The Baltic Amber Trade, c. 1500-1800: The Effects and Ramifications of a Global Counterflow Commodity

by

Adrian Christ

A thesis submitted in partial fulfillment of the requirements for the degree of

Master of Arts

in

History

Department of History and Classics
University of Alberta

Abstract

My thesis adds a new dimension to the history of the Baltic region during the early modern period (c. 1500-1800) by focusing on a previously unexamined global commodity from the Baltic: amber. Historically, the Baltic's commercial activity during this period has been characterized as one supplying the development of urban centres and shipbuilding further west through the provision of bulk commodities such as grain, timber and metal. A material of Baltic provenance with very unique properties like amber stands conspicuously apart from this sort of bulk trade, adding a new directly global element to the characterization of Baltic trade at the time. Amber has not been seriously examined as a global commodity during this time period, and my research demonstrates that it was traded regularly from the Baltic to markets in eastern Asia in which European commodities generally struggled to find purchase.

To demonstrate the significance of Baltic amber to early modern trade, I use a commodity chain approach that investigates amber in depth from its formation out of tree resin and collection along Baltic shores to its long-distance transport and arrival to Asian markets. Throughout this analysis, amber's unique material features are critical: the possibilities for sensory interaction they provide allow great meaning and value to attach to it. Additionally, its light weight and high value make its transport viable over long distances, allowing it fill a commercial niche akin to that of previously studied commodities such as emeralds and pearls. The opening of new global trade routes after 1500 allowed this unique material to reach global markets much more efficiently, an opportunity for profit seized by a variety of commercial actors.

Amber's material features and collection are the first topic I address, noting its unusual combination of characteristics and the colonial regimes of extraction at play in its region of greatest abundance in the southeastern Baltic. Then, I note how those material features fit into particular cultural niches in early modern Europe using the evidence of surviving material sources from that time period. The quantitative evidence of the Sound Toll Registers, which recorded and tariffed cargoes moving through the busiest strait entering the Baltic Sea, allow me to next contend that amber was overwhelmingly headed to the port of Amsterdam during my time period. Archival sources from the important Baltic cities of Gdańsk and Lübeck suggest an additional extralegal dimension to the regional amber trade, carried out especially by members of the Armenian and Sephardic trade diasporas. Amber as an item of extralegal or partially concealed private trade is a continuity in its commerce further afield as well, as I evidence with primary source material from the Dutch and English East India Companies and contemporary travellers' accounts. This extralegal traffic supplied a taste for amber objects and consumables in several eastern Asian markets, which I evidence with narrative and material sources. Together, these sources indicate that amber's movement from its point of collection on the Baltic shore to consumers in eastern Asian markets was regular and especially profitable. Amber's trade demonstrates that the presence of a unique material created global connections to cities around the Baltic Sea during an era of growing global commerce.

Acknowledgments

I am grateful to have received several major grants and awards in support of this project. Grants and awards funded by the Social Sciences and Humanities Research Council, the Government of Alberta, the University of Alberta, and several private scholarship donors gave me the means to complete this project. Without this funding, my archival sources would have been much sparser, and my project could not have approached its final scope.

I must thank my supervisor, Dr. Beverly Lemire, for her unfailing promptness, support, and guidance. Her experience and expertise turned large problems into small ones. Drs. Andrew Gow and Kenneth Mouré agreed to adjudicate a mid-summer defence without hesitation: I thank them for that and for their critiques and nuggets of wisdom.

Support from the Department of History and Classics was continual throughout this project. Rita Neyer, Dr. Ryan Dunch, Dr. Christopher Mackay, and Dr. Margriet Haagsma gave up their time to help me decipher various important sources for my research. Conversations with my cohort of graduate students helped me nearly every day. Sometimes, they clarified and distilled important parts of my argument; others, they provided a welcome respite from the pressure of expanding deadlines and dwindling confidence.

Lastly, I thank my family for their patience and interest. No doubt they know more about amber now than they ever thought they might – I certainly do. Especially, I thank my sister, who has always found the time to read over my writing and to provide honest, well-considered advice.

Table of Contents

List of Figures

List of Tables

Note on Terminology

When referring to towns or cities, I use their common present-day name for sake of simplicity. Thus, *Danzig* is *Gdańsk*, *Königsberg* is *Kaliningrad*, and so forth. When referring to political entities or regions, I use the monikers appropriate to the time period being addressed. Thus, mostly defunct units like East Prussia appear, and I occasionally use the awkward "Anglo-British" construction when my usage spans events on either side of the 1707 Act of Union.

The term *Sephardim* (from *Sepharad*, Hebrew for Spain; adj. *Sephardic*) refers to people of Jewish-Iberian background generally, rather than its more specific meaning that refers exclusively to practicing Jews with direct Spanish ancestry. This simplified, overarching use of the term avoids constant clarifications between practicing Jews and New Christians, early modern converts of Jewish origin who were often suspected of continuing to practice Judaism secretly. It also ignores differentiation between more specifically Sephardic Jews and Levantine ones or Ponentine ones, who avoided forcible conversion by fleeing to the Ottoman Empire or Portugal, with Ponentine Jews also eventually expelled. All of these groups remained inter-connected commercially and culturally despite the important differences between them.[1]

[1] Using *Sephardim* and its derivatives in this fashion echoes Francesca Trivellato's much more informed usage: *The Familiarity of Strangers: The Sephardic Diaspora, Livorno, and Cross-Cultural Trade in the Early Modern Period* (New Haven: Yale University Press, 2009), ix-x.

Introduction

The Baltic: Global Amber Supplier

During the sixteenth to eighteenth centuries, European cities and industries experienced considerable growth. As various cities across Europe, especially northwestern centres like Antwerp, Amsterdam and London, developed into global entrepôts with commercial ties to nearly every part of the world, they required not merely more commodities, but also more ships, more warehouses, more people, and more munitions. Supplying many of the commodities required for this centralization of population and resources was the Baltic region. Timber, potash, rope, wax, iron and, above all, grain shipped from the resource-rich, sparsely populated Baltic region proved vital to the success of these northwestern European centres. Without Baltic bulk commodities, northwestern Europe probably could not have proven so critical to the expansion of global trade that occurred after 1500. Unsurprisingly, this commercial pattern led historians of early modern Baltic economy and trade to typify Baltic trade as one of bulk commodities. Aksel E. Christensen, in his monumental quantitative work on Dutch trade to the Baltic at the turn of the seventeenth century, states that "the salt [moving eastward] and the corn [moving westward] were determinative of the character of the east-western traffic." Later, he adds that "Baltic exports [...] beside the corn practically exclusively consisted of raw materials and auxiliary materials for the Dutch and South-Western European industry."[1] While these commodities were critical to Baltic trade, their preponderance in histories of Baltic trade create an illusion that the region

[1] Aksel E. Christensen, *Dutch Trade to the Baltic About 1600: Studies in the Sound Toll Register and Dutch Shipping Records* (The Hague: Martinus Nijhoff, 1941), 361; 365.

was merely a periphery for other parts of Europe, not an independent part of the early modern globalizing process.[2]

Recently, historians have begun to push back the date at which Baltic cities and ports became directly involved in long-distance trade, demonstrating that the Baltic region had more direct participation in global processes. Klas Rönnback notes the gradually increasing volume of sugar consumed in Baltic ports to suggest that the effects of the early modern "Consumer Revolution" included parts of the Baltic region.[3] Hanna Hodacs' *Silk and Tea in the North* (2016) analyzes the role of Scandinavian East India companies in the importation of eastern Asian commodities, especially tea, as well as noting the early and particular taste Swedish consumers found for some eastern Asian commodities, notably Chinese silk.[4] These scholars bring needed attention to the direct role played by the Baltic in the early global world, demonstrating that Baltic actors played key roles in both American colonialism and the Cape trade to eastern Asia. The Baltic was globally integrated during this period, with its population acting as more than suppliers for the growth of other regions of Europe.

---

[2] As argued more specifically by Maria Bogucka in "The Role of Baltic Trade in European Development from the XVIth to the XVIIIth Centuries," *Journal of European Economic History* 9, no. 1 (1980): 5-20.
[3] Klas Rönnbäck, "An Early Modern Consumer Revolution in the Baltic?" *Scandinavian Journal of History* 35, no. 2 (2010): 177-197. The Consumer Revolution refers to the cultural shift that occurred in early modern Europe that saw consumers of all social classes gradually accumulate more material wealth. It was first theorized in the English context by Joan Thirsk in 1978, then gained increasing traction with Neil McKendrick's contributions to his co-edited collection: Thirsk, *Economic Policy and Projects: Development of a Consumer Society in Early Modern England* (Oxford: Clarendon Press, 1978); *The Birth of a Consumer Society: The Commercialization of Eighteenth-century England*, eds. Neil McKendrick, John Brewer, and J. H. Plumb (London: Europa Publications, 1982), especially 34-99. Jan de Vries argues the English Consumer Revolution followed in the wake of the Dutch one, which occurred because of a cultural shift towards consumption-motivated wage labour, *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present* (Cambridge: Cambridge University Press, 2008).
[4] Hanna Hodacs, *Silk and Tea in the North: Scandinavian Trade and the Market for Asian Goods in Eighteenth-Century Europe* (London: Palgrave Macmillan, 2016).

