association, members are very loosely connected and their ID cards for sales of mammoth ivory sculptures are not compulsory, providing a loophole for unscrupulous dealers to sell illegal worked elephant ivory as mammoth or

vice versa, dirtying the reputation of the mammoth ivory trade. Certain dealers admitted that for a small mammoth ivory item such as a pendant you cannot tell by the criss-cross pattern whether it is mammoth or elephant—you need modern technology to do that. Although a mass spectrometer can be used, a simple, quick, cheap, non-invasive technique is not yet readily available to identify the materials, nor have detection dogs yet been trained to tell apart different ivories, though technically this could be possible (Will Power, director, African Wildlife Foundation’s Conservation Canine Programme, pers. comm., February 2016).

If the ivory trade is closed, legal dealers said they will probably not switch to selling mammoth ivory, as the quality they purchase is too poor, and their customers prefer elephant ivory items. Also, chopsticks cannot be made from mammoth ivory as you need flawless ivory cut from a specific middle section of a tusk, and with mammoth this section may crumble. These dealers had strong opinions but admitted they lacked coordination, having no unified voice, so their current views are not often heard.

Comments from legal ivory carvers

- Raw ivory should be regulated to protect both the animals and the ivory industry. We must maintain a balance to protect the animals so there can be both lots

of elephants in the future as well as correspondingly lots of ivory.

Substitutes

- Nothing works as well for us as elephant ivory. Substitute hippo ivory is too crispy so it breaks. Wood

figures are good, carved from scented and valuable woods, but elephant ivory produces the best quality.



Ivory skull bracelets have become a popular design among certain young Chinese men to ward off evil spirits.

Wholesale ivory sales

- If the Chinese government had re-sold raw tusks to the licensed workshops at reasonable prices related to what they paid for them in southern Africa (about USD 150 a kg in 2008), overnight the smugglers would have had a considerably shrunken market. The smugglers keep a close watch on government

raw ivory prices and undercut their prices slightly to maximize profits. The government has by accident encouraged the illegal ivory trade and needs to keep dropping wholesale prices for raw ivory, making illegal ivory not so profitable.

Carving

- It would be impossible to have a workable elephant ivory carving association to help improve the management of the ivory business as we work separately and do not like to share our ideas, except with our apprentices. It would be a pity indeed for the world if we witnessed the vanishing of a skill that has been existing for several thousand years in China. Underground factories with their modern computerized machines and fast processing techniques are ruining our cultural heritage and reputation that must be stopped and not the other way around!

- Most skilled licensed carvers selling their work hardly make money—their work is a commitment.

- Happily or sadly, ivory items that are of poor quality in the market, usually small items of jewellery,

encourage buyers to see ours as outstandingly better. Thus bad carvings help us, but it is not good either to have bad, illegal carvings about.

- Master carvers produce for sale legally the large good-quality carved tusks and the Gwan Yin figures in our shops as you cannot produce these works of art by machine.

- Probably our inherited ivory craft will stop with my grandson. Rather, he will switch to carving wood, stone and jade, as elephant ivory regulations are getting steadily tighter with the mass media's negative coverage.

- Many carvers think they will get their last batch of raw tusks now and must use them wisely and slowly.

Mammoth ivory

- Shops can mix up mammoth and elephant worked ivory trinkets as you cannot tell the difference in small items. Therefore, mammoth ivory, particularly for small items, should be regulated.

- It may be wise to give up making trinkets that are a waste of mammoth ivory and can be a loophole as it looks like elephant ivory. It may be better instead to promote only larger sculptures with a compulsory

photo on an ID card, as for elephant ivory, or concentrate only on producing large carvings where the criss-cross lines can identify an item as mammoth ivory.

- Vendors may sell mammoth ivory on view on the table and clandestinely have the same items of illegal elephant ivory in their drawer below for interested customers.



Legal ivory carvers and vendors are concerned about African elephant poaching to meet demand for illegal traders who are tainting the reputation of those licensed to craft high-quality carvings.

Licensing

- We abide by the laws and we have a hard time. Restrictions are really tough: too many, unbearable sometimes.
- It is especially important not to sell to foreign visitors as we do not want to get our licensed outlet a

bad name nor a bad reputation for legal ivory in the media.

- Buyers usually neglect taking the ID card with an ivory object. They like, however, to see the card to be sure the item is authentic and legal.

Legal ivory issues

- Business is far from satisfactory: 1) because of the very limited supply of legal raw ivory provided to us (less than 5 tonnes in total a year to all the legal factories), 2) government prices for raw tusks have been too high compared with prices in other Asian countries, 3) people can purchase a lot more raw ivory on the black market, which does not have bureaucratic headaches dealing with the government for legal ivory, 4) a very small population in China consumes our worked ivory and the slowed economy has affected their buying power, 5) we do hand crafting so it is difficult to compete with the computer and machine users of illegal ivory, 6) fewer customers are buying big ivory carvings as gifts due to the economic slowdown and the crackdown on giving gifts to government officials.

