

# Shifting trajectories of diamond processing: from India to Europe and back, from the fifteenth century to the twentieth\*

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## Abstract

*Diamonds have a long global history in which India plays a pivotal though little-known role. Indeed, it was in India that diamonds were first mined, finished, and worn. Diamonds and their finishing techniques reached Europe in the fifteenth century. Subsequently, part of the industry moved from India to Europe, where manufacturing shifted from one city to another, before returning to India in the twentieth century. These shifts, I argue, are determined by changes in one or more segments of the global commodity chain and they reveal the global interconnections between mining, trading, polishing, and consuming. Furthermore, these shifting centres are themselves a sign of the globalized character of diamond production, exchange, and consumption.*

**Keywords** diamonds, global commodity chain, luxury production

## Introduction

‘A diamond is forever’ – the advertising slogan developed for De Beers in 1947 to entice American consumers into buying diamond engagement rings – belongs to a global history of diamonds known by most people. This narrative starts in the early 1870s, when huge diamond deposits were found in Kimberley, South Africa. Within two decades Cecil Rhodes had established the De Beers Company, which not only succeeded in monopolizing most diamond mining operations in Africa for more than a century but also controlled a major part of the rough diamond trade in London. At the end of the commodity chain, De Beers’s clever advertising campaigns convinced countless American men to spend what often amounted to several months’ salary on an engagement ring with a brilliant diamond.

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Yet diamonds have a much longer global history, in which India plays a pivotal role. It was here that diamonds were first mined, sold, valued, and worn. The cutting and polishing techniques needed to reveal the lustre of rough diamonds were also developed in the subcontinent. Unlike pearls, diamonds in their rough state are not especially attractive; moreover, unlike other precious stones such as emeralds, diamonds are extremely hard and can be polished only by using a rapidly spinning horizontal polishing disc and diamond dust as abrasive.<sup>1</sup> This basic technique remained unchanged for centuries. When horses, steam, and electricity became the subsequent driving forces of the polishing mills, the scale of the polishing industry expanded, even as the technique itself hardly changed. Innovations in the industry stemmed from the skills of cutters and polishers and their ability to develop new cuts.

Because diamonds are an expensive luxury commodity, research into the subject tends to focus on trade and consumption.<sup>2</sup> Processing is also important, however, as this highly specialized, skilled work adds economic and symbolic value to rough diamonds and is an important link between the traders of rough stones and the consumers of polished stones. With the voyages of exploration, diamonds and their finishing technique reached Europe, where a diamond industry developed in several European cities. Venice was the main centre in the fifteenth century, Antwerp in the sixteenth, and Amsterdam from the seventeenth to the early twentieth century. Then, after a relatively brief second period of bloom in Antwerp, the industry 'returned' to India in the second half of the twentieth century, where it developed on a massive scale, such that today more than 90% of all diamonds are cut and polished there. The finishing centres described in this article are not the only centres; however, they are the most important ones, with the largest numbers of finishers and the highest outputs.

By applying the global commodity chain as a heuristic instrument, this article seeks to show that shifts in the diamond industry were, and are, determined by changes in one or more segments of the global commodity chain. These segments – namely, mining, trading, finishing, and consuming – can be affected by external factors such as wars, colonialism, and myriad types of 'state' intervention, as well as by whims of fashion. It should be noted that these shifts were never absolute; usually, a small part of the industry remained, while the core of the industry relocated several times over the ages, leaving marks on local economies and labour markets. It is therefore important to examine seemingly 'broken links' in the global commodity chain because in several cases they help explain the return of the industry.

Combining micro-level information about the actual agents of the shifts and information about global developments in the diamond commodity chain reveals manifold global interconnections and the role of networks based on family, religion, ethnicity, or caste.<sup>3</sup> A micro-historical perspective also prevents us from overstressing linearity in the global commodity chain: as we will see, diamonds, diamond merchants, and diamond finishers,

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1 For emeralds see Kris Lane, *Colour of paradise: the emerald in the age of gunpowder empires*, New Haven, CT: Yale University Press, 2010.

2 For consumption and meaning, see among others Marcia Pointon, *Brilliant effects: a cultural history of gem stones and jewellery*, New Haven, CT: Yale University Press, 2009 and Danielle C. Kinsey, 'Imperial splendour: diamonds, commodity chains, and consumer culture in nineteenth-century Britain', PhD thesis, University of Illinois, 2010.

3 Gary Gereffi, Miguel Korzeniewicz, and Roberto P. Korzeniewicz, 'Introduction: global commodity chains', in Gary Gereffi and Miguel Korzeniewicz, eds., *Commodity chains and global capitalism*, Westport, CT: Greenwood Press, 1994, p. 9.

as well as knowledge about diamonds, travelled not only from India to Europe but also in the opposite direction. Shifting centres are themselves evidence of the globalized character of diamond production, exchange, and consumption, a character that emerged not in the late nineteenth century with De Beers but as early as the fifteenth century.

## India, the cradle

Golconda diamonds were a brand long before the word ‘brand’ was coined, despite the diamonds being mined not in Golconda but in nearby mines on the Deccan plateau, as well as in Orissa in the north-east and Panna in north-central India. For a long time, Indian diamond mines were the only known working diamond mines in the world, save for a few mines on Borneo, whose rulers were not eager to sell the diamonds.<sup>4</sup> This semi-monopoly made the subsequent Indian rulers, who automatically owned any mines on their territory, absolute masters over the first segment of the global diamond commodity chain.<sup>5</sup> These rulers could decide whether or not to farm out any particular mine, and if so to whom.<sup>6</sup> Governors – revenue farmers – acted as intermediaries between the ruler and merchants who commissioned miners to dig for diamonds.<sup>7</sup> Governors had to ensure that stones larger than ten carats were presented to the king; these stones would be kept, uncut, in the king’s treasury or else cut and polished and set in extensive jewellery. Jewellery ownership formed a basic aspect of the Indian-Islamic concept of rule: through ownership but also via traditions of gift giving, rulers displayed their own power and marked the status of their subjects.

Royalty and noblemen had their gems polished and jewellery made in special *karkhanas* (workshops). The most talented and well-trained finishers were found in these workshops,

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- 4 The Dutch East India Company (VOC) managed to buy 8,000 carats of diamonds on the island in the period from 1604 to 1674: see Ikuko Wada, ‘Diamond trade by the Dutch East India Company in seventeenth-century India’, in Yoko Nagazumi, ed., *Large and broad: the Dutch impact on early modern Asia*, Tokyo: The Tokyo Bunko, 2010, pp. 169, 176–7. In the same period, the VOC bought five times as many diamonds in India: see *ibid.*, pp. 172–7, 181; Ph. Coolhaas, *Generale missiven van Gouverneurs-Generaal en Raden aan Heren XVII der Verenigde Oostindische Compagnie (Official letters of the Governors-General and Councils to the Gentlemen XVII of the United East India Company)*, vol. 1, The Hague: Martinus Nijhoff, 1960, pp. 565, 626; *ibid.*, vol. 2, The Hague: Martinus Nijhoff, 1964, pp. 124, 199, 230, 250, 413, 765; *ibid.*, vol. 3, The Hague: Martinus Nijhoff, 1968, pp. 435, 714, 765, 908.
  - 5 For various seventeenth-century descriptions, see Johan Verberckmoes and Eddy Stols, eds., *Aziatische omzwervingen: het levensverhaal van Jaques de Coutre, een Brugs diamanthandelaar 1591–1627 (Asian travels: the personal chronicle of Jacques de Coutre, a diamond merchant from Bruges, 1591–1627)*, Berchem: EPO, 1988; W. H. Moreland, Antonius Schorer, and William Methwold, eds., *Relations of Golconda in the early seventeenth century*, London: Hakluyt Society, 1931; J.-B. Tavernier, *Travels in India: translated from the original French edition of 1676 by V. Ball*, reprint, New Delhi: Atlantic Publishers & Distributors, 1989; Pieter van Dam, *Beschrijvinge van de Oostindische Compagnie (Description of the East India Company)*, book 2, vol. 1, The Hague: Martinus Nijhoff, 1932, pp. 176–81; Henry Howard, 6th Duke of Norfolk, ‘A description of the diamond-mines, as it was presented by the Right Honourable, the Earl Marshal of England’, *Philosophical Transactions of the Royal Society*, 12, 136, 25 June 1677, pp. 887–917; R. C. Temple, ed., *The diaries of Streyntsham Master 1675–1680 and other contemporary papers relating thereto*, vol. 2: *the first and second ‘Memorials’ 1679–1680*, London: J. Murray, 1911, pp. 113–14 and 172–5.
  - 6 According to Howard, ‘Description’, pp. 907–9, several rajas and sultans in South India had (some of) their mines dug out only privately.
  - 7 Kanakalatha Mukund, ‘Mining in South India in the 17th and 18th centuries’, *Indica*, 52–3, 1991, p. 17. See also Karin Hofmeester, ‘Working for diamonds from the 16th to the 20th century’, in Marcel van der Linden and Leo Lucassen, eds., *Working on labor: essays in honor of Jan Lucassen*, Leiden: Brill 2012, pp. 19–46.

making luxury products of exceptional quality that were not for sale on the market.<sup>8</sup> Consequently, royal and noble patronage was highly important for the development and survival of jewellers' and lapidaries' skills, as the artisans transferred their knowledge from father to son within the workshops. Patronage also played an important role in the geographical relocation of these skills: after Delhi was sacked by Nadir Shah in 1739, Mughal court life in Delhi and Agra faded and merchants, artisans, and artists migrated to the courts of princes such as the Nawab of Awadh (Oudh) and the Nizam of Hyderabad.<sup>9</sup>

Possession of diamonds was not restricted to sultans and emperors. Jaques de Coultre, a Bruges-born gem and jewellery dealer who, along with his brother, settled in Goa at the beginning of the seventeenth century, stated that ordinary people in the Bijapur sultanate, if they possessed any wealth, would wear various pieces of jewellery studded with emeralds, rubies, diamonds, and pearls.<sup>10</sup> Eighteenth-century inventories indicate that a *subehdar* (governor) of Bengal and a wealthy businessman possessed diamonds or diamond-studded jewellery, yet so did a temple dancer from Bombay and various farmers from Kerala.<sup>11</sup> Such ownership may indicate hoarding or using jewellery as life insurance. However, as De Coultre's descriptions verify, jewels were also worn, and had an important social function as ornaments that affirmed or enhanced the owner's financial, social, and marital status. These 'ordinary' consumers would have had to rely on merchants to acquire their stones.