While the notion of a global Baltic has gained traction in recent years, that attention most often focuses on the importation of global commodities to that region and the related development of consumer societies. Moreover, they often focus geographically on Scandinavia and temporally on the eighteenth century, suggesting those places and that time period were the beginning of the Baltic's significance to the trade routes of the early modern period. I argue that the Baltic was globally integrated in more than this operative and consumptive fashion from the sixteenth century onward, because of its exceptionally large supplies of one commodity: amber. Amber was an early global commodity found most abundantly around the Baltic Sea. Significantly, its markets included the fairly exclusive ones of eastern Asia, where Europeans historically struggled to market their own commodities. Because amber was accessible in significant quantities only in the Baltic region, especially the southeastern Baltic region commonly known as East Prussia, it played a unique role in the commercial interaction between Europe and Asia.[5] The presence of amber, a unique material commodity, in the Baltic region drew global networks to that region. Those networks created a commodity flow to eastern Asia based on the demand for that product's unique material capabilities.

I address the nature of amber, its material qualities and their impact on local and international markets. Moreover, I trace amber from its moment of collection on the so-called Amber Coast in East Prussia up until its eventual arrival in eastern Asian markets including China, Bhutan and Japan. Primary sources to this purpose include archival

[5] Estimates vary on exactly what proportion of the world's accessible amber is found around the Baltic Sea, but by all accounts the majority of the world's amber still lies in East Prussia (roughly the present-day Kaliningrad Oblast of Russia). Estimates that over ninety percent of the world's amber is in the Kaliningrad Oblast alone indicate the material's relative abundance in that area and the Baltic generally. See, for instance, Patty C. Rice, *Amber: The Golden Gem of the Ages* (New York: Van Nostrand Reinhold, 1980), 8-9.

material from several locales: the city archives of Lübeck and Gdańsk, important centres for amber exporting and artisanship; the India Office Records housed at the British Library in London; and the Dutch *Nationaal Archief* in The Hague. I also include material sources in the form of images of amber objects housed in various museum collections, especially those of the Metropolitan Museum of Art and the Boston Museum of Fine Arts. Various published traveller's accounts and guides complete my corpus of primary sources.

With these sources, I trace the detailed inner workings of the trade in amber from Baltic ports to eastern Asian ones. Much like Francesca Trivellato's history of the Sephardic trade in coral and diamonds from Livorno, this will be "a global history on a small scale."[6] Alongside noting who moved amber to which places, I emphasize how amber moved through the complex layers of regulation and monopoly that enveloped its trade. Additionally, I suggest how amber was perceived and used both in more local markets in Europe and in the much more distant markets of eastern Asia. All these things – its markets, trade routes, regulation and demand – depended on amber's materiality.

Amber is a material unusual in a number of ways, which shaped its early modern global commodity flow. The most obvious features of high quality amber were its beauty and light weight, a necessary combination for early long-distance trade items. But amber was unique for combining lightweight beauty with other sensory characteristics: warmth to the touch because of its electrical resistance, a combustibility that allowed its resinous scent to become more noticeable, and a malleability that allowed it to take on culturally relevant forms. Together, these features gave amber a high expressive potential: the

[6] Francesca Trivellato, *The Familiarity of Strangers: The Sephardic Diaspora, Livorno, and Cross-Cultural Trade in the Early Modern Period* (New Haven: Yale University Press, 2009), 7.

ability to be turned into a wide variety of meaningful, and consequently valuable, forms. Amber was an endlessly flexible commodity with different reasons for its value across a range of global markets that drew on different aspects of its materiality. Indeed, its value was ubiquitous enough to inspire Awnsham and John Churchill to recommend that British travellers to Asia carry amber as a form of alternate currency.[7] Potentially burned as incense, worn as beads, carried as cash, or put to any number of other uses, amber filled various niches in the nascent global world.

Commodities with a luxury or semi-luxury character comprised many of the earliest global commodities.[8] These commodities were consumed at first not for survival or necessity, although some eventually came to be considered necessities, but rather for the special meaning derived from their use or possession.[9] Amber fits within several categories of luxury theorized by historians. The term "semi-luxury" refers to commodities that had a luxury character, but that became available at a range of qualities and price points.[10] As such, these commodities were accessible to a wider number of consumers than the term "luxury" alone implies, proving integral to the European Consumer Revolution that began in northern Europe during the seventeenth century.

---

[7] Awnsham and John Churchill, "An Introductory Discourse, containing The whole History of Navigation from its Original to this time," in *A collection of voyages and travels, some now first printed from original manuscripts* vol. 1 (London: Awnsham and John Churchill, 1704), lxxiv.

[8] Bernd-Stefan Grewe and Karin Hofmeester contend that "luxury is a global phenomenon" and that luxury commodities drove early modern long-distance trade: "Introduction" to *Luxury in Global Perspective: Objects and Practices, 1600-2000*, eds. Grewe and Hofmeester (Cambridge: Cambridge University Press, 2017), 1.

[9] Gradually some commodities turned from elite luxuries into items of necessary items of everyday mass consumption. For instance, Anne McCants notes that tea became an item for mass consumption in England and the Low Countries at some point in the early eighteenth century: Anne E. McCants, "Exotic Goods, Popular Consumption, and the Standard of Living: Thinking about Globalization in the Early Modern World," *Journal of World History* 18, no. 4 (2007): 445-453.

[10] This term was coined by Maxine Berg. She describes the growing prominence of semi-luxury commodities after 1500 on 231-235 of "Asian Luxuries and the Making of the European Consumer Revolution" in *Luxury in the Eighteenth Century: Debates, Desires and Delectable Goods*, eds. Maxine Berg & Elizabeth Eger (Basingstoke: Palgrave Macmillan, 2003).

Other categories of luxury also include amber: Jan de Vries notes the early modern development of a subdued bourgeois "New Luxury" from the traditionally ostentatious aristocratic "Old Luxury."[11] Amber fits into both of these categories, used for refined bourgeois domestic items and ostentatious aristocratic ones.[12] Notions of semi-luxury, New Luxury and Old Luxury are useful for situating amber's role in global trade at this time, as part of a group of commodities that were significant to global trade from the early years after 1500, but that continued to add meanings and become more accessible to middle- and lower-class consumers over time. Along with other luxury and semi-luxury commodities, amber played a critical role in driving the commercial expansion of the early modern period.

Amber's role as a luxury and semi-luxury commodity rested on its materiality and pre-1500 involvement in long-distance trade, the subject matter of Chapter 1. I make note of classical references to amber's properties to emphasize its history as a long-distance commodity, as well as the prestige that was attached to not only its beauty, but also its medicinal properties and spiritual meanings. The value amber held drove an exploitative economic relationship between the rulers of East Prussia – first Teutonic Knights, then the secular Dukes of Prussia – and the indigenous fisherfolk who collected amber according to traditional and innovative methods. These harsh efforts to control domestic amber collection and trade stemmed from high demand: I use material and textual sources to describe the various regional uses for amber in Europe, particularly during the

[11] Jan de Vries, *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present* (Cambridge: Cambridge University Press, 2008), 44-45.
[12] Examples of bourgeois items made from amber include the ewers (Figure 1.3) and cutlery (Figure 1.4) discussed in Chapter 1. The famous example of the Amber Room shows amber was an object still connected to ostentatious displays of wealth in the seventeenth century.

early modern period. I finish by briefly presenting evidence for the overland trade of Baltic amber to eastern Asia prior to 1500, suggesting the pre-existing knowledge of and desire for amber that existed there.

Chapter 2 begins amber's journey as a commodity, focusing on its export from the main Prussian port of Gdańsk and maritime circulation within the Baltic Sea. The Sound Toll Registers are a critical primary source for this period, allowing for a quantitative assessment of how much amber was moving licitly out of the Baltic region. The Sound Toll Registers indicate persistent maritime exports of amber from the late sixteenth to late eighteenth century, overwhelmingly from the East Prussian port of Gdańsk to Amsterdam. Alongside this quantitative evidence, I use a variety of archival sources to provide a more nuanced picture of the trade from the Baltic. Significantly, these sources indicate that amber was frequently traded via Armenian and Sephardic diasporic trade communities in the Baltic. These communities specialized in the budding global trade in luxury and semi-luxury commodities, and drew amber into their networks despite stringent anti-Semitic policies by those ruling over Prussia and Gdańsk. Tracing amber in the Baltic reveals the extent of significant and active global communities in the Baltic region throughout the sixteenth to eighteenth centuries.

Chapter 3 completes amber's journey from Baltic shores to Asian markets, using sources from the Dutch and Anglo-British East India Companies. I position amber as a counterflow commodity, one of few commodities moving eastward along the Cape route in exchange for a multitude of Asian goods moving westward. Generally, amber moved via private trade, the legal and extralegal trade conducted by private persons and firms using the infrastructures of state-chartered companies or fleets. Evidence from the

Portuguese, Dutch and Anglo-British examples all attest to amber's movement via private trade along the Cape route, often illicitly, but with infrequent punishment. The chapter concludes with an outline of some of the uses for amber in Asian markets, highlighting different values placed on amber and amber objects in Japan, Bhutan, China, and India. These uses map unevenly across Asia as they draw on different aspects of amber's materiality according to cultural context, with important ramifications for economic value. Different regimes of value across Asia drew amber into the Cape trade and created significant opportunities for commercial partnership and profit.

Because of a combination of limited supply and unique physical properties, amber was drawn into early modern global trade during the sixteenth to eighteenth centuries. Global networks and actors pulled amber into their networks from the Baltic, illuminating an oft-overlooked aspect of the Baltic's involvement in the world economy at the time. Amber's Baltic provenance had significance for its role in the Cape trade to Asia as well, because of the extreme scarcity of commodities from anywhere in Europe that had value in Asia. Amber's materiality made its role in this global trade possible, catering to different regimes of value across Asian consumer markets. The Baltic amber trade uncovers foggy elements of the global commercial arrangement of early modern period, reflecting another global aspect to the Baltic's early modern economy.