- Local and national governments need to cooperate and implement the best strategies together to resolve issues regarding the future of the ivory industry.

- One option is to reduce the total number of licensed factories from over 30 to around 10, maintaining more carvers in the culturally significant cities: Beijing, Fuzhou, Guangzhou, Changzhou, Hangzhou and Suzhou. Then the trade would be easier to regulate and monitor.

- It would help hugely to shift monitoring to the local governments (not central government—that is far away); local officials understand the situation better in their regions, and they are closer to the factories and outlets for monitoring.

- Some important officials from central government are so influential that the shops to be inspected get news of their visit in advance and make sure the items seen in their shops conform with the law! These officials come to inspect only several times a year.

Smuggling

- Lots of ivory comes in illegally; a trader who cannot get a permit for elephant ivory gets tusks clandestinely. Many traders have no conscience or skills and just want to make money.

- I would not buy illegal ivory as an investment to

stockpile as it is unwise to sink money into ivory. It is unlawful, unregulated and has an uncertain future.

- Ivory smuggling takes place especially into Fujian and Guangdong provinces where law enforcement has to be improved.

Illegal ivory competition

- In Chinese mentality if something is banned it becomes rarer, making certain people go after it.
- How can we stop all this illegal ivory trade from occurring? We need to make the illegal tusk traceable; this is of vital importance.
- Illegal ivory carvers have an unlimited supply of raw tusks and keep production costs low. Their work is shoddy and their ivory items far less expensive than our legal carvings, and easier to sell.
- Our business model cannot be compared with that of the illegal dealers. We have a very limited supply of raw ivory and our focus is to produce the best possible carved items and so we must sell at higher prices.
- Some illegal carvers ask if they can place their items in my licensed shop to sell and I say no!
- The antique markets and arts and crafts markets across China sometimes sell illegal ivory, displaying only a few little items but keeping more ivory hidden behind the scenes.

Retail ivory sales

- Some mornings or afternoons, not a single customer comes to buy my worked ivory. This is typical—you do not see people buying luxury items. Worked ivory of quality sells slowly.
- In the past six years, by stockpiling jade, especially green jade, one would have made a big fortune, keeping it for later carving. This situation is far less so for tusks.
- Rich customers prefer excellent, outstanding carving techniques—they would lose face displaying in their homes or offices one of poor [illegal] quality—it would be like having a fake painting.
- In the last five years worked ivory retail prices here have stayed the same compared with prices for other collectibles. Collectors lament that the ivory market is stagnant. Business has been poor for the past few years due to competition from sales of illegal ivory items.
- If the anti-corruption/bribery campaign continues, our market for many of our most expensive ivory works of art will drop further.
- The other side of the coin is that the government could provide ivory to carvers at a low price, thus enabling them to produce works of art at a substantially reduced retail selling price. Then buyers could afford them, not as bribes, and the illegal circus of worked elephant ivory sales would decline.
- People seldom wear elephant ivory jewellery on a daily basis, although it is the most common ivory item seen for sale.
- Rural people rarely buy ivory items; urban people in the bigger cities do so. This is a deciding factor as to where ivory is fashionable and education is needed—the more educated the more they like ivory. The less-educated rural people choose pearls, for example, which are less expensive.
- Some Chinese traders sell their illegal new ivory items much more cheaply in shops just over the border in countries where illegal traders do not get caught, and Chinese buyers easily smuggle these items back into China.



This piece in a museum, a wood ruyi, demonstrates that not only ivory but also certain woods were, and still are, revered by carvers.

Price trends and demand for ivories

The great majority of wholesale raw tusks for sale in China are illegal. From early 2014 to late 2015, the average wholesale black market price for a good quality 1-5-kg raw elephant tusk in China declined from USD 2,100/kg to USD 1,100/kg, a nearly 50% drop in price, according to data collected in our two recent surveys in China (Vigne and Martin 2014b; Save the Elephants 2015). For good-quality raw mammoth ivory of 5-10 kg in early 2014, the wholesale price in China was USD 1,300-2,500/kg, averaging at USD 1,900/kg (Vigne and Martin 2014b). In late 2015 the wholesale price for the same mammoth tusks was USD 1,582/kg, nearly a 20% decline in price. By November 2015, with the price fall for elephant ivory steeper than that for mammoth ivory, the wholesale prices for both legal raw elephant and mammoth ivory in China was an average of USD 1,582/kg for tusks of around 10 kg.