Trade, the second segment of the global diamond commodity chain, appears to have been dominated by Gujarati merchants, who brought the stones from the mines to the bazaars. Several seventeenth-century European travellers stressed the importance of Gujarati *banias* (merchants) in diamond mining and trading: 'They have forsaken their own Country to take up the Trade, in which they have had such success, that 'tis now solely engros'd by them; who corresponding with their Country-men in Surrat, Goa, Colconda, Visiapore, Agra and Dillee, and other places in India, furnish them all with Diamonds.'<sup>12</sup> The group was less homogeneous than most Europeans assumed, but within it several strong networks developed, providing their members with sizeable capital resources and excellent market information.<sup>13</sup> The merchants maintained agents in many parts of the country who provided services such as loans, bills of exchange, brokerage, and reliable couriers (who served as personal transporters of valuables).<sup>14</sup>

8 Surendra Nath Sen, ed., *Indian travels of Thevenot and Careri: being the third part of the travels of M. de Thevenot into the Levant and the third part of a voyage round the world by Dr. John Francis Gemelli Careri*, New Delhi: The National Archives, 1949, p. 138.

9 C. A. Bayly, *Rulers, townsmen and bazaars: north Indian society in the age of British expansion, 1770–1870*, Cambridge: Cambridge University Press, 1983, p. 149.

10 Verberckmoes and Stols, *Aziatische omzwervingen*, p. 119.

11 R. J. Barendse, *Arabian seas 1700–1763, vol. 2: kings, gangsters and companies*, Leiden: Brill 2009, pp. 711, 838; R. J. Barendse, *Arabian seas 1700–1763, vol. 3: men and merchandise*, Leiden: Brill, 2009, pp. 919, 922.

12 Howard, 'Description', p. 915.

13 Makrand Mehta, *Indian merchants and entrepreneurs in historical perspective*, New Delhi: Academic Foundation, 1991, p. 35. See also M. N. Pearson, 'Banyas and Brahmins: their role in the Portuguese Indian economy', in *Coastal western India: studies from the Portuguese records*, New Delhi: Concept, 1972, p. 104; M. N. Pearson, *Merchants and rulers in Gujarat: the response to the Portuguese in the sixteenth century*, Berkeley, CA: University of California Press, 1976, p. 26. Bayly, *Rulers*, p. 161.

14 Mehta, *Indian merchants*, p. 95. For a description of the personal transporters, see de Coultre in Verberckmoes and Stols, eds., *Aziatische omzwervingen*, p. 194.

This system was based on trust and ‘reinforced with sanctions deriving from caste and Hindu or Jain religious precepts’.<sup>15</sup>

Merchants from Gujarat commissioned not only mining but also the cutting and polishing work done near the mines. The finishers, from the gold- and silversmith caste, would move between mines with their Gujarati commissioners.<sup>16</sup> This allowed Gujarati entrepreneurs to exercise close control on parts of at least three segments of the commodity chain: mining, finishing, and trade. If they moved from one mine to another (for example, because of mine depletion or wars), the finishing industry accompanied them.

Cutters and polishers worked in royal workshops or near the mines, as well as in workshops in urban bazaars. Most famous were the workshops in international trading cities such as Surat, Goa, and Ahmadabad, and later, after international trade routes had shifted, in Madras, Calcutta, and Bombay. Workshops also operated in court cities such as Golconda, Delhi, and Agra and at the princely courts of Awadh and Hyderabad. The fame of these workshops’ clientele and artisanship was international if not global: for example, the Queen of Sukadana (on Borneo) had the diamond she presented to the King of Bantam cut and polished in Goa.<sup>17</sup> Portuguese cutters and polishers resided in Goa, as well as at least one Flemish lapidary, a diamond polisher named Frans Coningh from Antwerp, who operated a flourishing workshop.<sup>18</sup> It was in these international trading hubs, and sometimes near the mines themselves, that European merchants first began purchasing diamonds for the European market.

## European consumers and dealers enter a global market

European courts developed a taste for diamonds and other gemstone jewellery in the latter half of the fourteenth century.<sup>19</sup> Such items were worn by kings and queens, and later also by noblemen and -women, as markers of power, wealth, and status. In the mid fifteenth century Emperor Maximilian I is believed to have given Mary of Burgundy the first diamond engagement ring (they wed shortly thereafter), a practice that added a meaning of everlasting love to the stone.<sup>20</sup> In the second half of the sixteenth century, jewellery became more abundant and increasingly associated with women, not least because at the time many European sovereigns were women.<sup>21</sup> Besides gender, class was also an important determinant of consumption: in the seventeenth

15 Bayly, *Rulers*, p. 31.

16 Narahari Gopa Lakrishnama Chetti, *A manual of the Kurnool district in the presidency of Madras*, Madras: Government Press, 1886, pp. 94–5.

17 Tavernier, *Travels*, vol. 2, p. 276.

18 Nuno Vassalo e Silva, ‘Jewels for the great Mughal: Goa a centre of gem trade in the Orient’, *Jewellery Studies*, 10, 2004, p. 43; John Everaert, ‘Soldaten, diamantairs en jezuieten: Zuid- en Noord-Nederlanders in Portugees-Indië (Soldiers, diamonds and Jesuits: Flemings and Dutchmen in Portuguese India)’, in Roelof van Gelder, Jan Parmentier, and Vibeke Roeper, eds., *Souffrir pour parvenir: de wereld van Jan Huygen van Linschoten (Souffrir pour parvenir: the world of Jan Huygen van Linschoten)*, Haarlem: Uitgeverij Arcadia 1998, pp. 89–91.

19 Joan Evans, *A history of jewellery 1100–1870*, New York: Dover Publications, 1989, pp. 53–5.

20 Alois M. Haas, Ludwig Hödel, and Horst Ernst Scheider, *Diamant: Zauber und Geschichte eines Wunders der Natur*, Berlin: Springer, 2004, p. 238–9.

21 Evans, *History*, pp. 105–7.

century, diamonds and other gemstones appeared in the jewel inventories of bourgeois women.<sup>22</sup> This was a consequence of the increased supply of gemstones – diamonds and rubies from India, emeralds from Colombia – and of the growing economic prosperity of the middle classes.

For European merchants, the Indian diamond market was a true sellers' market. Alongside India's large internal market for diamonds, gemstones also formed an important part of the subcontinent's exports to the Indian Ocean region; this region included Southeast Asia, the Persian Gulf, and the southern part of the Arabic empire, where, according to some, a global economy had existed since before the fifteenth century.<sup>23</sup> Exact numbers are lacking for diamonds traded to these parts of the world, but Holden Furber is probably correct that trade with Europe was but a 'small part of the whole'.<sup>24</sup> Still, for the Portuguese, diamonds and other precious stones accounted for 14% of the total *Carreira da India* trade in the period 1580–1640; the same percentage applies to the British East India Company (EIC) in the period 1700–75. However, these are only official statistics. As shipwreck recoveries have shown, only some of the diamonds carried on the *Carreira* and EIC ships were actually registered; the actual figures would have been much higher. For the Dutch East India Company (VOC) percentages were relatively low: in 1643 diamonds were 5% of the total value of commodities shipped from Surat; in 1654 only 4%.<sup>25</sup>

## Global market, local tastes

European merchants could realize higher profits through buying rough stones rather than polished stones. In 1403, a Jewish jeweller in Venice composed a price list and descriptions of various gemstones; he informed his readers that the heavier a diamond was, the bigger the relative price difference between the rough and finished stone.<sup>26</sup> This variance stems from the fact that a finished stone reveals its qualities immediately, whereas for a rough stone it is difficult to discern which parts of it will be removed during the finishing process. During this period, finishing meant that the surface of the natural octahedron-shaped diamond was polished. In the fifteenth century, the so-called table cut was developed, such that the top point of the octahedron was flattened, giving the diamond a flat 'table' surface (see Figure 1). These basic techniques were developed in India and from there spread to Venice.<sup>27</sup>

22 *Ibid.*, p. 125.

23 Janet L. Abu-Lughod, *Before European hegemony: the world system A.D. 1250–1350*, New York: Oxford University Press, 1991; Andre Gunder Frank, *ReOrient: global economy in the Asian age*, Berkeley, CA: University of California Press, 1998, pp. 86–96. For the early trade relations in the Indian Ocean region, see Kitri N. Chaudhuri, *Trade and civilisation in the Indian Ocean: an economic history from the rise of Islam to 1750*, Cambridge: Cambridge University Press, 1985, pp. 20, 53.

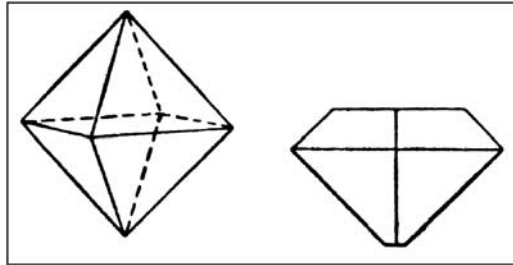
24 Holden Furber, *Rival empires of trade in the Orient, 1600–1800*, Minneapolis, MN: University of Minnesota Press, 1976, p. 260.

25 For the Portuguese data, see James C. Boyajian, *Portuguese trade in Asia under the Habsburgs, 1580–1640*, Baltimore, MD: John Hopkins University Press, 1993, p. 44; for the shipwrecks, *ibid.*, p. 137. For the EIC data see Francesca Trivellato, *The familiarity of strangers: the Sephardic diaspora, Livorno, and cross-cultural trade in the early modern period*, New Haven, CT: Yale University Press 2009, p. 237. For the VOC, see Coolhaas, *Generale missiven* vol. 2, p. 230 for 1643 and p. 765 for 1654.

26 Colette Sirat, 'Les pierres précieuses au XV<sup>e</sup> siècle', *Annales: Économies, Sociétés, Civilisations*, 23, 5, 1968, p. 1078.

27 Godehard Lenzen, *The history of diamond production and the diamond trade*, London: Barrie and Jenkins, 1970, p. 72; Haas, Hödel, and Scheider, *Diamant*, p. 231.