Chapter 1

Materiality and Culture: Determining the Value of Baltic Amber

I will begin by exploring amber's materiality and its historical patterns of use and trade up until the turn of the sixteenth century. This assessment provides insights into how amber functioned as a commodity during the period from 1500 to 1800, which remains my primary focus. Amber has an unusual combination of material features that affect the way people sensed and interacted with it: understanding those features and how they fit into different cultures of use has critical significance both inside and outside of economic processes. This commodity's historically far-reaching and multifaceted trade suggests the sheer variety of values and uses amber had attained by the early modern period, uses with similarities across wide geographies. The early long-distance trade in amber contextualizes the development of the early modern one, much as investigating amber's traditional uses and circulations within European cultures contextualizes its use in Asian ones. Prior to the beginning of substantial global trade around 1500, amber already had a long trajectory of use and meaning built upon the inherent possibility for varied cultural use that its material qualities provided.

To truly understand the trade in a particular commodity, critical reflection on the nature of that commodity is essential. Without such reflection, one could still effectively sketch out the typical networks by which that commodity's trade operated, as well as get a sense of volumes shipped and players involved. But a true understanding of what drove those shipments and determined the types of players would be lacking, for commerce depends on the commodity's uses and meanings, its utility. Utility can seem obvious, but contains more elements than a functionalist outlook would immediately reveal. For

instance, a particular metal might have functional use in making more durable and effective tools. However, that same metal might be scarce enough that it was more often used for decorative purposes on account of its bright hue; alternatively again, it could be reserved for spiritual use because its appearance associated it with a particular deity or aspect of faith. Understanding how a commodity fits into one society or another requires close analysis to discern why it had value in each place: it is not safe to assume that a hard material was valued for its hardness, as that material may also be uniquely coloured, easily crafted or particularly rare. In the case of amber, dense layers of qualities make understanding its utility across cultures especially difficult. Its materiality opens up a wide array of possible cultural roles for something with the appearance of a gemstone that one can light with a match and that fishermen harvest from the seashore, but that feels warm to the touch. Only by critically examining amber's material properties and the patterns of its cultural use can a full sense of its value as an early modern commodity be realized.

I refer to theory from both economic anthropology and material culture studies in examining how amber, materiality and culture interact. Economic anthropology views economics through the lens of cultural systems, delving more deeply into the base categories of economics than generally done. In *The world of goods: Towards an anthropology of consumption* (1979), anthropologist Mary Douglas and econometrist Baron Isherwood argue that consumption is a culturally determined phenomenon: goods "are needed for making visible and stable the categories of culture".[1] Douglas and

[1] Mary Douglas and Baron Isherwood, *The world of goods: towards an anthropology of consumption* [revised edition] (London: Routledge, 1996 [original 1979]), 38.

Isherwood's collaboration fits into a long trajectory of anthropological works debating the semantic and cultural difference between gifts and commodities. In Arjun Appadurai's introduction to *The Social Life of Things* (1986), he suggests a new methodology that avoids forcing material to conceptually cross the line between gift and commodity depending on the manner of its transmission between owners. Rather, he suggests looking holistically at the life-cycles of goods as they move from one cultural context or pattern of use to another.[2] Writing a "cultural biography" of a particular object allows new insights into the cultures and cultural categories into which that object fits, as well as into the mechanism of its exchange. Using culture to inform the exchange of objects, whether considered gifts or commodities, enriches understandings of the nature of those exchanges in a way that price shifts or quantitative assessments of supply alone cannot. As Igor Kopytoff succinctly declares: "For the economist, commodities simply are."[3] Yet commodities require deeper investigation in order to fully understand trade's economic and cross-cultural workings, as demonstrated in Jeremy Prestholdt's description of the power of East African consumer taste in the nineteenth century.[4] Considering how a commodity's material features mesh with different cultural contexts allows deeper, richer forays into economic phenomena to occur.

---

[2] Arjun Appadurai, "Introduction: commodities and the politics of value," in *The social life of things: Commodities in cultural perspective,* ed. Appadurai (Cambridge: Cambridge University Press, 1986), 3-63.
[3] Igor Kopytoff, "The cultural biography of things: commoditization as process," in *The social life of things: Commodities in cultural perspective*, ed. Appadurai (Cambridge: Cambridge University Press, 1986), 64.
[4] Prestholdt describes the continual frustration of American merchants trading for East African copal, ivory, and cloves, who struggled to find the correct "class of cotton" and "chosen tint, colour, and size among beads" for each tribe: "On the Global Repercussions of East African Consumerism," *American Historical Review* 109, no. 3 (2004): 761.

The interaction between culture and materiality works in both directions: culture does not treat commodities blindly, but rather attaches meaning and value to them according to material features discerned by the senses. Historian Leora Auslander notes this common human experience: "Because we are born small and dependent, grow and mature relatively slowly, and eventually die, and because we exist in three dimensions and possess five senses, we share a relation to the material world."[5] This acknowledgment that the human experience is sensual and receptive, rather than always reasoned and active, suggests the power that objects have to influence human behaviour. In his article, "What do objects want?" archaeologist Chris Gosden states his desire to "rebalance the relationship between people and things," breaking down the assumption that objects are inherently passive and humans active.[6] Object agency suggests the ways that objects can affect human action, rather than assuming humans' absolute power to determine the shape of objects. As folklorist and prominent material culture theorist Henry Glassie writes: "Artifacts rearrange nature to embody values."[7] When applied in the culture-jumping, life-cycle sense of Appadurai's "social life" or Kopytoff's "cultural biography," the complicated implications of the sale and purchase of commodities become apparent. Whether in a raw, intermediate or finished form, a commodity sent to a new locale will take on new meanings in that new cultural setting, but also impart new meanings through its newly encountered utilities, appearance, form, scent, texture, etc.

[5] Leora Auslander, "Beyond Words," *American Historical Review* 110, no. 4 (2005): 1019.
[6] Chris Gosden, "What do objects want?" *Journal of Archaeological Theory and Method* 12, no. 3 (2005): 194; Gosden and Yvonne Marshall also wrote an earlier article that builds on the ideas of Kopytoff: "The Cultural Biography of Objects," *World Archaeology* 31, no. 2 (1999): 169-178.
[7] Henry Glassie, *Material Culture* (Bloomington: University of Indiana Press, 1999), 143.

By looking closely at such commodities, particularly wide-ranging ones like amber, a sense of not only economic patterns, but also cultural and behavioural modes emerges.

Materiality and Provenance:

Amber is a fossilized resin that exists in quite a wide range of forms. Typically, amber's colour rests on a spectrum of browns, yellows and whites, but in some instances blue, green and even purple amber has been found.[8] With age a reddish tinge often appears, giving red amber an especially valuable status among some amber collectors.[9] Polished amber ranges from cloudy to translucent to completely clear. Generally amber has a Mohs hardness value of between 2.0 and 2.5, similar to that of a human fingernail.[10] Its density falls in the range between salt and fresh water, allowing it to float in seawater but sink in fresh.[11] Amber will begin to soften at a temperature of around 150 to 180 degrees centigrade depending on the variety, before swelling and beginning to release volatile compounds held in pockets within it; at between 250 and 375 degrees, it decomposes. With exposure to high temperatures, amber will emit an increasingly strong smell of pine.[12] While mineral gemstones are generally good conductors of electricity, amber is an insulator. Not only do amber's properties belie its stone-like appearance, but they are also more variable than those of the minerals to which it appears analogous. That

[8] The Dominican Republic is the most common place for extraction of the more exotic colours of amber, which are related to the specific species of tree that released the fossilized resin. Michael Ganzelewski, "Bernsteinbergbau in der Dominikanischen Republik," in *Bernstein: Tränen der Götter*, ed. Ganzelewski and Slotta (Bochum: Deutsches Bergbau-Museum Bochum, 1999), 383-394.
[9] Patty C. Rice, *Amber: The Golden Gem of the Ages* (New York: Van Nostrand Reinhold Company, 1980), 6, 139-141; Sven Gisle Larsson, *Baltic Amber- a Palaeobiological Study* (Klompenborg, DN: Scandinavian Science Press Ltd., 1978), 9-10.
[10] Rice, *Amber*, 135.
[11] Rice, *Amber*, 136; Larsson, *Baltic Amber*, 9.
[12] Rice, *Amber,* 141.

variability results from variation in the type of resin from which the amber formed and in the conditions of its fossilization.

Those conditions have existed on every continent except Antarctica, as evidenced by the global distribution of amber deposits.[13] For amber to form, there needs to be a sufficient population of resin-producing trees positioned so as to let that resin flow into conditions that prevent its decomposition, generally a lagoon, river or other body of water. The most perfect example of these conditions occurred in a large continent geologists refer to as pre-Fennoscandia that existed some forty million years ago in the area that now comprises Scandinavia, Finland and the Baltic Sea. This continent was covered by an immense forest that included several related species of pine trees referred to together under the latinate moniker *pinus succinifera* ("amber-bearing pines") or the German one *Bernsteinbäume* ("amber trees").[14] These trees deposited a substantial amount of amber that would eventually end up scattered around the Baltic, with especially large deposits in the southeastern Baltic generally and more specifically on the Samland peninsula now contained within the Kaliningrad Oblast of Russia.[15] While other amber deposits, notably in Japan, Myanmar, and the Dominican Republic, did have historical significance, historians and geologists both generally acknowledge Baltic

[13] Günter & Brigitte Krumbiegel, "Bernsteinlagerstätten und –vorkommen in aller Welt," in *Bernstein: Tränen der Götter*, eds. Ganzelewski & Slotta (Bochum: Deutsches Bergbau-Museum, 1999), 32.
[14] This single term derives from the earlier assumption that all Baltic amber came from a single species of tree. Continued research eventually revealed the diversity of pine species that contributed to the formation of Baltic amber. Michael Ganzelewski, "Entstehung und Lagerstätten des Baltischen Bernsteins," in *Bernstein: Tränen der Götter*, eds. Ganzelewski and Slotta (Bochum: Deutsches Bergbau-Museum Bochum, 1999), 11-18; Rice, *Amber*, 15-20.
[15] These deposits are concentrated around the Baltic but can be found further inland on the European continent as well as a result of glacial depositions, for example in Poland or Romania. Audronė Bliujienė summarizes amber's distribution: *Northern Gold: Amber in Lithuania (c. 100 to c. 1200)* (Leiden: Brill, 2011), 5-14.

amber as both the most abundant and widely traded type in the world.[16] Baltic amber can be identified by the presence of specific amounts of succinic acid within it, as well as through spectroscopic analysis. Successful testing for succinic acid within amber artifacts is the basis for many of the claims about ancient and classical trade in amber from the Baltic.[17] The millions of years long process of transforming tree resin into amber creates an interesting array of characteristics for all amber, Baltic or otherwise.