Others are concerned that too much mammoth ivory has been mined out of the tundra in north-east Russia in a damaging way that should be stopped as it has no effective controls (Adrian Lister, Natural History Museum, London, pers. comm., June 2016). Some believe the large amount of mammoth ivory takes the pressure off elephant poaching and elephant ivory. There is also the opinion that it encourages interest in ivories and can fuel further general demand in a

country with the growing nouveau riche who have more money to spend on luxuries, notably the most common, small ivory jewellery items.

The overall reason for the decline in wholesale prices from early 2014 to late 2015 for both raw ivories was the Chinese economic slowdown. More expensive luxury materials are generally harder hit with a greater decline in price, as in the case of raw elephant ivory compared with mammoth ivory. Another reason for the sharper decline in illegal raw elephant ivory prices compared with raw mammoth ivory prices is probably the threat of the domestic ivory trade ban with fears of improved law enforcement, along with large supplies of raw elephant tusks still being smuggled into the country. Also, with the fear of a ban, some of the legal ivory dealers have shown growing interest in mammoth ivory as a substitute, so the price has not sunk for this material so dramatically.

The legal shops have been sitting on their old stocks of worked ivory trying to sell items for the same prices to recoup the high costs of purchasing their raw ivory. The illegal dealers, by contrast, have benefited, buying raw illegal ivory for less and selling items quickly at much reduced prices compared with legal businesses, undercutting them. While legal dealers have suffered, illegal traders have been enjoying a profitable business.



In some curio outlets, a sprinkling of small ivory items were displayed for sale illegally or taken out from a drawer to show interested customers, but rarely did we see any large ivory items in these outlets.



Ivory rhino figurines and figures are usually carved with the appearance of the skin of Asian rhinos and the two large horns of African rhinos. They are carved from both mammoth and elephant ivory, and it is usually very difficult to tell them apart, except by the label or the vendor's word who may not always be correct.

Prices for worked ivory and mammoth ivory in the six cities surveyed

Retail prices in the six cities surveyed for worked ivory were fairly comparable for identical items, such as charms, necklaces, pendants and rosaries. Overall average prices for items in these cities varied somewhat with Shenyang and Suzhou having cheaper standard items in general and Tianjin having the most expensive items, being a huge, rich industrial city near to Beijing with wealthy spenders (Table 21). Hangzhou had certain items that were cheaper than in the other cities as the prevalence of more illegal small ivory objects (Table 1) for sale reduced the average prices (Table 21). Most of the ivory items we found were in Hangzhou, followed by Nanjing then Tianjin. Illegal ivory items were generally cheaper than legal ones due to the lower overheads in the smaller outlets in which they are sold. There is less expensive bureaucracy involved in their production and sales, and also they are often processed or carved less well. For example, for new comparable items, illegal ivory bangles, charms, chopsticks and pendants were usually around half the price of legal ones.

Most of both old and new illegal items were recently made jewellery objects, notably pendants. Most old items for sale were utilitarian pieces or figurines. For certain ornamental items, such as netsukes or other intricately carved objects, the better-carved old ones were generally over double the price of the illegal new ones. On the other hand, for items such as chopsticks, the old ones were considerably cheaper in price than the new ones as they require no workmanship and are more tattered and less attractive when old. Old ivory bangles can be more expensive than new ones as the average tusk size was larger in earlier days.

Worked mammoth ivory retail prices appeared highest on average in Tianjin (Table 22) with most mammoth ivory items being sold expensively in Buddhist and Tibetan shops for rich Chinese visitors and tourists. Prices were also high in Shenyang where probably the best quality jewellery and other common small items were seen for sale. Businesspeople, including Russians, are promoting mammoth ivory in this city close to Russia.

Prices for worked ivory and mammoth ivory in Beijing and Shanghai, 2014–2015

Retail vendors said they had not lowered their ivory prices and did not intend to do so as they were waiting for the economic slowdown to turn around. For worked mammoth ivory, again we found certain price labels the same as in mid-2014; some vendors, however, said prices were becoming more competitive for mammoth ivory, compared with

elephant ivory items. Some vendors remarked that as they sold off their worked elephant ivory they would not be replacing it, due to the uncertain policy on the future of the ivory trade. They were optimistically hoping that the domestic ivory trade would be phased out gradually as opposed to a sudden banning.



Gwan Yin figures are one of the most sought-after ivory carvings in China.



This large ivory Chinese cabbage with flowers and green insects, displayed with its ID card in a licensed outlet, will be a thing of the past with the closure of the legal ivory outlets.

Conclusion

The legal ivory trade in China is dying. If the Chinese government bans this industry, then the officially registered ivory factories will have to close down, and licensed retail outlets that are now permitted to sell ivory will have to remove their ivory items. What will happen to the skilled carvers presently working in the licensed ivory factories/workshops when they are no longer provided with ivory to carve? Most told us they would carve substitutes, such as wood and stone, but few said they wanted to work in mammoth ivory, unless it was very good quality. Ivory carvers and traders lament that if the government closes completely the legal ivory trade in the country (with the possible exception of genuine antiques), they fear that one of China's traditional art forms, which is part of their cultural heritage going back many hundreds of years, will be severely affected.