**Figure 1.** Left, a natural octahedron; right, a table-cut diamond. Source: Godehard Lenzen, *The history of diamond production and the diamond trade*, London: Barrie and Jenkins, 1970, p. 78.



Today, diamonds are categorized and valued according to their cut, colour, clarity, and carat weight. This was no different in the seventeenth century. Each property could be appreciated separately, and the most important varied from one type of customer to another. Jean-Baptiste Tavernier, a French jeweller, travelled to India several times and kept highly detailed notes about the large-scale finishing work performed in a Deccan mine in the 1640s; his editor mentioned 150 polishers.<sup>28</sup> Tavernier stressed the skills of the diamond cleavers: if they noticed any flaw in a diamond, they immediately cleaved it, ‘at which they are much more accomplished than we are’.<sup>29</sup> If a diamond had no flaws, ‘they do not more than just touch it with the wheel above and below, and do not venture to give it any form, for fear of reducing weight’.<sup>30</sup> Tavernier felt that ‘The Indians were unable to give the stones such a lively polish as we give them in Europe; this I believe, is due to the fact that their wheels do not run as smoothly as ours’.<sup>31</sup> The differences that he noted concerned the material of the polishing discs – European discs were made of iron, whereas the Indian discs were made of steel, which rendered them harder to polish – and the size of the driving wheels (those on Indian polishing mills were smaller).<sup>32</sup>

In the 1670s John Fryer, a scientifically trained employee of the EIC, wrote that the cut and polished Indian diamonds were generally sold in the country, whereas the rough stones were sent to Europe – ‘they coming short of the Fringies in Fancy’ – where they were ‘both set and cut to more advantage’.<sup>33</sup> Taste in diamond cuts differed between India and Europe; they would diverge even further when the facet-polishing technique was developed in Europe and the so-called brilliant cut was invented in the late seventeenth century. This cut, which

28 Samuel Chappuzeau, a French writer who edited Tavernier’s notes, published a small booklet, which was translated into English: *The history of jewels, and of the principal riches of the East and the West: taken from the relation of divers of the most famous travellers of our age*, London: Hobart Kemp, 1671; for the number of polishers, see p. 15.

29 Tavernier, *Travels*, vol. 2, p. 44.

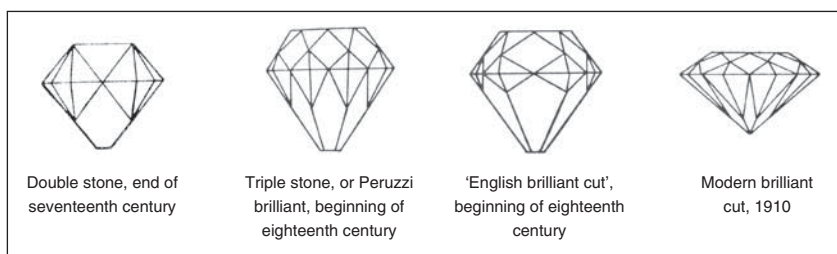
30 *Ibid.*, p. 44.

31 *Ibid.*

32 *Ibid.*, p. 45.

33 J. Fryer, *A new account of East-India and Persia in eight letters being nine years travels, begun 1672 and finished 1681*, London: printed by R. R. for R. Chiswell, 1698, p. 113.

Figure 2. The development of the brilliant cut. Source: Lenzen, *History of diamond production*, p. 109.



would become the most popular one in Europe in the eighteenth century,<sup>34</sup> featured not only a highly symmetrically cut and multifaceted top but also a pointed bottom, the so-called pavilion (see Figure 2). The latter element enhanced the diamond's refractory quality, enhancing the stone's brilliance yet reducing its weight, often by 50%. As candlelit evening parties were in vogue at the time, light-catching brilliants were the perfect ornaments for European courtiers, nobility, and bourgeoisie.<sup>35</sup> Indian lapidaries disdained such weight diminishment, however. In India, the number of carats was critical in the valuation and pricing of diamonds, as jewellery was priced by the weight of the raw materials used; labour costs were based on a fixed rate according to this weight.<sup>36</sup> The importance of jewellery weight is also reflected in a notable Indian tradition (later adopted by the Mughals): each year, the ruler was weighed on his birthday, so that his tributaries could present him with an equivalent weight of precious gems and jewels.<sup>37</sup>

In order to set stones that had been left as large as possible – and were thus irregular – Indian goldsmiths developed a special technique, the so-called *kundan* setting. This technique entails forcing a 24-carat-gold fillet between the stone and the lower-laid parts of the jewel, forming a closed setting with a small rim encircling the gemstone. The stone was often backed with foil, to heighten the glittering effect.<sup>38</sup> This technique enhanced the beauty of irregular stones and helped establish the traditional diamond cut as an all-time favourite in India. 'Irregular'-cut (later dubbed 'Mughal-cut') diamonds are found in eighteenth-, nineteenth-, and even twentieth-century jewels produced in India.<sup>39</sup> The famous London jeweller David Jeffries deeply disapproved of the irregularity. In 1751 he described the diamonds finished in Indian workshops as 'in general ill shaped' and noted that:

none are properly polished; and the chief thing regarded, is that of saving the size and weight of stones: and this is not much be wondered at in them, as they are unacquainted

34 M. H. Gans, *Juwelen en mensen: de geschiedenis van het bijou van 1400 tot 1900, voornamelijk naar Nederlandse bronnen (Jewellery and people: the history of the bijou from 1400 to 1900, primarily from Dutch sources)*, Schiedam: Interbook International, 1979, p. 173.

35 Jan Walgrave, 'Diamond cuts in the 17th century', in *A sparkling age: 17th-century diamond jewellery* (exhibition catalogue), Antwerp: Diamantmuseum, 1993, p. 47; see also Pointon, *Brilliant effects*, pp. 26–7.

36 *Journal of Indian Art*, 1, 14, 1886, p. 106.

37 Jennifer Scarce, 'A splendid harmony: Mughal jewellery and dress', *Jewellery Studies*, 10, 2004, p. 33.

38 Oppi Untracht, *Traditional jewelry of India*, London: Thames and Hudson, 2008, pp. 317–18.

39 *Ibid.*, pp. 322–9.



with the beauties of well-wrought Diamonds.<sup>40</sup> ... the wrought stones that come from thence, none of them being fit for use, and therefore are always new wrought when brought to Europe.<sup>41</sup>

Such critiques by European, mostly British, jewellers of the techniques of Indian polishers suggest that Indian lapidaries were unfamiliar with the polishing techniques employed by Europeans. Yet Mughal Emperors – especially Jahangir and Shah Jahan – retained highly trained, international staff in their royal treasuries and jewellery workshops. European cutters and polishers were employed, including Augustin Hiriart from France, who produced a throne for Jahangir; the Antwerp-born cutter and polisher Abraham de Duyts served Shah Jahan for at least twelve years as a diamond polisher and jeweller.<sup>42</sup> Besides the cutters and polishers mentioned in the records of the Mughal court, there were surely others as well. These Europeans brought their own polishing mills with them.<sup>43</sup>

There was significant difference in the skills and tools of the polishers who worked near the mines and those who worked for royal workshops. The former did not adopt the European mill (with an iron disk and larger driving wheel); the latter possibly did.<sup>44</sup> There are insufficient surviving examples of the European polishers' work, or depictions thereof, to ascertain clear influence of European polishing and cutting styles at the Mughal court; however, a portrait of Shah Jahan includes a turban ornament unmistakably influenced by European design, although the centre diamond remained of irregular shape.<sup>45</sup>

Yet, although some Mughal emperors clearly fancied the novelty of European jewellery, their taste for stones that had been kept as large as possible did not diminish. Thus we should re-evaluate European remarks about the irregularity of the cuts employed by Indian jewellers. Such irregularity resulted not from any lack of skill; rather, it stemmed from the deeply felt wish of Indian polishers and consumers to leave the stones as large as possible. A significant degree of faceting craftsmanship is required to give an irregular rough stone the maximum sparkle possible.<sup>46</sup> Furthermore, with the *kundan* technique it was not necessary for stones to have a regular form, as the setting adapted to the stone, not vice versa.

Most importantly, these remarks should be understood within the perspective of a global market with diversification according to local tastes. As early as 1689 John Ovington, a British chaplain working in Surat, noticed differing tastes among diamond consumers. According to Ovington, most Europeans liked rose cuts (see Figure 3) and darker coloured stones, although the Dutch were especially keen on clear white diamonds, preferably table-cut.

40 David Jeffries, *A treatise on diamonds and pearls*, London: for the author, 1751, pp. 116–17.

41 *Ibid.*, p. 115.

42 Susan Stronge, 'The sublime thrones of the Mughal emperors of Hindustan', *Jewellery Studies*, 10, 2004, p. 57.

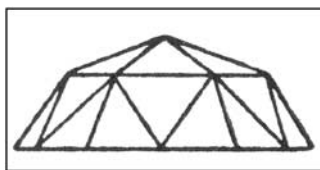
43 Stephen Markel, 'Pictorial, literary, and technical evidence for Mughal lapidary arts', paper presented at the 48th annual meeting of the Association for Asian Studies, Honolulu, 13 April 1996. I am grateful to Stephen Markel for sharing this discovery with me.

44 Ahsan Jan Qaisar, *The Indian response to European technology and culture AD 1498–1707*, New Delhi: Oxford University Press, 1998, pp. 79–81.

45 Assadullah Souren Melkian-Chirvani, 'The jeweled objects of Hindustan', *Jewellery Studies*, 10, 2004, p. 19.

46 Susan Stronge, *Made for Mughal emperors: royal treasuries from Hindustan*, London: I. B. Tauris, 2010, p. 168; Manuel Keene, *Treasury of the world: jewelled arts of India in the age of the Mughals*, New York: Thames & Hudson, 2001, pp. 128–9.

Figure 3. A rose-cut diamond. Source: Lenzen, *History of diamond production*, p. 79.



‘The Moors’, as he put it, favoured diamonds ‘whose Surface is cut in very minute Figure’.<sup>47</sup> The regular cuts favoured by European jewellers were ill-fitted to Indian tastes. Moreover, customers in Persia and the Arabian Peninsula appear to have liked the multifaceted Indian stones far more than the regular European ones. This diversified global market for finished stones may help to explain geographical shifts between finishing centres, beginning with a shift that saw part of the finishing industry in India relocate to Europe.