As varied as amber's physical qualities may be, they mean little if people in ancient, classical, medieval or early modern societies never noticed them. After criticizing the fancifulness of Greek mythological accounts of the properties and provenance of amber, Pliny gives his own self-declaredly more accurate account in his *Natural History* (ca. 79 CE):

> There can be no doubt that amber is a product of the islands of the Northern Ocean [...] Amber is produced from a marrow discharged by trees belonging to the pine genus, like gum from the cherry, and resin from the ordinary pine. It is a liquid at first, which issues forth in considerable quantities, and is gradually hardened by heat or cold, or else by the action of the sea, when the rise of the tide carries off the fragments from the shores of these islands. At all events, it is thrown up upon the coasts, in so light and voluble a form that in the shallows it has all the appearance of hanging suspended in the water. Our forefathers, too, were of the opinion that it is the juice of a tree, and for this reason gave it the name of "succinum:" and one great proof that it is the produce of a tree of the pine genus, is the fact that it emits a pine-like smell when rubbed, and that it burns, when ignited, with the odour and appearance of torch-pine wood.[18]

---

[16] While Baltic amber is without a doubt the most plentiful in the world, there has been a European bias in much of the literature surrounding amber and its trade, as evidenced in the past terming of Baltic amber as "true amber": Rice, *Amber*, 8. On the characteristics of these other deposits: David Grimaldi, *Amber: Window to the Past* (New York: American Museum of Natural History, 1996), 32-33; 40-42; 67-68.

[17] Curt Beck wrote prolifically on methods for determining the provenance of different sorts of amber, describing his own research examining amber through its levels of succinic acid and spectroscopic characteristics. See for example: Curt W. Beck, Martha Gerving and Elizabeth Wilbur, *The Provenience of Archaeological Amber Finds: An Annotated Bibliography* (London: International Institute for the Conservation of Historic and Artistic Works, 1966); Beck, "The Role of the Scientist: The Amber Trade, The Chemical Analysis of Amber, and the Determination of Baltic Provenience," *Journal of Baltic Studies* 16, no. 3 (1985): 191-199; Beck, "The chemistry of amber," *Estudios del Museo de ciencias Naturales de Alava* 14, no. 2 (1999): 33-48.

[18] Pliny the Elder, "Chapter 11.- Amber: The Many Falsehoods that have been told about it." In *The Natural History,* trans. Bostock (London: Taylor and Francis, 1855).

Evidently, Pliny had some knowledge of amber's properties and origins, but debate over how amber formed and the place it came from was ongoing. Pliny notes the etymology of the Latin word for amber (*succinum*), which derives from the word for juice or resin (*sucus*); other etymologies for the words for amber suggest the different associations with it. The Greek *elektrón* led to the English word electricity, with electric initially referring to amber's quality of being able to pick up dust, hairs and other small particles after rubbing it to create static electricity.[19] *Bernstein* in German comes from the verb *brennen* ("to burn") and *Stein* ("stone"), translating literally to something like "burning stone" or "stone that burns." The English word amber reflects the confusion surrounding the substance, being derived from the Arabic word *anbar*, which means not amber, but ambergris, a similarly strong-scented substance that also comes from the sea.[20] Both Pliny's account and the variety of meanings behind different words for amber suggest that its qualities were known to varying levels of completeness across social and physical geographies.

The extent of those geographies has been impressive since several thousand years before the start of the Common Era. Tests of the origin of amber found in central Russia and western Norway have established that a regional trade in amber from the Baltic coast existed by 3000 BCE. Trade to the Mediterranean occurred by at least the sixteenth century BCE, evidenced by archaeological finds all along the route known as the "Amber Route" or "Amber Road" connecting the Baltic and North Sea coasts to the

[19] *Oxford English Dictionary, s.v*. "Electricity, n.," OED Online, accessed November 20, 2017, http://www.oed.com/view/Entry/60259?redirectedFrom=electricity#eid.
[20] *Oxford English Dictionary, s. v.* "Amber, n.," OED Online, accessed November 20, 2017, http://www.oed.com/view/Entry/6112?rskey=QyRKM2&result=1&isAdvanced=false#eid.

Mediterranean.[21] This route makes amber of particular interest to archaeologists tracking the development of trade networks as amber is one of the earliest commodities from Europe known to circulate broadly, of enough significance by the classical period to have merited mention by authors including Herodotus, Tacitus, and Pliny (as quoted above).[22] That amber was such a valuable commodity at such an early juncture demonstrates its uniqueness as a resource, as well as the ubiquity of demand for it across different regions.[23] Baltic amber traded in similar patterns and for a similar length of time as Cornish tin, a commodity whose demand makes perfect sense from a functionalist perspective on account of its use in making bronze. Attempts to explain amber's significance to early European trade often rests upon an implicit sense of the primitiveness and superstitions of the people trading it: it was a pretty rock believed to have medicinal properties by those who knew no better. In opposition to this rather superficial argument, which ignores the continued use of amber in related fashions well into the modern era, I focus instead on amber's aforementioned material properties. Those properties filled cultural roles that other materials could not, roles that remained significant through at least the eighteenth century.

---

[21] Graciela Noemi Gestoso Singer, "Amber exchange in the Late Bronze Age Levant in Cross-cultural Perspective," *Aula Orientalis* 34, no. 2 (2016): 251-264; Curt Beck and Lily Beck, "Analysis and Provenience of Minoan and Mycenaean Amber. 5, Pylos and Messenia," *Greek, Roman, and Byzantine Studies* 36, no. 2 (1995): 119-135.

[22] The Amber Roads, Routes, and so forth have attracted a significant amount of scholarly attention since the turn of the twentieth century. See for example: Arnold Spekke, *The Ancient Amber Routes and the Geographical Discovery of the Eastern Baltic* (Stockholm: M. Goppers, 1957); Hermann Schreiber, *The History of Roads: From Amber Route to Motorway*, trans. Thomson (London: Barrie and Rockcliff, 1961); Artur Błażejewski, "The Amber Road in Poland: State of Research and Perspectives," *Archaeologia Lituana* 12 (2011): 57-62.

[23] Other gemstones or gem-like materials (pearls, coral, etc.) also have long histories of trade, understandable considering their high value relative to weight and bulk. Alexandra Hilgner, Susanne Greiff, and Dieter Quast's edited collection explores the significance of gemstones and their trade to the classical and early medieval periods, with a special emphasis on garnets: *Gemstones in the First Millennium AD: Mines, Trade, Workshops and Symbolism*, eds. Hilgner, Greiff, and Quast (Mainz: Verlag des Römisch-Germanischen Zentralmuseums, 2017).

Sources that explain how people understood amber thousands of years before the Common Era are nearly all material: knowing the forms into which that material was shaped suggests the ways that amber fit into prehistoric cultures. The connections between amber and sun-worship suggest one such way. Archaeologists in Lithuania and Estonia have found discs and buttons of amber carved with wavy lines thought to represent the sun's rays.[24] Such a connection fits with amber's material qualities, its golden, transparent, but also reflective colour mimicking the sun as few other materials can. Amber's value lay at least in part in its ability to provide a material expression of particular beliefs about the power of the sun, even as it itself shaped ideas about the sun through its particular combination of qualities. Another early type of amber object unearthed through archaeological excavations is beads, a form with longstanding value in spiritual, symbolic and medicinal terms.[25] Amber's material features were enough to make it a valued trade good circulating around Europe by the sixteenth century BCE, one of the first goods to achieve such a wide reach. The people of that time had varied cultures and demands, but all attached value to the sensory experiences that amber could evoke, giving amber a constant demand through the eighteenth century.

The experience of amber was rooted in the senses, far from the quantified, systematic measurements of physicality relied upon today. Data on density, refractive index, electrical conductivity, hardness, melting and burning points would have meant

[24] Heidi Luik and Mirja Ots, "Bronze Age Double Buttons in Estonia," *Estonian Journal of Archaeology* 11, no. 2 (2007): 122-140; Bliujienė, *Northern Gold,* 15-34.
[25] On amber beads: Helen Hughes-Brock, "Greek Beads of the Mycenaean Period (ca. 1650-1100 BC): The Age of the Heroines of Greek Tradition and Mythology," in *Beads and bead makers: gender, material culture, and meaning*, eds. Sciama and Eicher (Oxford: Berg, 2001), 254-255; 264-266. Lidia D. Sciama outlines the versatility of beads' symbolic value: "Gender in the Making, Trading and Uses of Beads: An Introductory Essay," in *Beads and bead makers: gender, material culture, and meaning*, eds. Sciama and Eicher (Oxford: Berg, 2001), 15-18. I also discuss beads in the early modern period later in this chapter.

little or nothing to most amber users of the first, tenth or seventeenth century. Instead, sight, smell, touch, taste and hearing guided their interactions with this substance. Light's refraction as it passed through amber was understood not as the bending of rays, but rather as a rare and potentially magical sight only otherwise available with precious goods like glass, rock crystal, or other precious stones. Amber's buoyancy in seawater was a curious quality suggesting the mystery behind its origins. Melting and burning points were learned slowly through experience, understood in the strengthening pine scent wafting from the seemingly solid stone, and given added meaning by the occasional flashes of green and blue appearing in its yellow flame.[26] And amber's poor conduction of electricity was not measured empirically, but rather felt as amber's unusual warmth when held in the hand, and seen in amber's attraction of dust and other small particles after being rubbed with rough cloth. Amber's value lay in the sensory interactions it provided, through which the early modern user reasoned its properties and assigned value to it in a holistic sense. The incredible variety of those sensory experiences allowed amber to take on an unusually diverse collection of uses, meanings and values.