After a ban on the internal ivory trade, a big

question is what will happen to the illegal domestic ivory trade. In recent years, the illegal ivory industry, especially the commerce in raw tusks, has been much larger than the legal trade. Will demand for illicit ivory items go up or down? Will prices rise or fall? Will carvers continue to produce ivory items in larger or smaller quantities illegally? Will Chinese businesspeople increase or decrease their present ivory sales in neighbouring countries that have poorer governance, especially near the Chinese border?

What we do know for certain now is that the owners of the legal ivory workshops and many of the legal shops for ivory are concerned about their future. Their pessimism is based on the President's statement to end the domestic ivory trade in the country that they know must be honoured. Thus, the year 2015 marked the major turning point to close down China's ivory industry.

Postscript

In December 2016 the Government of China announced that it would ban the domestic ivory trade by the end of 2017.

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Many African and Asian elephants have been killed for the illegal ivory trade in China, a much larger trade than the legal ivory trade. Just under 5 tonnes of raw ivory (bought mostly from the 2008 auctions in southern Africa) is provided to all the legal factories in China annually. In contrast, an estimated 200 tonnes of tusks are smuggled from Africa each year of which the non-seized ivory mostly ends up in China for the illegal market.

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Table 1. Eastern China: Number of retail outlets seen with elephant and mammoth ivory items displayed for sale in six newly visited cities, late 2015

Location	No. of outlets						No. of items						Average no. of items per outlet	
	Elephant			Mammoth			Elephant			Mammoth			Elephant	Mammoth
	Total	Legal	Illegal	Total	Legal	Illegal	Total	Legal	Illegal	Total	Legal	Illegal		
Shenyang	24	2	22	15	424	274	150	424	274	150	1,023	18	68	
Tianjin	12	5	7	11	613	516	97	613	516	97	239	51	22	
Nanjing	40	4	36	5	882	618	264	882	618	264	496	22	124	
Changzhou	3	3	-	2	218	218	-	218	218	-	31	73	10	
Hangzhou	78	3	75	13	1,129	584	545	1,129	584	545	619	14	48	
Suzhou	2	1	1	1	112	108	4	112	108	4	18	56	18	
Total	159	18	141	47	3,378	2,318	1,060	3,378	2,318	1,060	2,426	21	52	

NB. 30 of these outlets sold both worked elephant and mammoth ivory: 6 in Shenyang, 6 in Tianjin, 4 in Nanjing, 2 in Changzhou, 11 in Hangzhou and 1 in Suzhou, making the total number of retail outlets visited with both ivories 176. The cities listed are in the order of the survey.

Table 2. Shenyang: Ivory items for retail sale seen, late 2015

Elephant ivory item	Percentage	Mammoth ivory item	Percentage
Pendant	57	Pendant	82
Figurine/figure	13	Necklace, bead	6
Necklace, bead	7	Bracelet, bead	5
Bracelet, bead	5	Figurine/figure	3
Chopsticks, pair	4	Bangle	1
Misc.	15	Misc.	3
Total	101	Total	100

Table 3. Shenyang: Retail prices for elephant ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1-2.5	-	633
Bangle, carved	1-2.5	-	2,303
Bracelet, bead	1-2	-	791
Pendant	2-4	301-1,382	737
FIGURINE/FIGURE			
	20-30	-	6,203
(with wood)	40	-	11,076
TUSK			
Carved	60-80	36,392-39,556	37,975
Polished	30-50	-	159,590
MISC.			
Cigarette holder	10-15	253-578	416
Fan, foldable	20	-	5,696
Name seal	2 x 6	95-1,108	538

USD 1 = 6.32 yuan

NB. Most prices were obtained in licensed outlets.

Table 4. Shenyang: Retail prices for mammoth ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1–2.5	1,582–4,937	3,404
Bangle, glued parts	2–2.5	1,329–1,801	1,565
Bangle, carved	1–2.5	-	3,038
Bracelet, bead	1–2	792–4,785	2,917
Bracelet, bead carved	1–2	4,303–5,221	4,826
Charm	1–1.5	71–512	330
Necklace, bead	0.5–1	476–1,325	905
Necklace, bead flat	1	-	2,823
Necklace, rosary	0.25–1	783–2,991	1,780
	1–1.5		5,136
Pendant	1.5–2	71–632	288
	2–4	188–1,235	550
	4–6	680–3,038	1,381
Pendant, outer peel	4		63
Pendant round, hole	2.5–4	841–3,398	2,467
Ring, thumb	2.5–3	859–1,092	979
Toggle: tri-hole	1–3	95–432	290
FIGURINE/FIGURE			
	4–5	-	580
	5–10	881–1,416	1,223
	20–30	9,398–43,455	26,427
TUSK			
Carved piece	20–30	6,979–17,089	12,034
MISC.			
Cigarette holder	5–10		571
	10–15		767
Composite	30–40		47,073

USD 1 = 6.32 yuan

NB. No licences are needed. All mammoth ivory items are legal and recently carved.