## From India via Venice to Antwerp

In 1503, exactly a century after the previously mentioned Jewish merchant in Venice published his price list, Bartolomeo di Pasi issued a list of commodities traded in the same city, including diamonds being brought there by individual merchants via various land routes. Di Pasi distinguished between *diamanti* and *diamanti in punta*. *Diamanti in punta* (see Figure 1, left) are natural octahedrons and were sent to Lisbon and Paris; *diamanti* – stones that did not have the natural pointed shape and had to be cut and polished into the desired shape – were sent to Antwerp, where a diamond-finishing industry had developed since the late fifteenth century.<sup>48</sup>

Little information exists about the size of the fifteenth-century Venetian diamond industry. However, it is known that at least some of the polishers were Jewish, as the 1434 statutes of the goldsmiths’ guild forbade artisans to teach Jews to set or work precious stones.<sup>49</sup> In 1638 there were twenty-two cutting mills and forty-seven polishers; by 1773 twenty-six polishers remained.<sup>50</sup> These numbers are hardly impressive compared to the 150 polishers Tavernier counted near one Indian mine; nevertheless, Venice was the first stepping stone in the development of the finishing industry in Europe, which grew slowly but substantially in the early modern period, with Antwerp as the next important trading and finishing hub.

At the end of the fifteenth century only a handful of diamond finishers lived in Antwerp. Less than a century later, the tax registers for the years 1584–85 included thirty-one diamond cutters and twenty-one diamond polishers.<sup>51</sup> In 1582 thirty to forty diamond and ruby

47 John Ovington, *A voyage to Surat in the year 1689*, London: Oxford University Press, 1929, pp. 121–2.

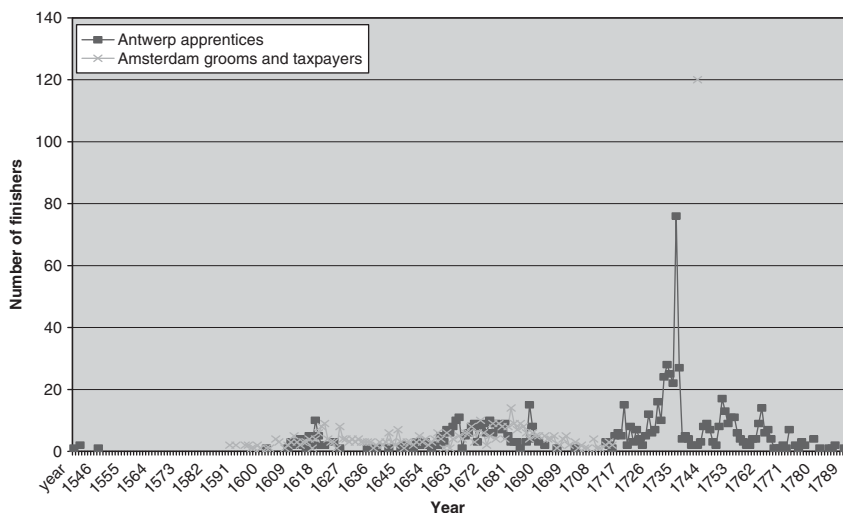
48 Lenzen, *History*, p. 61.

49 Piero Pazzi, *I diamanti nel commercio nell’arte e nelle vicende storiche di Venezia*, Venezia: Monasterio di San Lazzaro degli Armeni, 1986, pp. 13–14.

50 *Ibid.*, pp. 50–2, 47, 17.

51 Iris Kockelbergh, Eddy Vleeschdrager, and Jan Walgrave, *The brilliant story of Antwerp diamonds*, Antwerp: MIM NV, 1992, p. 57.

**Figure 4.** Registered apprentices in Antwerp and grooms and taxpayers in Amsterdam. Sources: Godelieve van Hemeldonck, 'Leercontracten, Arbeidscontracten en Compagniën 1414–1795', Felix Archief Antwerp, 2008; S. Hart, Count of professions of the grooms in the registers of intended marriages 1600–1715, Stadsarchief Amsterdam, Archief Dr S. Hart, 883/412–414.



cutters received permission from the city council to establish a guild.<sup>52</sup> The main goal of the guild was to restrict the number of diamond finishers, so as to 'protect the quality of the trade'. In practice this meant excluding finishers who were not burghers of the city, introducing an apprenticeship system with long and expensive training, and limiting the size of the enterprises.<sup>53</sup> In 1618 the guild counted 164 masters; at the same time, the number of apprenticeship contracts rose, from less than one per year on average in the period 1538–1608 to almost four per year from 1609 to 1618 (see Figure 4), a period that more or less coincides with the Twelve Years' Truce in the war between Habsburg Spain and the Netherlands, a conflict that hindered development of the trade.<sup>54</sup> In 1621 the truce ended and until 1648 the number of contracts signed averaged less than one per year. The numbers rose in the next five decades, but again fell to less than one, until discovery of diamonds in Brazil.

The diamond-finishing industry's shift from Venice to Antwerp can largely be explained by developments in the various segments of the diamond commodity chain, beginning with the supply of rough diamonds. The Portuguese, after their discovery of a sea route to Asia, became the most important rough diamond dealers, largely replacing the north Italian traders. From Lisbon, most diamonds were sent to Antwerp, which had become the principal

52 D. Schlugleit, *Geschiedenis van het Antwerpsche diamantslijpersambacht (1582–1797) (History of the Antwerp diamond-cutters' guild (1582–1797))*, Antwerp: Guillaume, 1935, pp. 9–10.

53 *Ibid.*, pp. 13–18; Kockelbergh, Vleeschdrager, and Walgrave, *Brilliant story*, pp. 66–7.

54 For the masters, see Schlugleit, *Geschiedenis*, p. 47; for the apprentices, Godelieve van Hemeldonck has done extensive research into the apprenticeship contracts in the Antwerp notary archives. Her manuscript 'Leercontracten, Arbeidscontracten en Compagniën 1414–1795 (Apprenticeship contracts, work contracts and companies 1414–1795)', 2008, is available in the Felix Archief in Antwerp (henceforth FAA).

market for the Portuguese to sell spices and purchase essentials for the Asian trade and the Iberian economies.<sup>55</sup> Antwerp now had a structural supply of rough diamonds; it also held a central geographic position, which facilitated service to the European courts. These factors led diamond merchants, who constituted the first link between rough diamonds and consumers, to settle in Flanders. Initially, these merchants came from north Italian cities; they included figures such as Giovanni Carlo Affaitadi, of the famous Cremonese family, who made his fortune in the sugar and spice trade and in banking before entering the diamond trade.

After the Italian merchants, Portuguese merchants – often New Christians (converts from Judaism) – started to play an important role in the sixteenth-century diamond trade and industry in Antwerp. Like the Gujarati merchants in India, New Christians (and Sephardim who had fled Portugal without converting or had returned to Judaism in their new home country) were able to attract investments from within their own circles and thereby establish an international trading diaspora, with agents in various parts of the world, based on family and community ties. These ties facilitated exchange of commodities, capital, and information. As Francesca Trivellato has shown for the seventeenth- and eighteenth-century Sephardim based in Livorno, these diasporas did not operate in a vacuum. Legal contracts and occasional external sanctions were used to preserve the trust relations in these networks; moreover, the networks included merchants from other ethnic and religious backgrounds, such as Hindu merchants from Gujarat.<sup>56</sup> The Rodrigues d'Evora dynasty is an example of such a New Christian merchant family with a worldwide network centred in Antwerp. In the late sixteenth century, Manuel Rodrigues d'Evora settled in Antwerp, where he traded in pepper and spice. His son Simão established a trading company in Antwerp with his son-in-law Francisco. They dealt with local agents in Goa (these agents included various New Christians and Hindus) and shipped their cargo with the *Carreira* ships.<sup>57</sup>

Cutters and finishers, the second link between rough diamonds and consumers, also settled in Antwerp. Finishing techniques probably moved with the Italian merchants and their artisans from Northern Italy to Flanders: for example, in 1555 Affaitadi's employees included a master diamond cutter from Piemonte.<sup>58</sup> The Flemish merchant colony in Venice may also have helped in transferring the technique.<sup>59</sup>

Thus, in the final decades of the sixteenth century, Antwerp had a more or less institutionalized guild-based system of training for diamond cutters and polishers. Via apprenticeships, but also via unregistered training (which continued to be organized, despite the guild), skills were transferred from one generation to another, from Flemish artisans

55 Boyajian, *Portuguese trade*, pp. 135–6.

56 Trivellato, *Familiarity*, p. 219. See also Francesca Trivellato, 'Sephardic merchants in the early modern Atlantic and beyond: toward a comparative historical approach to business cooperation', in Richard L. Kagan and Philip D. Morgan, *Atlantic diasporas: Jews, conversos, and crypto-Jews in the age of mercantilism, 1500–1800*, Baltimore, MD: John Hopkins University Press, 2009, pp. 99–122.

57 FAA, Notarieel Archief (henceforth NA), N 3624, fol. 368 (for the Hindu trader). I am grateful to Filipa Ribeiro da Silva for helping me interpret these documents. See also John Everaert, 'Shifting the "diamond connection": Antwerp and the gem trade with Portuguese India (1590–1636)', in Fátima da Silva Gracias, Celsa Pinto, and Charles Borges, *Indo-Portuguese history: global trends. Proceedings of XI international seminar on Indo-Portuguese history*, Goa: Maureen & Camvet Publishers 2005, pp. 317–21.