First Contact: Gathering and Shaping Amber

Amber's materiality began to form cultural associations from the moment of its collection. Because of its abundance along and near to the Baltic Sea coast, those associations started with ties to the sea. Those ties were known by classical authors in the Mediterranean world: Ovid reports that amber was formed from the tears of the Heliades falling into the river Eridanos in *Metamorphoses* (8 CE); Pliny describes the formation of

[26] Rice, *Amber*, 141.

amber at the mouth of a river to the north.[27] In the area of major amber collection, Lithuanian myth also reflects these ties: varying versions of the story of Jūratė and Kastytis explain how the sea-goddess Jūratė's love for a fisherman led to amber's formation in the sea and eventual deposition along the shore.[28] The unusual combination of amber's connections to the sun for its warmth, reflectiveness and colouring and its ties to the sea on account of its provenance required explanation through myth, which typically combined the two elements. Upon the collection of amber, however, people's interactions with it shaped the way its materiality was understood locally and along its sometimes lengthy path of transmission to consumers.

Collecting amber along the beach remains a long-standing tradition in the Baltic region, practiced with especial enthusiasm the night after a winter storm has disturbed the water.[29] Such amber, termed "strand-amber," had an added mystique because of the natural polish it acquired from exposure to seawater and currents before its eventual deposition along the shore. Strand-amber was almost certainly the first sort of amber encountered in the Baltic region, playing a formative role in the myths, uses and other cultural associations amber acquired over time. While Bliujienė reports that "the coast richest in amber was, and still is, the western coast of the Jutland peninsula", strand-amber was also very common in the vicinity of Samland and its neighbouring lagoons and could be found in places as far away as the eastern coast of Britain.[30] Unpredictable

[27] Ovid, *Metamorphoses*, Book II, 329-366; Pliny, "Chapter 11.- Amber: The many falsehoods."
[28] In one version, Jūratė lives in an amber palace which gets smashed by a vengeful god angry at her love for a mortal. In another, the vengeful god kills the fisherman and amber is formed from Jūratė's grieving tears.
[29] Hobby books exist for those interested in this tradition, with a special focus on identifying and properly using amber found on the beach. Rolf Reinicke, *Bernstein: Gold des Meeres* (Rostock: Hinstorff Verlag, 2015).
[30] Bliujienė, *Northern Gold*, 5-8.

weather conditions made the amber yield variable from year to year, but local people had long since developed strategies for collecting the largest amount possible by the early modern period. Andreas Aurifaber describes the local knowledge of the coastal "Sudovians" (*Sudawen*) in his *Succini Historia* (Kaliningrad [Königsberg], 1572), which included a detailed knowledge of which beaches to comb after storms moving from different directions.[31] The amount of amber deposited along the Baltic littoral appears to be declining over time, but was still substantial in the early twentieth century: in 1911, around 600 kilograms of amber was deposited north of Palmnicken/Jantarny after a storm. Slotta reports that between fifty and sixty thousand pounds of amber was deposited annually along the coast between Danzig/Gdańsk and Memel/Klaípeda, with another three thousand landing annually on the west coast of Jutland on average; Aurifaber writes that "if one year helps the other [through a stored stockpile] there is up to one hundred and ten tonnes."[32]

---

[31] "Daher wissen die Sudawen so bald ein Sturm entstehet/ was ortes sie sich verfügen/ un[d] sind 20. Sudawische Dörffer. die den Börnstein schepffe/ [...] Denn auff dem Strande vom alten Tieff bis an die Krecke (wie es namen hat) treibet den Börnstein der Westwind un[d] Hoch-west. Von der Krecke bis unter Nodemst/ der Süd und Südewest [usw.]" (Therefore the Sudovians know that as soon as a storm forms, at which places to direct themselves, and there are 20 Sudovian villages that shovel the amber [...] Because on the beach from Alten Tieff up until Die Krecke (as it is called) the west and high west wind float the amber. [As] from Die Krecke until under Nodemst does the south and southwest [wind] [and so forth]). Andreas Aurifaber (1512?-1559), *Succini historia : ein kurzer grundlicher Bericht [...]*, (Kaliningrad [Königsberg]: Johan Daubman, 1572), 37-38.

[32] Rainer Slotta, "Die Bernsteingewinnung in Samland (Ostpreußen) bis 1945," in *Bernstein: Tränen der Götter*, eds. Ganzelewski and Slotta (Bochum: Deutsches Bergbau-Museum Bochum, 1999), 182-183. Writing in the mid-sixteenth century, Andreas Aurifaber contradicts Bliujienė's statement regarding the great abundance of strand-amber in Jutland: "Und [Bernstein] wird gelesen am Pomerischen, Preussischen, Memlischen unnd Lieflendischen Strand, der meiste aber in Preussen als von Dantzke an bis an die Memel." (And amber is picked up along the coasts of Pomerania, Prussia, Memel [Klaípeda], and Livland, the most however in Prussia from Danzig [Gdańsk] up until Memel [Klaípeda]). Aurifaber, *Succini historia*, 37-38; on tonnage: "Jedoch ein jar dem andern zu hülffe gibet es bis in hundert und zehen thonnen": 61. The Prussian tonne was a unit of volume rather than weight, the weight of which equalled 453.52 pounds of coal. A very rough conversion of Aurifaber's figure using the densities of coal (~50 lb/ft^3) and Baltic amber (~65 lb/ft^3) corroborates Slotta's estimate, giving a figure of just under 65,000 pounds.

Policing the fishermen and other coastal dwellers who had traditionally harvested strand-amber was a major concern for the rulers of Samland and its neighbouring regions. By the early fourteenth century, the Teutonic Knights had firmly asserted their right to all amber harvested from Prussian shores.[33] In 1394, the Teutonic Order introduced fines on anyone found carrying raw amber in their Prussian domains, suggesting that much amber was still moving outside its established monopoly. Such struggles in controlling the supply of amber were continual for those who had legal rights to Prussian amber: Aurifaber describes the mid-sixteenth century bureaucracy of Amber Masters, Beach Riders, and their servants who took the Sudovians' amber; during the administration of Georg Friedrich of Ansbach (1577-1603), penalties ranged from a fine of 90 guilders for illegally handling one pound of amber to death by flogging for four. Illegally collecting amber was cause for death by hanging.[34] These harsh penalties suggest the important economic contribution amber made to the Prussian economy, while the continual difficulties in enforcing the monopoly are indicative of the colonial and strictly hierarchical Prussian society created by the Teutonic Knights.[35] With a commodity so light and versatile, yet also valuable, the oppressed fisherfolk along the coast were almost certainly smuggling it to their benefit, harsh penalties or not.

---

[33] Hollie Drinkwater, "Material in Context: The Amber Head of Christ of the Wallace Collection Pax," *Journal of the British Archaeological Association* 169 (2016): 99-100.

[34] Kerstin Hinrichs, "Bernstein, das "Preussische Gold" in Kunst- und Naturalienkammern und Museen des 16. – 20. Jahrhunderts" (PhD Diss., Humboldt-Universität zu Berlin, 2007), 20.

[35] The lingering linguistic and cultural divide between the mostly indigenous fishermen, speakers of Baltic languages like Sudovian, and the German bourgeoisie and nobility of the town and countryside informs the extremity of punishment and the likelihood of fishermen's smuggling in defiance of foreign overlords. The inequality was returned, as Hinrichs notes: "[...] aber es galt immer das gleiche Prinzip, schwere unmenschliche und kaum bezahlte Arbeit für die Bernsteinfischer und -sammler, höchster Profit unter Senkung der Kosten für die Regalinhaber." (but it always remained true to the same principle, cruelly harsh and hardly paid work for the amber-fishers and collectors, highest profits in the decreasing of costs for the holders of monopoly rights), Ibid., 18.