Table 5. Tianjin: Ivory items for retail sale seen, late 2015

Elephant ivory item	Percentage	Mammoth ivory item	Percentage
Pendant	40	Pendant	62
Figurine/figure	16	Charm	13
Necklace, bead	12	Figs	13
Name seal	7	Bangle	4
Bracelet, bead	6	Bracelet, bead	4
Bangle	5	Ring	1
Paintbrush holder	4	Misc.	3
Earrings, pair	3	Total	100
Composite	1		
Misc.	7		
Total	101		

Table 6. Tianjin: Retail prices for elephant ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1–2.5	633–4,399	1,689
Bracelet, bead	1–2	546–3,133	1,690
Charm	1–1.5	109–443	282
Earring, pair	1	71–133	99
Necklace, bead	0.5–1	7,911–11,076	9,494
Pendant	1–2	28–472	196
	2–4	174–835	476
	4–6	237–2,761	1,440
FIGURINE/FIGURE			
	3–5	1,472–3,766	2,619
	5–10	1,472–5,095	3,123
	10–20	7,880–15,032	10,461
	20–30	11,392–13,766	12,579
	40	–	37,579
TUSK			
Carved	30–50	–	62,975
Polished	60–80	–	20,095
Polished, pair	85/88	–	93,038
	105/107	–	234,177
MISC.			
Birdcage	45	–	7,180
Chopsticks, pair	20	–	1,171
Cigarette holder	5–10	–	1,263
	10–15	134–2,658	1,764
Composite	30–40	4,351–7,880	6,116
Fan, foldable	20	–	5,063
Fan, flat	40–50	–	20,095
Floral/insect design	107	–	234,177
Name seal	2 x 6	150–238	196
Toggle: tri-hole	1–3	–	250

USD 1 = 6.32 yuan

NB. Most prices were obtained in licensed outlets.

Table 7. Tianjin: Retail prices for mammoth ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1-2.5	-	2,743
Charm	1-1.5	203-759	481
Pendant	2-4	266-411	321
	4-6	373-1,266	820
Pendant, outer peal	4	-	32
FIGURINE/FIGURE			
	4-5	1,258-2,452	1,571
MISC.			
Cicada	2.5	-	411
Cigarette holder	10-15	-	1,234
Name seal	2 x 6	1,234-1,582	1,456

USD 1 = 6.32 yuan

NB. No licences are needed. All mammoth ivory items are legal and recently carved.

Table 8. Nanjing: Ivory items for retail sale seen, late 2015

Elephant ivory item	Percentage	Mammoth ivory item	Percentage
Pendant	34	Pendant	55
Figurine/figure	13	Figurine/figure	12
Bracelet, bead	7	Charm	11
Ring	7	Necklace, bead	6
Name seal	6	Name seal	4
Necklace, bead	4	Earrings, pair	3
Bangle	3	Netsuke	3
Paintbrush holder	3	Misc.	7
Chopsticks, pair	3	Total	101
Cigarette holder	2		
Charm	2		
Misc.	16		
Total	100		

Table 9. Nanjing: Retail prices for elephant ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1-2.5	475-2,136	1,286
Bracelet	0.5	-	127
Bracelet, bead	1-2	1,028-2,769	1,915
Charm	2	63-443	186
Earring, pair	1.5-2	237-332	285
Necklace, bead	0.5-1	103-2,168	850
Necklace, rosary	1	1,028-2,532	1,780
Pendant	1-2	142-155	149
	2-4	95-601	317
	4-6	316-1,234	617

USD 1 = 6.32 yuan

NB. Most prices were obtained in licensed outlets.

(cont.)

Table 9. Nanjing: Retail prices for elephant ivory items, late 2015 (cont.)