58 Kockelbergh, Vleschdrager, and Walgrave, *Brilliant story*, p. 41.

59 Everaert, 'Shifting', pp. 321–7; Everaert, 'Soldaten', pp. 89–90.

to New Christians and, in exceptional cases, vice versa. If needed, skills were transferred between cities.<sup>60</sup>

## From Antwerp to Amsterdam and London

In 1584 Spanish troops besieged Antwerp; the city surrendered a year later. This brought numerous Portuguese merchants (mainly Sephardim but also New Christians), including diamond dealers and ‘their’ Protestant polishers, to Amsterdam, for both economic and religious reasons.<sup>61</sup> In 1589 a diamond cutter (Pieter Goos of Antwerp) was for the first time included in an Amsterdam register of intended marriages of the Dutch Reformed Church. As Figure 4 shows, the number of diamond finishers listed in intended marriage registers in Amsterdam remained small until 1610, but then began to increase. These registers do not include certain groups: Jewish cutters and polishers, who only married in synagogues, and polishers from abroad who had arrived already married. Nonetheless, the registers demonstrate some general trends. Furthermore, notarial records reveal that the Antwerp immigrants – who formed about 20% of the diamond cutters noted in the registers – began training others.<sup>62</sup> In 1612, for example, Andries Pitten from Antwerp started to train Samuel Blommaert from London and in 1617 he taught Gerrit Ochehdo from Lisbon.<sup>63</sup>

In the second half of the seventeenth century the number of diamond cutters and polishers in Amsterdam began rising and eventually overtook Antwerp. This development is partly explained by the now larger-scale immigration of Portuguese diamond merchants from Antwerp. Though many Portuguese merchants had stayed in – or returned to – Antwerp in the late sixteenth century, they began departing the Spanish Southern Netherlands after 1648, in light of the deteriorating economic situation and commencement of a true inquisition against New Christians.<sup>64</sup>

For developments after 1715 we must rely on other sources, as professions were no longer indicated in the marriage registers. The Amsterdam tax register of 1742 includes data on some 27% of all households. Of the 13,745 taxpaying households, 32 were headed by a diamond polisher.<sup>65</sup> Assuming that 27% of all diamond polishers were tax payers, their total

60 FAA, NA, N 3608, fol. 117.

61 Jonathan Israel, ‘The economic contribution of Dutch Sephardi Jewry to Holland’s golden age, 1595–1713’, *Tijdschrift voor Geschiedenis*, 96, 1983, p. 508.

62 The archivist S. Hart counted all male professions in the registers of intended marriages in Amsterdam for 1600–1715. See Stadsarchief Amsterdam (henceforth SA), Archief Dr S. Hart (henceforth ASH), 883/412–414; S. Hart, ‘Geschrift en getal: onderzoek naar de samenstelling van de bevolking van Amsterdam in de 17e en 18e eeuw, op grond van gegevens over migratie, huwelijk, beroep en alfabetisme (Texts and figures: research on the composition of the population of Amsterdam in the 17th and 18th centuries, on the basis of data on migration, marriage, occupation and literacy)’, in *Geschrift en getal: een keur uit de demografisch-, economisch- en sociaalhistorische studien op grond van Amsterdamse en Zaanse archivalia, 1600–1800 (Texts and figures: a selection of demographic, economic and socio-historical studies based on Amsterdam and Zaanse archival materials, 1600–1800)*, Dordrecht: Historische Vereniging Holland, 1976, pp. 115–81.

63 SA, ASH, Entries for notarial records, 30452/390.

64 Israel, ‘Economic contribution’, p. 521.

65 W. F. H. Oldewelt, ed., *Kobier van de personeele quotisatie te Amsterdam over het jaar 1742. Deel I: inleiding en registers (Register of personnel assessments in Amsterdam for the year 1742. Part I: introduction and registers)*, Amsterdam: Genootschap Amstelodamum, 1945, unpaginated. For the percentage of taxpaying households, see J. L. van Zanden, ‘De economie van Holland in de periode

number would have been about 120. The number of polishers rose to at least 300 in 1748;<sup>66</sup> around 1750, some 600 families were dependent upon the industry. By this point the Amsterdam finishing industry had clearly overtaken Antwerp's, in terms both of volume and of the quality of stones processed.<sup>67</sup>

The diamond industry's shift from Antwerp to Amsterdam and its various growth spurts stemmed from a number of changes in the commodity chain. First, Portuguese merchants arriving in Amsterdam in the late sixteenth century brought with them their global trading networks, thereby providing the city with a steady supply of rough diamonds. The city, in turn, provided diamond merchants with an extended financial infrastructure, including loans, insurances, and bills of exchange. Amsterdam's supply of rough diamonds increased when the VOC became a successful diamond buyer in India, especially in the period from the 1620s to the 1660s. The next segment in the commodity chain – well-trained diamond finishers, Protestants and probably also New Christians – 'followed' the merchants to Amsterdam, where, no longer hindered by guild restrictions, they started training new finishers. The final segment of the commodity chain – the consumers of the polished stones – remained the various European rulers and the nobility, but now included a growing bourgeoisie easily reachable from Amsterdam.

In the 1660s Amsterdam lost its position as the centre of the rough diamond trade, owing to the EIC not only beginning to allow its servants to buy small amounts of stones but also permitting private traders to import Indian diamonds via EIC officers. The VOC, in contrast, did not permit private trades until 1683.<sup>68</sup> Consequently, the amount of capital that could be spent on diamonds under the aegis of the EIC was much greater than that under the VOC. London became the new trading hub for rough diamonds, a position that it still maintains. Family members of the Amsterdam-based Sephardic families, as well as other merchants, settled in the British capital. The rise of London meant that Amsterdam's supply of rough diamonds was now mainly secondary, via Sephardic networks. However, unlike with previous shifts of the rough diamond trade, remarkably few diamond cutters and polishers followed the diamond dealers to the new trading centre.

The first diamond polishers in London were immigrants, mainly Protestants from the Netherlands and France; eight were listed in 1593. A listing of 'Foreign Protestants and aliens resident in England in the period 1618–1688' mentions twenty-five diamond cutters. Joan Evans counted another eleven Huguenot lapidaries and diamond cutters for the period 1618–1774. The 1692 poll tax register of London lists seven diamond cutters; this may well have represented the actual number, as the majority of households in the City of London paid this tax.<sup>69</sup> Between 1682 and 1801 wills were proved for sixteen diamond finishers;

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1650–1805: groei of achteruitgang? Een overzicht van bronnen, problemen en resultaten (The economy of Holland in the period 1650–1805: growth or decline? An overview of sources, problems and results)', *Bijdragen en Mededelingen betreffende de Geschiedenis der Nederlanden*, 102, 4, 1987, p. 568.

66 SA, 5061/694, request of a number of non-Jewish diamond cutters to establish a guild.

67 Henri Heertje, *De diamantbewerker van Amsterdam (The diamond workers of Amsterdam)*, Amsterdam: D.B. Centen's Uitgeverij, 1936, p. 21.

68 Wada, 'Diamond trade', p. 183.

69 Lien Bich Luu, *Immigrants and the industries of London 1500–1700*, Aldershot: Ashgate, 2005, p. 316; William Durrant Cooper, ed., *Lists of foreign Protestants and aliens, resident in England 1618–1688: from*

even if this represented only 10% of the actual total, the overall figure could not have been much higher than 160. From 1777 to 1826 another twelve diamond finishers held fire insurance; if one in three diamond finishers had a policy, there would have been another thirty-six finishers. Thus, an estimated maximum of some two hundred diamond cutters lived in London in the period between 1682 and 1826.<sup>70</sup> The 1841 census for Middlesex gives sixty diamond cutters.<sup>71</sup> David Jeffries claimed, in 1751, that England had lost out in the processing of diamonds despite having ‘in time past been possessed of the chief share thereof’. Such impressions, however, appear to have been based less on accurate observations than on a general sense of loss stemming from perceptions that the market had been flooded by cheap diamonds from Brazilian mines.<sup>72</sup>

For the industry to develop on any significant scale in London would have required more skilled diamond cutters to migrate there from Amsterdam after 1660; however, there was no need for such large-scale relocation as (family) contacts were strong and exchange easy.<sup>73</sup> Moreover, there was no religion-based motivation for leaving Amsterdam for London. In this case, it was probably the prestige of the Amsterdam industry that resulted in the rough stones following the cutters, not vice versa.

## Each centre has its speciality: global markets and local tastes again

It should be emphasized that the shift from Antwerp to Amsterdam was not a total relocation but rather a shift of the main centre. Part of the diamond trade remained in Antwerp, with seventeenth- and eighteenth-century Flemish firms such as Wallis and du Jon, Forchondt, Boon, De Pret, and James Dormer buying their rough stones in Amsterdam and London.<sup>74</sup> As only the smaller and low-quality rough stones reached Antwerp, its remaining cutters and polishers specialized in making the most of these stones; this required a very high level of skills, which were transferred from one generation to the next.

As we have seen, the market for polished diamonds in India, Persia, and the Arabian Peninsula demanded different types of cuts from those required by the European market. However, the various ‘European’ cuts also maintained specific niches and some were even appreciated in India. In the early seventeenth century the Antwerp-based diamond merchants

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*returns in the State Paper Office*, London: Camden Society, 1862; Joan Evans, ‘Huguenot goldsmiths in England and Ireland’, *Proceedings of the Huguenot Society of England*, 14, 4, 1929–33, pp. 496–554. A 1692 Poll Tax database was compiled by James Michael Brenner Alexander for ‘The economic and social structure of the City of London, c.1700’, PhD thesis, London School of Economics, University of London, 1989 (deposited with the Centre for Metropolitan History, Institute of Historical Research, School of Advanced Study, University of London). I thank Olwen Myhill for sharing this with me.

70 Documents collected in the London Lives project, including wills and fire insurances: see <http://www.londonlives.org> (consulted 26 June 2012).

71 *Occupation abstract, M.DCCC.XLI. Pt. I: England and Wales, and islands in the British seas*, London: Clowes and Sons for HMSO, 1844, p. 112.

72 Jeffries, *Treatise*, p. 151.

73 Gedalia Yogev, *Diamonds and coral: Anglo-Dutch Jews and eighteenth-century trade*, Leicester: Leicester University Press, 1978, p. 142.

74 Kockelbergh, Vleeschdrager, and Walgrave, *Brilliant story*, pp. 107, 109, 119–20.

Simão and Francisco Rodrigues d'Evora sent polished stones back to India, including pear-shaped and table-cut diamonds.<sup>75</sup> Potential buyers included a son of Jahangir. The stones were polished in Antwerp and packed into sealed boxes; in Goa they were repacked by Joseph de Coutre, brother of Jaques, who adjusted the mixes to local tastes.<sup>76</sup> Finished stones were also sold in India in the seventeenth century for the Flemish diamond merchant Boon.<sup>77</sup> As the letter books of the EIC detail, in the 1740s and 1750s various merchants in London regularly sent 'pearls, diamonds and precious stones' to India, in order to purchase diamonds.<sup>78</sup> Unfortunately, it is not specified whether these were cut and polished or still rough.