Collecting amber deposited on shore was the simplest and apparently most fruitful method until the nineteenth century, but other techniques gradually developed to complement it.[36] Most of these strategies only worked in the marshy, sheltered, and particularly amber-rich area between Gdańsk and Klaípeda (Memel), which includes the Samland coast. There, divers would disturb sand sheltered behind long sandbars to dislodge the buoyant amber, sending it to the surface. Amber-fishermen would rake the bottom of these lagoons with similar hopes of freeing amber from the marshy floor of the lagoon; "amber-pokers" would try to dislodge larger rocks, which were then raised laboriously to the surface to check their undersides for amber.[37] Amber produced by these later-developed techniques lacked much of the mystique of strand-amber, both for the unpolished look it had in comparison and its less obvious connection to both providence and the elements.[38] These differences suggest shifting mindsets towards resource collection over time, as those living in and around the Samland coast began to approach amber extraction systematically.[39]

Whether poked, prodded, fished or simply picked up from the beach, amber almost always required further refinement or crafting before its final consumption. Amber's physical properties once again allowed its crafters the opportunity for great creativity: its aforementioned hardness was enough that it was barely scratched by a fingernail, but could be easily carved by a knife or polished by a file.[40] Amber from the

---

[36] Slotta, "Bernsteingewinnung in Samland," 182-183.
[37] Rice, *Amber*, 65-69.
[38] Aurifaber notes this difference even with amber collected using nets in the shallows: *Succini Historia*, 46-47.
[39] These practices seem to appear around the time when the Jaski family took over the Prussian amber monopoly in the sixteenth century.
[40] Jacob Flauensgaard. *Working in Plastic, Bone, Amber, and Horn* (New York: Reinhold Book Corporation, 1968), 86-92; Faya Causey, "The Working of Amber: Ancient Evidence and Modern

seabed would first require the removal of its rough outer casing by scraping, followed by sawing for the rough desired shape and size, then finally filing and polishing for a finished look. Before any of these processes, rough amber with a cloudy appearance would often be clarified by its gradual heating and cooling in oil.[41] Drills, lathes and saws were effective tools for crafting amber into its final form, whether a carved matron figurine from several thousand years before the Common Era, an amulet from the classical period, or one bead along a sixteenth century rosary. Finesse was required for working amber, as careless pressure applied to the material could cause it to cleave. Moreover, amber is generally found in small pieces, which limited the possibilities for its manufacture until the nineteenth-century discovery that one could join pieces of amber together with the careful application of heat.[42] These smaller pieces made amber a material often used for inlays, or set within a silver or gold base, either of which methods would complement amber's refractive quality to give it a dazzling appearance.[43] Craftspeople fully and knowingly exploited amber's broad potential for expressivity, crafting it in diverse ways that accentuated or spotlighted amber's most valued or attractive features.

Making ornamental carved objects was not the only way that artisans prepared amber for consumption and sale: other ways of consuming amber required different manners of preparation. Amber's potential to be burnt made its consumption as smoke

---

Analysis," in *Ancient Carved Ambers in the J. Paul Getty Museum* (Los Angeles: J. Paul Getty Museum, 2012).

[41] Clarification was already known to Pliny by the time he wrote his *Natural History* (c. 77-79 CE), as he mentions the boiling of amber in the fat of a suckling pig; later clarification processes have used rapeseed oil on account of its similar refractive quality to amber. Aurifaber, *Succini Historia*, 111-112; Rice, *Amber*, 249-251.

[42] Rice, *Amber*, 78, 80-83.

[43] Causey, "The Properties of Amber," *Ancient Carved Ambers.*

possible: the lower-quality amber unsuited for working into jewellery could be used in this way, generally in the form of prepared incense. Other lower quality amber would be ground into a powder and mixed with rose water and aloe to make a medicinal ingredient known as oil of amber.[44] Amber unsuitable for either of those purposes was used, as it still is today, to make varnish.[45] Varied uses lent varied forms to amber, with confusing implications for understanding how the trade in amber functioned. Variances in styles of amber objects strongly suggest that amber was worked in a number of different areas, as does the presence of large stocks of over a tonne of raw amber found at various points along the Amber Road.[46] The wide geographic range at which limited amounts of amber could wash up on shore promoted the creation of a number of traditions of amber crafting across northern Europe. By the time the Amber Road had coalesced into a relatively significant and reliable mechanism for carrying amber to the Mediterranean, the Etruscans were clearly receiving raw amber for their own handiwork, as evidenced in the significant amount of amber left behind by both them and the later Romans.

Clearer evidence of how and where amber's manufacture took place also exists for the medieval period. With the conversion to Christianity and colonization of the main amber-producing regions in the thirteenth and fourteenth centuries, systems for amber collection and manufacture began to fall into the guild model common in medieval

[44] What comprises oil of amber is somewhat ambiguous. Rice mentions it as a byproduct of burning amber, not as a solution with rose water: *Amber*, 141. Likely it was both: oil of amber being a generic term for a liquid that smelled and tasted of amber.
[45] Causey, "Where is Amber Found?" *Ancient Carved Ambers*.
[46] Causey, "The Ancient Transport of Amber," *Ancient Carved Ambers*; the most significant of these finds are three stockpiles of raw amber found near Wrocław (then Breslau) in Silesia, which together total around 1500 kilograms and have been dated to the 1st century BCE: Hans Seger, "Der Bernsteinfund von Hartlieb bei Breslau," *Altschlesien* 3 (1931): 171-184; Walter Nowothnig, "Zwei Bernsteinspeicher der Spätlatenezeit bei Breslau-Hartlieb," *Nachrichtenblatt für Deutsche Vorzeit* 12 (1936): 173-175.

Europe. Moreover, the close ties between the Knights and the merchants of the Hanseatic League created strong commercial ties between those guilds and the Prussian region in which amber was most abundant.[47] Part of the Teutonic Knights' economic policy surrounding amber was an effort to keep amber manufacture as far from its places of collection as possible, forcing all licit amber to travel through the Order's system to their financial benefit.[48] The consequence of this policy was the formation of the earliest and most important medieval guilds of amber manufacture in cities further west, first Bruges (1302), and soon after Lübeck (1310). Prussian guilds would not form until much later: in Gdańsk (1477), Elbląg (1539), and finally Kaliningrad (1641).[49] Bruges was the centre of medieval amber-working, and demanded enough of the material that between 42 and 58 percent of the value of Teutonic exports to Flanders was in amber from 1390 to 1430.[50] Amber turners would transform most of that amber into rosaries, termed "paternosters," which would feed a voracious demand from the burghers of Christian towns.[51] Some,

[47] The merchants of the Hanseatic League actively promoted and profited immensely from the Teutonic Order's creation of a new resource-rich hinterland around the Baltic controlled by German merchant towns and lords. See for example Mark R. Muzinger, "The Profits of the Cross: Merchant Involvement in the Baltic Crusade (c. 1180-1230)," *Journal of Medieval History* 32, no. 2 (2006): 163-185. For further discussion of the Baltic economy, see Chapter 2, 42-47.

[48] The aforementioned punishments (see note 33) for carrying raw amber in various amounts reflect this policy: any raw amber not moving along official channels for collection and export could automatically be assumed to be illicit. For more information on Teutonic policies for amber control, see Marjorie Trusted, *Catalogue of European Ambers in the Victoria and Albert Museum* (London: Victoria and Albert Museum, 1985), 9–18.

[49] Rachel King, "'The Beads With Which We Pray Are Made From It': Devotional Ambers in early Modern Italy," in *Religion and the Senses in Early Modern Europe*, eds. Boer and Göttler (Leiden: Brill, 2012), 157-159; Spekke, *The Ancient Amber Routes*, 9-10. Here it is important to note that the official Teutonic vision of monopoly was almost certainly far from the truth: the increasing harshness of punishments for dealing in amber outside official strictures suggests the persistence of smuggling and non-sanctioned collection throughout the medieval and early modern periods.

[50] Rachel King, "Rethinking 'the oldest surviving amber in the West'," *The Burlington Magazine* 155, no. 1328 (2013): 761.

[51] Amber paternosters are among the most common objects listed by Ronald W. Lightbown in his description of the jewellery worn by medieval townspeople: "Bourgeois Jewellery and Goldsmiths' Stocks," in *Mediaeval European Jewellery: with a catalogue of the collection of the Victoria & Albert Museum* (London: Victoria & Albert Museum, 1992), 375-384.

however, would be put towards more fanciful objects, also often of a religious character: for instance the amber medallion engraved with the face of Christ in Figure 1.1.

Likely made in Bruges, although possibly in Kaliningrad as part of the very limited manufacturing allowed there, the medallion suggests the ways in which amber functioned as a medieval commodity in Europe.[52] Its material features made it ideal for objects like beads and pendants: the wearer of this object could feel its warmth against the skin, and smell a hint of its piney scent produced by friction with skin, hair, or cloth.

Figure 1.1: Medallion with the Face of Christ; Amber Carving with Traces of Paint; Bruges or Kaliningrad; 1380-1400; Metropolitan Museum of Art, 2011.503.

[52] While the Metropolitan Museum of Art in which the medallion is housed states Kaliningrad [Königsberg] to be the place of origin of the medallion, King argues quite convincingly that it fits the pattern of production in Bruges better, where records of the order of similar types of objects existed and amber manufacture was centred at that time: King, "Rethinking the Oldest Surviving Amber."

A medallion of this sort requires a level of sophistication above that of making beads, and Rachel King contends it was a rarity intended for an important personage of some sort.[53] Despite that novelty, its function was the same, strung as the centrepiece of a paternoster of amber rosary beads, meant to be handled daily in the process of recounting prayer.[54] Whether containing fancifully carved medallions like that in Figure 1.1 or containing only strings of beads, rosaries were the typical use for amber in medieval and early modern Europe: the traditional narrative for the amber trade positions the Protestant Reformation as a critical benchmark in the amber trade. After that moment, the animosity between amber-hungry Catholic markets and suddenly austere Lutheran amber sources purportedly caused a reorientation of amber's exports eastward.[55] There they encountered a Muslim demand for prayer beads and objects, and the diaspora of Armenian merchants came to play an increasingly important role in the trade. As new trade routes formed, and old ones shifted or persisted, the early modern period appears to have seen a healthy commerce in Baltic amber, one in which it entered distant markets in increasing amounts.