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Ring	0.25	32–47	38
FIGURINE/FIGURE			
	3–4	316–3,165	1,319
	4–5	443–1,104	753
	5–10	775–1,835	1,134
	10–20	1,709–19,778	7,495
Pig, pair	10	-	13,291
Dragon, pair	20	-	12,658
	20–30	5,222–26,899	12,943
TUSK			
Calligraphy/carved	30–50	15,601–28,481	20,917
	60–80	29,272–71,203	54,378
	90–100	-	189,873
Polished, pair	100–200	-	284,810
Polished	30–50	-	21,835
MISC.			
Abacus	7	-	1,329
Bachi	20–30	-	633
Chopsticks, pair	20	127–1,701	725
Cicada	4–5	-	411
Cigarette holder	5–10	186–544	367
	10–15	630–1,503	1,066
Chinese cabbage	30	-	7,753
Composite	30–50	9,177–18,987	14,082
Comb with handle	12	-	759
Container with lid	15–20	3,165–24,494	12,073
Dragon boat	30–40	11,867–18,987	15,427
Earpick	6	-	25
Earpick set	6	-	237
Earpick in container	7	-	791
Fan, foldable	10	-	918
	20–25	2,373–2,658	2,516
Fan, flat	45	-	6,297
Magic ball on stand	20	4,082–9,177	6,519
	30 (38 layers)	-	284,810
Name seal	2 x 6	155–1,868	558
Paintbrush	30	633–2,500	1,408
Paintbrush holder	15–20	-	1,076
Paper knife	20	-	127
<i>Ruyi</i>	40–50	-	41,139
Urn/incense burner	15–20	5,222–13,924	9,572
Tea-making set	4 pcs, 15–20	-	5,934
Teapot	10	-	5,142
Screen	20–25	4,430–13,449	8,381

USD 1 = 6.32 yuan

NB. Most prices were obtained in licensed outlets.

Table 10. Nanjing: Retail prices for mammoth ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1-2.5	554-791	672
Bracelet, bead	1-2	-	1,076
Charm	1	63-95	77
Necklace, bead	0.5-1	443-1,424	843
Pendant	4-6	443-1,266	854
FIGURINE/FIGURE			
	3-5	-	237
	5-10	-	3,418
	10-20	1,392-4,715	3,186
	20-30	2,025-7,120	5,148
TUSK			
Carved		60-80	
	90-100	-	26,899
MISC.			
		-	126,582
Ashtray	10-15	1,551-2,500	202
Chinese cabbage	30	-	13,652
Cigarette holder	10-15	-	316
Ear/tooth pick set	5	-	16
Composite	30-40	-	3,006

USD 1 = 6.32 yuan

NB. No licences are needed. All mammoth ivory items are legal and recently carved.

Table 11. Changzhou: Ivory items for retail sale seen, late 2015

Elephant ivory item	Percentage	Mammoth ivory item	Percentage
Screen	28	Figurine/figure	32
Polished tusk	15	Carved tusk	16
Paintbrush holder	7	Pendant	13
Calligraphy/carved tusk	6	Bracelet, bead	10
Figurine/figure	6	Misc.	29
Fan	5	Total	100
Charm	5		
Pendant	5		
Misc.	23		
Total	100		

NB. Most prices were obtained in licensed outlets.

Table 12. Changzhou: Retail prices for selected elephant (E) and mammoth (M) ivory items, late 2015

Item	Size (cm)	Price (USD)
Bangle (E)	2.5	2,025
Chinese cabbage (M)	10	2,184
Chopsticks, pair (E)	20	237
Cigarette holder (E)	10-15	158
Dragon figure (M)	12	2,658
Magic ball (E)	20 (30 layers)	31,646
Magic ball (M)	20 (30 layers)	31,646
Pendant (E)	2-4	111
Pendant (E)	2-4	158
Screen (E)	150-200	79,114
Tusk, calligraphy (E)	70	31,738

USD 1 = 6.32 yuan

NB. All these items were legal and recently made.

Table 13. Hangzhou: Ivory items for retail sale seen, late 2015

Elephant ivory item	Percentage	Mammoth ivory item	Percentage
Pendant	44	Pendant	55
Figurine/figure	17	Figurine/figure	15
Necklace, bead	9	Netsuke	12
Bracelet, bead	4	Packet of beads	4
Name seal	3	Bracelet, bead	3
Ring	3	Screen	2
Container	1	Snuff bottle	2
Charm	15	Misc.	7
Misc.	16	Total	100
Total	98		

Table 14. Hangzhou: Retail prices for elephant ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1-2.5	364-2,532	1,370
Bracelet, bead	1-2	253-1,345	791
Charm	2	73-79	76
Necklace, bead	0.5-1	142-665	372
Necklace, bead rosary	0.5-1	949-1,297	1,155
Pendant	2-3	139-443	284
	3-4	81-688	345
	4-6	142-1,066	516
Pendant, bead chain	4	348-601	440
Ring	0.5	-	63
	1	-	79
FIGURINE/FIGURE			
	3-5	316-937	630
	4-5	237-3,164	554
	5-10	438-1,266	799
	10-20	1,424-19,303	8,485
	20-30	6,646-9,494	8,070
	40	-	55,063
TUSK			
Carved	30-50	6,012-6,646	6,329
	60-80	4,272-31,566	19,857
	90-100	-	149,684
Polished	30-50	-	5,538
MISC.			
Arm rest, pair	30	-	12,975
Birdcage	20-40	3,481-27,689	15,585
Chopsticks, pair	20	190-601	411
Cigarette holder	5-10	-	190
	10-15	348-601	451
Disc, Tibetan	4	-	475
Fan, foldable	20	-	8,797
Hairbrush, man	12-14	-	633
Name seal	2 x 6	237-791	368
Paintbrush	20-30	253-601	433
Paintbrush holder	15-20	12,342-20,411	16,086
Spoon, wood handle	10-20	155-316	236
Stela (column), pair	30	-	146,672
Toggle: tri-hole	2-4	40-364	145

USD 1 = 6.32 yuan

NB. Most prices were obtained in licensed outlets.