René Barendse correctly assumes that in the eighteenth century the prices of some commodities – including diamonds – were global, being set by supply and demand in the world economy.<sup>79</sup> This had already been the case for diamonds in the seventeenth century. The 'Instruction book for merchants' of the Antwerp Colen-de Groot family, probably dating from 1643, states that large diamonds over forty carats were far more appreciated in Goa and its surroundings than they were 'here', meaning Antwerp or perhaps the European market, and should therefore not be sent away. Should any of these large stones reach Antwerp, the book continues, they should be returned to Goa, for they were more expensive 'there' than 'in these countries'.<sup>80</sup>

We may assume that there was not only a global market for rough stones, with prices in different locations being more or less compatible, but also a global market for polished stones, with different groups of consumers in different parts of the world, each group having its own preference for diamonds of a particular size, cut, and colour. The Indian taste was not as uniform as some thought, given that polished stones returned from Europe to India. Nor, as Ovington had stressed in 1689, was there a homogeneous 'European taste'. This can also be gleaned from the correspondence of the eighteenth-century Antwerp-based diamond merchant James Dormer. Owing to these different tastes, parcels of diamonds were sent back and forth between London, Lisbon, Antwerp, and Amsterdam.<sup>81</sup> As such, it is entirely plausible that there was also a small, though highly diversified, global labour market for diamond cutters.

Herbert Tillander, in his extensive study of the various European diamond cuts, states that London cutters in the first half of the eighteenth century were the best in precision-work brilliants. They made superb but expensive products, their industry being known for quality more than for quantity. Amsterdam cutters, in contrast, produced smaller and less finely

75 FAA, NA, N 3624, fol. 367; see also fol. 371 for a cut and polished ruby.

76 *Ibid.*, fols. 367, 368, 371.

77 FAA, Insolvente Boedelkamer (hereafter IB), 2270, Boon family, copy of a letter of 3 March 1665. See also Erica Coster, 'De diamanthandel te Antwerpen in de XVIIe eeuw gezien vanuit de geschiedenis van de firma's Wallis-du-Jon, Boon and Forchoudt' (The diamond trade in seventeenth-century Antwerp as seen from the history of the firms Wallis-du-Jon, Boon and Forchoudt), in *Album aangeboden aan Charles Verlinden ter gelegenheid van zijn dertig jaar professoraat (Album presented to Charles Verlinden on the occasion of his thirty-year professorate)*, Gent: Universa 1975, p. 100.

78 British Library (hereafter BL), India Office Records (hereafter IOR), General Correspondence (hereafter GC), E/3/109, fols., 312, 313, 341; BL, IOR, E/3/110, fols., 73, 262; BL, IOR, E/3/111, fol. 94.

79 Barendse, *Arabian seas vol. 3*, p. 903.

80 Jan Denucé, *Koopmansleerboeken van de XVIe en XVIIe eeuwen in handschrift (Merchant textbooks from the sixteenth and seventeenth centuries in manuscript)*, Antwerp: Standaard, 1941, pp. 203–4.

81 Tijn Vanneste, *Global trade and commercial networks: eighteenth-century diamond merchants*, London: Pickering & Chatto, 2011, p. 65.



rendered brilliants that catered to a larger consumer market.<sup>82</sup> As we have seen, Antwerp was forced to focus on smaller stones, usually made into twelve-facet rose cuts, whereas Indian consumers held a strong preference for large stones, left as sizeable as possible, though European-cut stones occasionally found appreciation in India, at least at the Mughal courts. In each city and court we find diamond cutters from abroad who had followed this global commodity and now shaped rough stones according to local tastes.

## New mines, new finishing centres?

In the late 1720s the discovery of major diamond deposits in the Brazilian Minas Gerais district, north of Rio de Janeiro, initially seemed to cause a thorough restructuring of the global diamond commodity chain. India was no longer the sole supplier of rough diamonds, and the mines were no longer controlled by local rulers but by a colonial power in metropolitan Lisbon. Initially, the crown welcomed any exploiter who paid a tax per miner to the Portuguese treasury (these miners were in fact slaves, 'imported' on a massive scale from Africa). This spurred an enormous flow of rough diamonds, more than five times the value that usually came from India, thereby leading prices to drop by half and sometimes even to a third of the usual rate.<sup>83</sup> The Indo-European diamond trade came to a complete standstill.

Startled by the lowered prices and by the responses of European traders who feared that in Brazil 'diamonds were as plenty as transparent pebbles',<sup>84</sup> the Portuguese crown closed the mines in the Minas Gerais district in 1734. When the mines reopened, in 1739, a mining monopoly was established, with the actual mining entrusted to a single contractor, often a Dutch or British company.<sup>85</sup> Representatives of the contractor were the sole merchants allowed to sell the rough diamonds; their sales were restricted to Lisbon, however, where the state controlled the trading procedures and officials of the king always had first choice. After this procedure, representatives could sell any remaining diamonds to other European merchants.<sup>86</sup> These measures regulated the official part of the trade, yet illegal flows of diamonds – amounting to at least half the size of the official output – went directly from Brazil to Amsterdam and London.<sup>87</sup> In 1753, the Portuguese crown – in an attempt to stop the ongoing illegal mining and smuggling – established a separate trading monopoly. The Dutch consul in Lisbon, Daniël Gildemeester, obtained this extremely expensive trading monopoly in 1761 and held it for several decades.<sup>88</sup> At the same time the Bank of Amsterdam granted several loans to the destitute Portuguese crown. In 1787 Gildemeester lost the contract, after which his successor, Joaquim Pedro Quintela, a Portuguese merchant,

82 Herbert Tillander, *Diamond cuts in historic jewellery, 1381–1910*, London: Art Books International, 1995, pp. 136, 167, 182.

83 For the amounts, see Yogev, *Diamonds*, p. 111; for the price drop, see Lenzen, *History*, p. 116.

84 Jeffries, *Treatise*, p. 66.

85 Vanneste, *Global trade*, p. 51; D. Ramos, 'Slavery in Brazil: a case study of Diamantina, Minas Gerais', *America: A Quarterly Review of Inter-American Cultural History*, 45, 1, 1988, p. 48.

86 Vanneste, *Global trade*, p. 52.

87 Harry Bernstein, *The Brazilian diamond in contracts, contraband, and capital*, Lanham, MD: University Press of America, 1986, p. 62.

88 Vanneste, *Global trade*, pp. 55–7; Yogev, *Diamonds*, p. 122.

approached the Dutch trader and banker John Hope and his company, who suggested that the Portuguese crown deposit diamonds in return for a loan.<sup>89</sup> When Hope settled in England in 1794, he invited the British Baring Brothers bank to join him in the loan. They did so, and the loan was established in 1802 and renewed in 1810. By then, the Portuguese court had fled to Brazil and Napoleon had captured Lisbon. While the British army defended large parts of Portugal against French troops, British firms followed the Portuguese to Rio de Janeiro. More than ever, British companies gained mining and distribution contracts, consolidating London's position as *the* trading hub for rough diamonds, while Amsterdam's position as *the* finishing centre of the global diamond trade was secured. It was now Anglo-Dutch capital, rather than a colonial ruler, that controlled the first two segments of the diamond commodity chain, to which the Dutch added the finishing industry.

From 1785 onwards diamond production in the Brazilian mines started to diminish. From 1750 to 1770 the mines produced more than 60,000 carats annually; in the next three decades, however, they produced fewer than 30,000 annually; and, in 1825 – three years after Brazil's independence and subsequent abolition of the mining monopolies – fewer than 5,000 carats were found.<sup>90</sup> This limited supply of rough diamonds, as well as the Napoleonic wars, brought crisis to the finishing industry in the early nineteenth century. The Amsterdam industry survived, though on a smaller scale: in 1806 the patent tax registers listed 175 finishers; in 1820, 45 polishing mills were counted.<sup>91</sup> Despite rough supply being meagre and sometimes erratic, an important innovation occurred in 1822 that would facilitate expansion of the industry – namely, establishment of the first horse-driven power mill – followed, in 1840, by the first steam-driven mill. A massive expansion of the stream-driven mills would follow in the 1840s and 1850s.

Discovery of new diamond mines in the Brazilian Bahia district in 1844 led to production of possibly as much as 300,000 carats annually in 1850 and 1851 and about 190,000 carats annually from 1851 to 1861. The cutting industry thereby revived, not only in Amsterdam but also in Antwerp.<sup>92</sup>

## The re-awakening of Antwerp

Diamond trading and finishing never left Antwerp completely: according to the patent tax register of 1827, the city counted sixteen polishers-employers and the same number of employees; in 1830 there were twenty-two employers and twenty-eight employees; and in 1842 there were thirty-seven employers and fifty-six employees. These are minimum numbers, as not everyone paid patent tax.<sup>93</sup> Traditionally, the Antwerp finishers specialized

89 For the diamond loan, see M. G. Buist, *At Spes non fracta: Hope & Co, 1770–1815*, The Hague: Nijhoff, 1974, pp. 383 ff.

90 Laird W. Bergad, *Slavery and the demographic and economic history of Minas Gerais, Brazil, 1720–1888*, Cambridge: Cambridge University Press, 1999, p. 5.

91 Herman Diederiks, *Een stad in verval: Amsterdam omstreeks 1800, demografisch, economisch, ruimtelijk (A city in decline: Amsterdam around 1800, demographic, economic, spatial)*, Meppel: Krips Repro, 1982, p. 152; Heertje, *Diamantbewerders*, p. 25.

92 Max Bauer, *Precious stones*, vol. 1, New York: Dover Publications, Inc., 1968 (reprint of 1904 edn), p. 179.

93 T. van Tijn, 'Geschiedenis van de Amsterdamse diamanthandel en nijverheid, 1845–1897 (History of the Amsterdam diamond trade and industry, 1845–1987)', *Tijdschrift voor Geschiedenis*, 87, 1974, p. 19.

in rose cuts, but as these became less fashionable the Bovie firm in 1836 invited polishers from Amsterdam to come to Antwerp to polish brilliants.<sup>94</sup>

When diamonds from Bahia first reached Europe, more polishers from Amsterdam left for Antwerp, being invited there by diamond dealers who may have offered higher wages than did the polishers' Amsterdam bosses, so as to attract the more skilled workers. In 1844 sixteen diamond polishers from Amsterdam migrated to Antwerp, eleven of them to work for Bovie.<sup>95</sup> Four years later, the Antwerp Chamber of Commerce noted that the city's polishing industry had revived owing to the immigration of Amsterdam diamond workers. A report from Amsterdam, however, lamented the departure of twenty diamond polishers to Antwerp, as it endangered the industry in Amsterdam.<sup>96</sup> The industry in Antwerp developed quickly and several steam-driven polishing mills were established.