Consuming Amber in Early Modern Europe

Merchants, pedlars and other enterprising travellers had been shipping, carrying and smuggling amber widely across the European continent for millennia by the sixteenth

[53] King argues that this medallion is an early example of these sophisticated techniques: Ibid., 760-762.
[54] I discuss the material implications of amber's use in beads at greater length in the next part of this chapter. Despite the strong suggestion of the hole bored in the top of the medallion in Figure 1.1, there remains a possibility that this carving was made for use outside of a rosary: two similar carvings of the head of Christ from the same period survive as well, both of which were mounted in silver paxes (medieval liturgical objects kissed during Catholic Mass). Amber in a pax would also have had multiple layers of meaning and sensory interaction as it was admired, then passed through the congregation and kissed during each mass. See Drinkwater, "The Head of Christ."
[55] This view traces back to a passing mention in the early nationalist work of Alfred Rohde, *Bernstein, ein deutscher Werkstoff: seine künstlerische Verarbeitung vom Mittelalter bis zum 18. Jahrhundert* (Berlin: Deutscher Verein für Kunstwissenschaft, 1937).

century. The impetus for such extensive trade networks came from the cultural roles played by amber in different places, roles which exhibited quite a wide range of forms. While these forms are as infinitely variable as culture itself, amber's material features fill certain roles very readily, creating patterns of use that often cross cultural boundaries. I will outline one particular set of cultural roles filled by amber through a focused look at early modern uses in Europe.[56] Because the Baltic region is the richest source of amber in the world, those uses are some of the most common and diverse, but are also by no means exhaustive of its possible material applications. People across Europe wanted to burn, grind, carve, sniff, drink, wear, feel, admire and smoke amber because its material features compelled and allowed them to: the reasons for those compulsions and allowances came from culture, expressed materially.

One of the most common forms of worked amber has always been beads, an item that persists throughout the archaeological record of amber's trade. While beads often had spiritual uses and connotations, in medieval Europe they acquired an especially popular and specifically religious form as rosary beads. The aforementioned development of amber guilds in western and northern Europe was closely tied to demand for these rosary beads; King has recently argued that amber continued to flow from the Lutheran Baltic coast into Catholic Europe after the Reformation, contrary to the traditional narrative put forward by Alfred Rohde.[57] Rather than that the Reformation divided

[56] Demonstrating the breadth and diversity of amber use in a comprehensive fashion is an impossibly large task, requiring resources of language and time that I lack. Approaching the issue of amber's use across the European continent is admittedly very large as well ("Europe" today, and even more so at that time was incredibly diverse), but hopefully an appropriate level of scope to give a sense of the variations and continuities within amber use across different cultures.

[57] King notes the generally problematic, nationalist tone of Rohde's work, some arguments from which had been difficult to overturn on account of Rohde's use of sources since lost or destroyed: "The Beads With Which We Pray Are Made From It," 153-155.

Figure 1.2: Rosary; Silver, Silver gilt, Amber, Painted ivory, and Glass; Southern Germany; Mid-17th Century; Museum of Fine Arts Boston, 02.224.

Protestant amber sources from Catholic markets, King argues that amber use in rosaries and other devotional objects even expanded, presenting evidence for continued Protestant use of rosary beads, as well as of amber sold in large quantities to Italy and other Catholic regions. With the lease of the Prussian state's amber monopoly to the Jaski family in 1533, a newly enterprising and profit-minded group controlled the licit amber trade, one with an evidenced preference for profit over regional loyalty.[58] Opportunities for such

[58] The Jaskis actively sold low-quality amber to the nearby amber manufacturing centre in Gdańsk, saving higher quality pieces for trade abroad: Ibid., 157-158; Aurifaber describes amber's sorting in Gdańsk,

profits abounded on account of the unique sensory experience amber could provide when used to make the beads of a rosary.

The importance of amber beads to religious practice harks to amber's materiality once again: amber beads could give the ritual of prayer added meaning. In addition to their visible luminescence and unique colour, amber beads provided olfactory and tactile evidence for a prayer's efficacy.[59] King argues along these lines that amber's material features made prayer a more fulfilling experience:

> Thanks to the most common form in which Italians engaged with amber – the rosary – an intimate sensory knowledge of amber's material characteristics was not, however, the erudite knowledge of scholars who had sought to understand amber better, but the experience of anybody who had prayed using one. It was well known in Italy [...] that amber responded to the temperature of the palms and transferred its scent to them in the process. He or she who prayed with an amber rosary would have noticed the growing coolness of their own hands as the beads themselves increased in warmth; almost as though their prayers were actually capable of spiritually enlivening the material. Equally, anybody who had used an amber rosary would have also known that 'when rubbed with the fingers [amber] attracts light objects to itself ' for friction caused amber to become palpably loaded with a static charge. [...] Thus using an amber rosary was a complex and, sometimes, contradictory sensory experience. Amber looked heavy, but it was light. It looked like glass, but it became heated and retained this warmth. It attracted things to it, as a magnet did iron. These phenomena were the palpable tactile results of intimate engagement with the material – an intensifying sensory proof that one's prayers were effecting something beyond normal human comprehension.[60]

This experience was one common to both Lutherans and Catholics, and one eagerly supplied by the Jaski family of merchants, who by all accounts were quite unconcerned with the religious confessions of those to whom they marketed their amber.

Beads were common in both the medieval and early modern periods, but by the sixteenth century other sorts of amber objects began to appear more frequently. The

---

shipment to the entrepôt in Antwerp ["Antdorff"], and final reshipment to Italy, France, Spain, Turkey and "heathen lands" ["Heidenschafften"], *Succini historia*, 61-62.

[59] The beauty of amber beads was obvious, but only the first and perhaps least unique of their importance to prayer. For an example of an early modern rosary, see Figure 1.2.

[60] King, "'The Beads With Which We Pray Are Made From It'," 167-168.

sixteenth and seventeenth centuries are widely considered to be the golden age of amber carving, with its centre no longer removed from the site of amber collection, but rather centred on Gdańsk and Kaliningrad.[61] During that period, amber craftsmen created an incredible variety of amber objects, many of which featured amber in ways that accentuated multiple aspects of its materiality. Continued use in religious images and figures suggests the meanings attached earlier to beads were expanded to more general religious subject matter. Other common amber objects included domestic items, with amber featuring among the increasing number of semi-luxury goods embellishing

Figure 1.3: Ewers; Amber; Italy; 18th Century; Museum of Fine Arts Boston, 02.226/02.227.

[61] Rice, *Amber*, 56-57.

bourgeois households.[62] Tankards, boxes, goblets, and other vessels were created for appreciative consumers in which amber served to insulate the items inside and illuminate the contents of these vessels. The amber ewers for oil and vinegar in Figure 1.3 would have kept the liquid in them cool as well as being a beautiful object for display within a bourgeois home, combining practicality with a display of gentility. Similarly, the amber-

Figure 1.4: Fork and Knife; Amber, Steel, Silver; Germany; 18th Century; Museum of Fine Arts Boston, 02.211/02.212.

handled cutlery in Figure 1.4 both exhibited the material's visual beauty and provided a tactile experience of warmth as the utensils were handled.[63] The choice by craftsmen to

[62] The accumulation of such household goods was an early sign of the European Consumer Revolution, which saw the accumulation of material wealth become a cultural priority. See Jan de Vries, *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present* (Cambridge: Cambridge University Press, 2008); Anne E. McCants, "Porcelain for the Poor: The Material Culture of Tea and Coffee Consumption in Eighteenth Century Amsterdam," in *Early Modern Things: Objects and their Histories, 1500-1800*, ed. Findlen (London: Routledge, 2013), 316-341.

[63] Other objects such as the handles of vessels like those in Figure 1.3, game pieces, or pipe stems are common examples of amber's use in a similar fashion. Amber's use in this manner fits within the rising

use amber to craft or accent a particular object was deliberate, relying on its material qualities and the cultural knowledge surrounding it. The evidence of patterns of amber's use in the creation of certain types of objects suggests the power of the cultural understandings of this material.

Assessing how early modern craftsmen employed amber in objects relies on the ready evidence of material culture. Understanding amber's use as a consumable cannot use such material evidence, and instead rests upon the less certain evidence of surviving written mention of its use, as well as a broader understanding of how early modern Europeans understood health and the body. According to the simplest expression of that early modern understanding, the body functioned through the movement of four humours within it, by which movement they regulated the body on the dual axes of hot-cold and wet-dry.[64] A healthy body was one in which these four humours could flow freely and naturally, and one in which an equilibrium existed on both those axes. Either fortunately or frustratingly for the early modern European, almost anything could affect these balances, from climate to clothing to food.[65] Understandings of how certain things affected the body depended on their material features: amber was considered a particularly powerful humoral agent for the promotion of heat and dryness,

---

role of polite refined display at mealtime, which was closely tied to domestic items like these ewers or cutlery. See Norbert Elias, *The Civilizing Process*, trans. Edmund Jephcott (Oxford: Blackwell Publishing, 2000 [orig. 1939]).

[64] The four humours were black bile, yellow bile, blood, and phlegm. These humours had effects ranging from temperament to mood to appearance to illness. For example, someone with a naturally high amount of blood was sanguine, characterized as bold, reckless, virile, and strong. Even in translation, Piero Camporesi gives an artful description of popular medieval and early modern attitudes towards humors and the body: *Juice of Life. The Symbolic and Magic Significance of Blood*, trans. Barr (London: Continuum, 1995), especially 27-52.

[65] As argued in Barbara Duden's *The Woman Beneath the Skin: A Doctor's Patients in Eighteenth-Century Germany*, trans. Dunlap (Cambridge, MA: Harvard University Press, 1991). Duden's later eighteenth century time period suggests that humoral understandings of the body endured until that point, and also frequently notes the importance of the aforementioned balances of heat and cold, wetness and dryness.

understandable considering its light-catching appearance, warm feeling when touched, and the powder it created when carved or intentionally ground. The production of heat and dryness incited by amber could thus alleviate conditions caused by an excess of the humor phlegm, which is characterized as wet and cold. Conditions of this sort could affect the entire body or specific parts of it, as a particular humoral imbalance could manifest itself in a number of ways.