Table 15. Hangzhou: Retail prices for mammoth ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1–2.5	364–1,266	815
Charm	1.5–2	–	79
Pendant	2–4	127–301	214
	4–6	316–601	447
Ring	1–2	–	506
FIGURINE/FIGURE			
	3–5	559–1,309	742
	4–5	269–475	374
	5–10	285–7,595	2,053
	10–20	5,538–16,772	11,857
	20–30	14,082–21,360	17,128
TUSK			
Carved	30–50	–	18,987
	60–80	31,566–31,646	31,606
	90–100	–	90,981
Polished	30–50	–	5,538
Polished, pair	100 combined	–	90,633
MISC.			
Cicada	3	–	427
Disc with hole	4	–	316
Incense holder	15	–	712
Knife, hunting	20–30	26,424–45,538	35,981
Name seal	2 x 6	–	206
Toggle: tri-hole	2	–	19

USD 1 = 6.32 yuan

NB. No licences are needed. All mammoth ivory items are legal and recently carved.

Table 16. Suzhou: Ivory items for retail sale seen, late 2015

Elephant ivory item	Percentage	Mammoth ivory item	Percentage
Pendant	39	Figurine/figure	100
Bangle	17	Total	100
Figurine/figure	12		
Necklace, bead	9		
Cigarette holder	7		
Charm	6		
Misc.	10		
Total	100		

Table 17. Suzhou: Retail prices for elephant ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
JEWELLERY			
Bangle	1-2.5	870-1,392	1,131
Charm	2	98-253	153
Pendant	3-4	316-617	459
	4-6	633-775	712
FIGURINE/FIGURE	20-30	-	8,703
MISC.			
Cigarette holder	5-10	285-443	343

USD 1 = 6.32 yuan

NB. These were all recently made, for sale in one licensed outlet.

Table 18. Suzhou: Retail prices for mammoth ivory items, late 2015

Item	Size (cm)	Price range (USD)	Average price (USD)
FIGURINE/FIGURE	4-5	506-1,297	807
	5-10	2,152-3,924	3,019
	10-20	570-5,316	2,943

USD 1 = 6.32 yuan

NB. No licences are needed. All mammoth ivory items are legal and recently carved.

Table 19. Beijing: Unchanged prices in yuan for identical elephant ivory items seen in mid-2014 and late 2015, quoted at the late-2015 USD price

Item	Price (USD)
JEWELLERY	
Bangle	4,177; 6,266; 11,487
Necklace, bead	823; 1,092
Pendant, 2-3 cm	237; 253
FIGURES AND TUSKS	
Figure	12,595
Tusk, carved: 70 cm	132,911
Tusk, painted: 127 x 40 cm	163,924
MISC.	
Banana	3,133
Chopsticks, pair in box	2,658
Magic ball	14,620
Name seal, business	12,532
Walking stick with pommel	13,766
Walking stick with handle	15,190
Sword	202,532

USD 1 = 6.1 yuan in mid-2014, USD 1 = 6.32 yuan in late 2015

NB. This exchange rate difference is insignificant.

Table 20. Shanghai: Unchanged prices in yuan for identical elephant ivory items seen in mid-2014 and late 2015, quoted at the late-2015 USD price

Item	Price (USD)
JEWELLERY	
Bangle, baby	171
Bangle, carved	2,500
Bangle, thin	759
Necklace, beaded	1,234
Pendant, 2–3 cm	68; 68 (sic); 190; 601
Pendant, 4–6 cm	1,076
Ring, thumb	1,424
MISC.	
Cigarette holder	633
Chopsticks, pair	712
Comb, no handle	774
Composite	7,753
Handballs, pair	6,171
Paintbrush holder	7,120
Magic ball, 32 layers	39,557
Name seal	1,582; 1,611 (45 g); 1,741; 1,899

USD 1 = 6.1 yuan in mid-2014, USD 1 = 6.32 yuan in late 2015

NB. This exchange rate difference is insignificant.