In 1867 new mines were discovered in South Africa; these could produce six times as many carats as the Brazilian mines.<sup>97</sup> This development initially seemed to have major consequences for the global diamond commodity chain, though eventually many segments remained in place. Again, British-based capital, concentrated in the De Beers Consolidated Mines, succeeded in monopolizing South African mining for a long time. Likewise, its Diamond Syndicate in London, later transformed into the Central Selling Organization (CSO), monopolized the trade of rough diamonds. London, more than ever, was the global trading hub for rough diamonds, while the finishing industry blossomed in Amsterdam and Antwerp, with many Amsterdam polishers travelling back and forth to Antwerp when they could earn more there.<sup>98</sup>

Because of the large supply, prices declined and diamonds were 'democratized'. The expanding American consumer market proved to be a major new outlet and the finishing industry boomed. In 1896 Amsterdam boasted 9,447 diamond finishers; Antwerp, in 1899, counted 3,092.<sup>99</sup> Ten years later, Antwerp and its surroundings had at least 10,000 finishers, whereas Amsterdam's number had fallen to 9,086.<sup>100</sup> After the First World War the balance shifted even further: in 1924 Amsterdam had 6,250 diamond finishers, but Antwerp listed 13,500.<sup>101</sup>

94 Martine Vermandere, *Adamastos: 100 jaar Algemene Diamantbewerdersbond van België (Adamastos: 100 years of the General Diamond Workers Union of Belgium)*, Antwerp: AMSAB, 1995, p. 9.

95 FAA, Dossiers Vreemdelingenpolitie (Dossiers of the Foreigners' Police) 2576–3511.

96 The Antwerp report is quoted in Youssef Deconinck, 'Diamantmigratie naar Antwerpen voor, tijdens en na de Kaapse Tijd: de Antwerpse diamantsector en zijn Amsterdamse migranten (1865–1880) (Diamond migration to Antwerp before, during and after the Cape period: the Antwerp diamond sector and its Amsterdam migrants (1865–1880))', MA thesis, Antwerp University, 2012, p. 25; the Amsterdam report in Heertje, *Diamantbewerders*, p. 178.

97 Lenzen, *History*, pp. 121, 158.

98 Deconinck, 'Diamantmigratie'.

99 'Uitkomsten der beroepstelling in het Koninkrijk der Nederlanden gehouden op den eenendertigste december 1899 (Results of the occupational census in the Kingdom of the Netherlands for 31 December 1899)', <http://www.volkstellingen.nl/nl/volkstelling/jaartellingdeelview/BRT189904/index.html> (consulted 5 December 2012); Kockelbergh, Vleeschdrager, and Walgrave, *Brilliant story*, p. 147.

100 'Uitkomsten der beroepstelling in het Koninkrijk der Nederlanden gehouden op den eenendertigste december 1909 (Results of the occupational census in the Kingdom of the Netherlands for 31 December 1909)', <http://www.volkstellingen.nl/nl/volkstelling/jaartellingdeelview/BRT190901/index.html> (consulted 5 December 2012); Kockelbergh, Vleeschdrager, and Walgrave, *Brilliant story*, p. 177.

101 Heertje, *Diamantbewerders*, p. 212.

How can we explain this shift? Until 1920, both Antwerp and Amsterdam had to rely on De Beers for the supply of rough diamonds; Antwerp merchants, however, appeared to have held more capital than the Amsterdam merchants, which afforded them a better buying position. Rough diamonds discovered in the Belgian Congo began reaching Antwerp in the 1920s, rendering rough supply cheap and easy to obtain in the city. Antwerp merchants had additional financial advantages: taxes were much lower than in Amsterdam; the franc was devaluated, making the Antwerp products cheaper; labour costs were lower, because of a lower standard of living and a weaker trade union. Most significantly, an extensive diamond industry had, since the first decade of the twentieth century, developed in Campine, the countryside east of Antwerp, where simple ‘single cut’ stones were cut for very low wages.<sup>102</sup>

The favourable financial situation also made Antwerp a major trading hub for rough and polished stones. So-called sight-holders – merchants who were acknowledged as official rough buyers at the CSO in London – used Antwerp as a secondary diamond exchange, reselling some of their rough stones there. Stones finished in Antwerp were also sold in the Antwerp exchanges. Within a few decades Antwerp had become *the* finishing centre of Europe, even as the city still played a vital role as a secondary market for rough stones and a primary market for finished diamonds.

## The ‘return’ to India

India’s role in the global diamond commodity chain since the discovery of diamonds in Brazil has generally been neglected. However, to understand the return of the finishing industry to India in the latter half of the twentieth century it is crucial to analyse this seemingly broken link in the global commodity chain. In reality, the supply of diamonds from Brazil did not affect the Indian trade in the long run, as European trade with India had revived by 1740.<sup>103</sup> The measures undertaken by the Portuguese crown to regulate supply were partly effective, and growing demand – spurred by the lowered prices and invention of the brilliant cut – balanced the supply. Moreover, many consumers preferred Indian stones over Brazilian ones, believing that the ‘Golconda diamonds’ were of finer quality.<sup>104</sup> Apart from this structural external demand for Indian diamonds, internal Indian demand did not diminish either; the rulers of the princely states continued the tradition of royal treasuries and workshops with skilful artisans, not least because jewellery remained an important symbol of political power and status.<sup>105</sup>

By the end of the eighteenth century, the Indian mines in the Deccan were exhausted.<sup>106</sup> The mines in and around Panna – owned and exploited by the Maharaja of Panna – remained

102 See Salvador Bloemgarten, *Henri Polak, social democraat 1868–1943 (Henri Polak, social democrat 1868–1943)*, The Hague: SDU, 1993, pp. 422–3, 431–2, 551–3; Kockelbergh, Vleeschdrager, and Walgrave, *Brilliant story*, p. 171.

103 See Yogev, *Diamonds*, p. 112; Trivellato, *Familiarity*, p. 245.

104 Trivellato, *Familiarity*, p. 245.

105 Usha R. Bala Krishnan, *Jewels of the Nizams*, New Delhi: Department of Culture, 2001, pp. 42–3; Katherine Prior and John Adamson, *Maharajas’ jewels*, New York: Vendome Press, 2000, p. 62.

106 See the reports by Benjamin Heyne, *Tracts, historical and statistical on India, with several tours through various parts of the peninsula: also an account of Sumatra, in a series of letters*, London: Baldwin, 1814, pp. 101–2; see also BL, IOR, F/4/275/6149 and P/243/35, as well as BL, IOR, F/4/540/13001. For the decision to stop mining, see BL, IOR, F/4/676/18769.

productive, though by the end of the nineteenth century they produced on average less than 0.006% of the yearly South African production.<sup>107</sup> Cutters and polishers could still be found near the mines but, according to some, only stones of inferior quality were finished there. ‘Those of a pure water’, that is, diamonds with high clarity, were sent to Benares and Calcutta, where a polishing industry had developed.<sup>108</sup> Diamond finishers again appear to have followed the rough diamonds around the globe, as it is known that at least several English cutters departed for Calcutta to work there.<sup>109</sup>

In the meantime, Indian merchants had begun importing diamonds from South Africa.<sup>110</sup> As this often proved difficult, they turned to buying rough and polished stones from Antwerp traders who had local agents in Bombay and Calcutta.<sup>111</sup> To circumvent these middlemen-merchants, a number of the jeweller-merchants – all of whom were Jains and were originally from Palanpur, in Gujarat – began travelling to Antwerp in the 1920s to import polished stones. These Gujarati traders established tight networks, based not only on family networks but also on Jain concepts of business ethics and community responsibility, which facilitated sharing capital, skill, and knowledge.<sup>112</sup> European-cut diamonds were by then widely appreciated in India, ever since Indian princes had started to travel to Europe in the 1870s, ordering jewellery at several famous European jewellers. Various jewels with ‘Europe-cut diamonds’ were displayed at the Calcutta International Exhibition of 1883.<sup>113</sup>

At the behest of the British, diamond imports from Europe stopped abruptly during the Second World War.<sup>114</sup> Antwerp’s diamond trade and industry were paralysed by the Nazi regime, though part of the industry was able to relocate to New York and Palestine, and Indian merchants became important buyers in both places.<sup>115</sup> The block on imports was continued by India’s government after independence;<sup>116</sup> not wishing to see money spent abroad on ‘luxury’, the government sought to stimulate investments in the country’s economic developments. Thus, only a handful of diamond traders, mostly the pioneers from

107 For the production of the Panna mines, see National Archives of India, New Delhi (henceforth NAI), Bundelkhand Agency, file no. 19 of 1890. For the South African production numbers, see Lenzen, *History*, p. 144.

108 NAI, Bundelkhand Agency, English Files, Proceedings no. 5 of 1881.

109 The will of John Philips, dated 3 September 1751, shows that he worked as a diamond cutter in Calcutta: The National Archives of the United Kingdom, Kew (henceforth TNA), PROB 11/790/175. For Evan Bowen, a diamond cutter in Calcutta in 1787, see Yogev, *Diamonds*, p. 142.

110 V. Ball, *A manual of the geology of India, part III: economic geology*, London: Trübner, 1881, appendix A, pp. 576–9.

111 For a list of foreign diamond agents in India, see NAI, Department of Commerce and Industry, Customs (War), August 1916, pp. 88–119.

112 Sebastian Henn, ‘Transnational communities and regional cluster dynamics: the case of the Palanpuris in the Antwerp diamond district’, *Die Erde*, 141, 2010, pp. 133–4, 137–9.

113 Prior and Adamson, *Maharaja’s jewels*, p. 123; *Journal of Indian Art and Industry*, 12, 102, 1909, p. 107.

114 For this measure and its consequences, see BL, IOR, L/E/8/5718.

115 David de Vries, *Diamonds and war: state, capital, and labor in British-ruled Palestine*, New York: Berghahn Books, 2010, pp. 118, 127, 133, 237.

116 Ralph Shor, *Connections: a profile of diamond people and their history*, Ramat Gan: International Diamond Publications Ltd, 1993, p. 116.

the 1920s and their descendants, were allowed to continue their trade. In 1952 Indian entrepreneurs were permitted to import diamonds, on condition that only 10% of their purchases could be polished stones; the rest were to be rough stones and polished in India, to stimulate the Indian industry. The by then well-established Gujarati Jain families quickly reconnected with their Antwerp contacts. They bought rough diamonds at the Antwerp exchanges, had the stones polished in India (where the diamond industry was developing in Bombay and Surat), and resold them in Antwerp.

At the beginning of the twentieth century, a small polishing industry still existed in India, primarily in Panna.<sup>117</sup> In 1951 there were some 300 finishers in India; in 1955 there were 700 to 800, concentrated in Surat and Bombay and using methods ‘exactly the same as those used one hundred years or more ago’.<sup>118</sup> To improve this situation, Palimpuri merchants invited Antwerp cutters to Bombay in the late 1940s to teach them modern techniques.<sup>119</sup> These techniques were transferred to the finishers, who were often Patels, farmers from the interior of Gujarat who, no longer able to live off their land, had migrated to Surat.<sup>120</sup> Indian cutters worked on very small stones that had been rejected by entrepreneurs in the Belgian Campine industry when they could no longer work them economically.<sup>121</sup> The Indian labour force combined skills and low labour costs: an excellent combination for a polishing industry focusing on small stones.

In 1962 all import restrictions were repealed, on condition that the finished goods would be exported at a higher price.<sup>122</sup> This led to substantial growth of India’s diamond-cutting and -polishing industry. From 1964 onwards, Indian merchants were welcomed as sight-holders at the CSO in London, which held a large stock of small stones that it was unable to sell to Antwerp traders. In 1985 the discovery of diamond mines in Australia – which mainly produced small, low-quality gems – catalysed the Indian diamond industry, as the Australians bypassed the De Beers monopoly and thus their supply was relatively inexpensive. At the same time, jewellery set with these tiny stones became quite fashionable in America.<sup>123</sup>

It is important to note that the ‘return’ of the finishing industry was not stimulated by the supply of rough stones from the Indian mines, nor by any initial attempt to produce for the

117 ‘Lapidary work of Jaipur’, in C. S. Gupta, *Census of India – 1961, volume XIV, Rajasthan, part VII – A(I), survey of selected crafts*, New Delhi: Manager of Publications 1964, p. 218. I thank my colleague Kathinka Sinha-Kerkhoff for all her efforts to obtain this document for me; K. P. Sinor, *The diamond mines of Panna state in central India*, Bombay: The Times of India Press, 1930, pp. 79–82.

118 W. F. Foshag and G. Switzer, *27th annual report on the diamond industry, 1951*, New York: The Jeweler’s Circular–Keystone, 1951, p. 5; G. Switzer, *31st annual report on the diamond industry, 1955*, New York: The Jeweler’s Circular–Keystone, 1955, p. 6.

119 Kantilal Chhotalal, *Diamonds: from mines to markets*, Bombay: The Gem & Jewellery Export Promotion Council, 1990, p. 7.

120 Bernard Imhasly, ‘Schleifen am Familientisch: über Indiens wichtigste internationale Industrie’, *NZZ Folio* 12/93, *Die Zeitschrift der Neuen Zürcher Zeitung*, <http://www.nzzfolio.ch/www/d80bd71b-b264-4db4-afd0-277884b93470/showarticle/ed4da8ad-068a-48aa-83d1-7b35d39ad8a9.aspx> (consulted 26 June 2012).

121 Shor, p. 117.

122 Henn, ‘Transnational communities’, p. 136; Menahem Sevdemish, Alan R. Miciak, and Alfred A. Levinson, ‘The rise to prominence of the modern diamond cutting industry in India’, *Gems & Gemology*, 34, 1, 1998, p. 6.

123 Shor, *Connections*, pp. 121–4.

export market. It was the internal demand for diamonds that brought Indian merchants to Antwerp in the first place. British and later Indian government policy stimulated redevelopment of the industry in India, which began to grow thanks to a confluence of developments in the global diamond commodity chain: an extra supply of rough small stones which could no longer be profitably polished in Antwerp and growing American demand for this type of stones. A truly global network of Gujarati merchants connected these segments. Today, Mumbai, Surat, and other Gujarati cities are finishing centres for various types of diamonds, though the specialization in small diamonds remains.

The growth of the Indian industry has certainly been a consequence of the shift of large parts of the industry from Antwerp: in 1965 there were more than 15,000 diamond workers in Antwerp, yet by 2008 fewer than 150 were left. The number of finishers in the various centres in India rose from 25,000 to 30,000 in 1967, to 50,000 in 1971, to 700,000–800,000 in 1994, and to over a million in 2004.<sup>124</sup>

## Conclusion

The shifts of the main diamond-finishing centres that have been analysed in this article can be explained largely by changes in one of the segments of the global diamond commodity chain. At the start of the chain, the subsequent ‘polities’ that monopolized mining in India, Brazil, and South Africa – Indian rulers, the Portuguese crown, and the De Beers company – controlled who was permitted to exploit the mines and under what conditions. This already determined the first part of the diamond trajectory. Subsequently, institutions such as the VOC, the EIC, the Portuguese crown, and the CSO in London all endeavoured, with varying success, to monopolize the trade in rough diamonds. In doing so they were partially able to determine who the traders would be and where the main rough-diamond-trading hub would be established – this location often became the main finishing centre as well. Under the aegis of these institutions, networks of traders and financiers played an equally important role: even though the EIC more or less institutionalized the trade in rough diamonds, it was private capital that financed the largest part of the trade, just as British and Dutch capital ‘governed’ mining and the rough diamond trade from Brazil, and as did British and South African capital in South Africa. In line with Gereffi’s ideas on the governance structures of global commodity chains,<sup>125</sup> one could argue that this part of the diamond trajectory increasingly became a producer-driven commodity chain.

Diamond merchants governed the next segment of the chain: the transfer of the rough stones to the finishers and the sale of the finished stones to consumers. These merchants were mobile, functioning within connected global networks that provided them with necessary capital, infrastructure, knowledge, and trustworthy partners. Often such networks were based on caste, community, family, religion, ethnicity, or combinations of these. The merchants settled where they had easy access to rough diamonds and a reliable financial infrastructure, but they also needed skilful, knowledgeable, and affordable polishers. Finally, they had to maintain close contacts with their customers, and remain scrupulously abreast of their tastes.

Diamond cutters and polishers often followed the stones and their traders, as seen in the shifts from Venice to Antwerp and from there to Amsterdam. If needed, they brought their

124 Henn, ‘Transnational communities’, pp. 136, 140.

125 As discussed in Gereffi, Korzeniewicz, and Korzeniewicz, ‘Introduction’, p. 7.

skills, passed from father to son or from master to apprentice. However, in the 1660s, when London became the most important rough-diamond-trading hub, finishers did not leave Amsterdam to settle in the British capital on a large scale. Seen from a global commodity chain perspective, before the EIC more or less fixed the rough trade in London, rough diamond dealers settled in the major international trading hubs, with the finishers following them. With establishment of the main rough trading centre in London, the situation seemed more static. For centuries London remained *the* trading centre for rough diamonds and Amsterdam *the* finishing centre: a division of functions appears to have been established. Seen from a micro-level, it becomes apparent that, in practice, within the Sephardic networks rough and finished diamonds travelled without significant obstructions, such that finishers did not need to follow the stones. Many Jewish cutters were reluctant to leave their relatively comfortable position in Amsterdam society, and few did. This particular non-shift shows that not only were networks between traders important but so to were ties between traders and finishers.

As diamonds are a luxury commodity, taste plays an integral role in consumption, the final segment of the chain. As this article has shown, over the centuries typical consumers in different regions of the global diamond trade had dissimilar preferences concerning diamond size, colour, and cut, and these preferences changed over time. Dealers and finishers had to address these preferences effectively: if they did not cater to shifting consumer tastes they could easily lose their position to another centre that did. This pattern was global. Developments in the globally diversified market therefore partly explain the shifts of the main finishing centres. It should be emphasized, however, that these shifts were never absolute: small numbers of traders and finishers always remained behind, awaiting their chance to be the main centre again and depending on the supply of rough diamonds and on customers who happened to like their specific type of work. Taste could also be manipulated, of course, especially when De Beers introduced clever marketing, an extra segment in the chain that could stimulate taste for certain types of diamonds or settings.

Finishers could also be explicitly invited to a specific place to teach local finishers new techniques. This happened with Amsterdam polishers, who went to Antwerp in the first half of the nineteenth century, and with Antwerp polishers, who went to Bombay in the late 1940s. As the 'receiving' finishing centres were small and relatively unimportant at those moments, such transfers of skill and personnel seemed harmless, though in fact they were the first step in the direction of a major shift. Next to this product specialization a search for low labour costs seems to have been influential in the location of the main finishing industry, especially in the twentieth century, when small stones became fashionable and labour a major production cost.

The global commodity chain approach is a highly useful tool in global history, though it is essential to consider the segments of the chain in their respective contexts. It also makes sense not to focus solely on successful chains; broken chains or weaker links are also important, as demonstrated by the sudden revivals of Antwerp and India in the twentieth century. A major advantage of this approach is that it facilitates connecting developments on a more global and macro-level with developments on a micro-level. As this article has examined various shifts and especially the actors behind them, unexpected global connections have been discovered. European merchants from the early seventeenth to the late eighteenth century not only brought rough diamonds from India to Europe; they also resold diamonds, rough and finished, to India. This type of research teaches us that a global market for diamonds, with



global prices that were set by supply and demand, appears to have existed as early as the seventeenth century. Within this global market, each cutting centre catered to a specific market niche. And within this integrated market, diamonds and diamond dealers travelled from one place to another, as did information about and knowledge of diamonds. Diamond cutters and their techniques relocated as well. They moved from India to Europe and vice versa, but also within Europe and India, and we might conclude that a small but highly diversified global labour market for diamond finishers has existed for centuries.

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