Table 21. Eastern China: Average retail price comparisons in US dollars for standard elephant ivory items in certain cities, late 2015

Item	Beijing	Hangzhou	Nanjing	Shanghai	Shenyang	Suzhou	Tianjin
Bangle	5,072	1,370	1,286	2,006	633	1,131	1,689
Bracelet, bead	2,022	791	1,915	1,309	791	–	1,690
Charm	356	76	186	168	–	153	282
Cigarette holder	506	320	367	324	416	343	1,764
Name seal	504	368	558	1,003	538	–	196
Pendant, 2–4 cm	723	315	317	564	737	459	476

NB. We obtained prices of items in only a selection of shops in Beijing and Shanghai. In all 8 cities, most items priced were from licensed outlets.

Table 22. Eastern China: Average retail price comparisons in US dollars for standard mammoth ivory items in certain cities, late 2015

Item	Beijing	Hangzhou	Nanjing	Shanghai	Shenyang	Tianjin
Bangle	–	815	672	2,006	3,404	2,743
Bracelet, bead	–	–	1,076	1,187	2,917	–
Charm	198	79	77	94	330	481
Cigarette holder	–	–	–	234	669	1,234
Name seal	411	206	–	–	–	1,456
Netsuke	–	742	237	446	580	1,571
Pendant, 2–4 cm	277	214	443	351	550	321

NB. We obtained prices of items in only a selection of shops in Beijing and Shanghai. In all 8 cities, most items priced were from licensed outlets.



Only the best mammoth ivory tusks, excavated out of the tundra of north-east Russia, can be used for carvings of this intricacy.

The authors

LUCY VIGNE, with a degree in zoology from Oxford University, began her studies of elephant poaching and the ivory trade when she came to Kenya in 1983, working as the executive officer of the IUCN African Elephant and Rhino Specialist Group with the chair, David Western, and vice chair, Esmond Martin. This was also at a time when elephant poaching for the international ivory trade was rife.

ESMOND MARTIN, a geographer with a PhD from the University of Liverpool, first studied the ivory trade back in the late 1960s when he carried out fieldwork on the East African coast, looking historically at the movements of commodities back and forth across the Indian Ocean.

TOGETHER, they have devoted their careers towards tracking elephant and rhino poaching by researching the parallel trades in ivory and rhino horn to meet consumer demand, in order to clamp down on the illegal trade. They have worked on ivory surveys in 31 countries in Africa, Asia, Europe and North America. They have produced over 100 articles, books and monographs, sometimes along with Chrysee Martin and Dan Stiles. Their publications, as well as lectures and media contributions on radio and television, have increased knowledge of the legal and the illegal trade in ivory worldwide.

Their fieldwork, especially in Africa and Asia, has involved monitoring the ivory trade over many years. They have collected and analysed a wealth of information on wholesale prices for tusks, numbers of ivory dealers and craftsmen, ivory carving workshops, numbers of retail outlets and ivory items, item types and prices, as well as data on substitutes for ivory—especially hippo teeth, mammoth tusks, warthog tusks and, of course, bone. They have investigated the changing trade routes for ivory all the way from the poacher to the end user, and they have studied the drivers of consumer demand to understand and evaluate how and why ivory has been and is used globally.

Their findings have helped improve law enforcement within certain governments, such as in identifying

ports and airports that deal in illegal ivory, and have assisted on policies to combat the illegal ivory trade. Their findings have also contributed knowledge for public awareness campaigns and have helped towards providing education to reduce demand for illegal ivory.

Their most recent monographs on China (2014), Hong Kong (2015) and Vietnam (2016) published by Save the Elephants, along with their numerous articles, have influenced governments to enhance their law-enforcement efforts. For example, their monographs and articles on China and the Chinese in Africa (by far the main consumers of ivory—about 90%) have brought attention to the need to combat the illegal ivory trade.

Their 2015 Hong Kong ivory monograph was discussed in the Legislative Council of the Hong Kong government to help forge decisions on future domestic ivory trade policies.

Their 2016 monograph on Vietnam was translated into Vietnamese, at the request of the Vietnam government, as a tool for learning about its burgeoning illegal ivory trade, which had become one of the largest in the world. The CITES Secretariat within Vietnam received the Vietnam monograph in September 2016; officials there finally agreed there was indeed a serious problem in Vietnam in the sale of illegal ivory. With this new information from the monograph, especially the dramatic colour photographs, and along with pressure from NGOs, particularly The Wildlife Justice Commission, soon afterwards, the prime minister announced publically that his government would clamp down on the illegal wildlife trade. Since then, there have been more ivory seizures in the Vietnamese ports, showing increased effort to elephant conservation.

The governments of Angola, Egypt and Nigeria are becoming more aware of reducing illegal ivory markets in their countries, as a result of Lucy Vigne's and Esmond Martin's articles and news items in the media that showed the international link in ivory trade, mainly for the Chinese market.



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PO Box 54667

Nairobi 00200, Kenya

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