The variety of conditions for which amber was a partial or whole cure suggests its significance as an especially powerful medicine in early modern Europe. In his medicinal guide, a genre of works intended to allow one to create and use their own medicines, Christoff Wirsung mentions amber in recipes for a wine that "is very good for a cold and moyst braine, and hurtfull for yong folkes and hot complexions."[66] The methods by which amber could be applied to those afflicted with "cold and moyst braines" were diverse as well, a diversity allowed for by amber's materiality. Wirsung states that "because outward applications oftentimes are of no lesse effect than the inward medicines, [he would] do purpose at this present to set down diuers externall remedies" for those same headaches.[67] In a later herbal guide by George Hartman, amber is employed in the form of a bath of smoke applied to legs afflicted by dropsie, the accumulation of excess fluid in the legs.[68] Amber and other humoral cures were effective

[66] Christoff Wirsung, *The general practise of physicke conteyning all inward and outward parts of the body, with all the accidents and infirmities that are incident vnto them, euen from the crowne of the head to the sole of the foote* trans. Germane (London: Richard Field, 1605), Early English Books Online Database [EEBO], STC (2nd ed.) / 25864, 30. The latter part of this quotation demonstrates the importance of equilibriums to conceptions of health at this time: amber was beneficial for those "moister" or "colder" than their healthy state required, but harmful for those already in equilibrium or who were already too hot or dry.
[67] Ibid., 31-32.
[68] George Hartman, *The true preserver and restorer of health being a choice collection of select and experienced remedies for all distempers incident to men, women, and children*, (London: T. B., 1682), EEBO, Wing / H1004, 19-21.

regardless of how they came into contact with the body, and amber particularly so in some cases: Wirsung adds in another recipe that "if thou adde a small quantitie of Amber, it will be the better."[69] Whereas other cures often required significant and careful mixing of different ingredients, amber's use was often simple, merely ground up and mixed with rose water and aloe. Amber's power as a medicine stemmed directly from its material features, which allowed it to be used in diverse ways as well as determining its perceived effects on the body.

The notion of the humoral body not only grants greater understanding of how and why amber was significant to medical practice, but also informs its wider use. On account of the holistic sense of the body, not as a fortress blocking out the elements, but as something very much determined by the conditions it endured, any contact to amber could provide perceived medical effects. One with a cold and moist temperament who wore an amber religious amulet could do so not only to demonstrate wealth and status, display piety, hold close a source of relatively liquid capital or to ease the ritual of prayer, but also in hopes of maintaining good health. Amber had practical value in all these senses when placed within that particular cultural sphere. These multifaceted notions of amber's effects and significance suggest how modern categorizations of use for amber often fail to grasp the nature of its value in diverse cultures. Twenty-first century differentiations between religion, magic, medicine, and social status can create misleading assumptions when trying to grasp the reasons for amber's particular value in the early modern world. That value was organic to the associated cultures of early

[69] Wirsung, *The general practice of physicke*, 31.

modern Europe, which gave amber meaning in dynamic ways that reflected its materiality.

Beyond Europe: Suggestions of Consumption Patterns in Wider Eurasia

The patterns of amber's consumption in early modern Europe consistently reinforce the importance of amber's materiality and cultural contexts for determining its value. Amber's unique beauty was merely one of several aspects of its materiality that gave it value to European consumers, who desired it to improve their health, practice their spirituality, and demonstrate their social status. Ultimately, amber's usefulness in those spheres stemmed from its material features: in places outside Europe, similar patterns of use sometimes appear, dependent upon cultural priorities. While the English historiography surrounding amber use in Asia is far less developed than that surrounding use in Europe, studies have emerged to suggest some of those similarities and differences.

One of the most comprehensive overviews of amber use in Asia remains anthropologist Berthold Laufer's 1905 essay on that topic, in which he focuses most of his attention on China. Curiously, he finds that amber's use in China was largely analogous to that in Europe, being featured in medicinal guides from the fifth century onwards. Not only is amber mentioned as being of especial use in amulets for boys, much as in Pliny's *Natural History*, authors from the fifth to twelfth centuries also mention its medicinal characteristics and origins from tree resin. In the sixteenth-century *Pen ts'ao kang mu* (Compendium of Materia Medica), Li Shizhen states: "When a tiger dies, its soul (spirit) penetrates into the earth. This object resembles amber […] The ordinary character is combined with the radical *yü* ('jewel'), since it belongs to the class of

jewels."[70] This text thus relates amber's origins not to the tears of the Heliades nor the palace of the Lithuanian sea-goddess Jūratė, but rather to something powerful in its own cultural context, with ramifications for amber's value in and around China. Moreover, Laufer also concludes that most of China's amber before the medieval period originated in Myanmar, with other sources in Persia and possibly northern India.[71] This early article appears to have sparked little additional scholarship following up on its brief overview, but does suggest that amber had a well-established place in Chinese culture that was at least somewhat analogous to that in much of Europe. The question of trade routes is much harder to discern because of the greater distances involved and the relative paucity of amber archaeological finds: there is not the same level of evidence for an Amber Road connecting Burma to South China's major centres as there is for the connection from the far more amber-rich Samland coast to Mediterranean ones.

While evidence for how the trade in amber functioned in Asia is less abundant than that in Europe, recent work has begun to suggest amber's significance in the overland trade through Central Asia. Jenny So argues that the Liao dynasty (907-1125 CE) in Northern China received amber from the western side of the Eurasian continent. She builds this argument around the well-established importance of the silk routes to that dynasty, as well as referring to aesthetic similarities between Liao amber craftsmanship and contemporary styles of amber artisanship further west.[72] Moreover, the sudden significance of amber incense boxes suggests both the beginning of its use in that fashion,

---

[70] Berthold Laufer, "Historical Jottings on Amber in Asia," *Memoirs of the American Anthropological Association* 1 (1905): 217. The connection to the tiger also had astrological significance, with ramifications for traditional medicinal uses.
[71] Laufer, "Historical Jottings on Amber," 225-240.
[72] Jenny F. So, "Scented Trails: Amber as Aromatic in Medieval China," *Journal of the Royal Asiatic Society* 3rd series 23, no. 1 (2013): 86-95.

as well as following the pattern of goods in Europe made of amber: an incense box was meant to be handled much as a knife, fork or pipe stem was.[73] Xu Xiaodong's recent essay on the East-West connections during this dynasty suggests that amber moved from Baltic sources across Central Asia through gift exchanges, eventually arriving in the hands of Liao rulers as tribute or diplomatic gifts from Arabia or various Uyghur states and tribes.[74] With the end of the Liao dynasty, amber becomes far less frequently found in archaeological sites in the region, suggesting that the dynasty's end also spelled the end of a significant eastward movement of Baltic amber. The continuation of amber's mention in medicinal guides and other texts, however, indicates the lasting impact of this particular amber interaction in Northern China, where amber from Burma was very unlikely to reach.

Understanding amber's use, whether in Europe, China or anywhere else, requires a deep understanding of its material features and how they fit into varied cultural contexts. The sensory experience of amber is the root of the myths, rituals and other cultural associations and practices that gave it value as a commodity. The physical experience of amber was a constant, a continuity within the infinite number of possible cultural associations and uses for amber. During the sixteenth century, amber increasingly contributed to processes of cross-cultural transfer, as well as to the broader process of Europe's growing direct maritime links to Asian ports. New networks brought

[73] Ibid., 95-97. Moreover, the associations between amber and incense were strong, both for its own strong scent and for its confusion with ambergris. The balls of incense carried by Europeans during the medieval and early modern periods were termed pomanders, after the French *pomme d'ambre* (apple of amber): Lightbown, *Mediaeval European Jewellery,* 355-358.

[74] Amber was generally given along with analogous goods such as coral and jade, which shared amber's potential for expressivity and some of its other unique material properties. Xu Xiaodong, "East-West Connections and Amber under the Qidans," in *Noble Riders from Pines and Deserts: The Artistic Legacy of the Qidan,* ed. J. So (Hong Kong: Chinese University of Hong Kong, 2004), 30–37.

new possibilities, and the densification of direct commercial connections between Europe and Asia after 1500 created an opportunity for trade in a commodity known and valued throughout Eurasia. The world's largest supply of amber had just come into direct contact with the world's most diverse and populous cultures and markets.

Chapter 2

Regional Networks in Flux: From Baltic to Entrepôt

The opening of the Cape route, around the continent of Africa, created a direct connection between Asian and European markets, establishing new patterns for trade and reorienting old ones.[1] The amber trade fit within the latter of those categories: at the turn of the sixteenth century, amber had already been an item of long-distance trade for millennia. As increasing traffic began to flow along the Cape route, the growth of the northwestern European entrepôts of Antwerp and Amsterdam would shift regional networks as well as global ones to coalesce around those centres.[2] Baltic trade in particular was intimately connected to Amsterdam, and to London to a lesser extent, centres from which Baltic commodities could connect to markets further afield. Much of the Baltic's part in exchange with those entrepôts consisted of providing the bulk commodities - timber, iron, hemp, grain, pitch, wax, and so forth - that powered demographic and economic growth in other European centres. But its longest-standing and perhaps most unique commodity, amber, also continued to factor in wider patterns of trade from the Baltic. While only a small item by volume compared to grain, timber, metal, or a number of other commodities, amber's unique properties had shaped it into a product that moved along different paths than the typical Baltic bulk goods. Tracing those paths reveals an often overlooked global aspect of Baltic trade, predicated on the

[1] Vasco da Gama's voyage, which departed Lisbon in 1497 and returned in 1499, marked a seminal moment, opening this Cape route. By creating a connection for Europeans between the commercial networks of the Indian Ocean and those of the Atlantic, this voyage suddenly made it possible to avoid layers of middlemen in the procurement of Asian commodities with high demand in Europe.

[2] Much has been written on the topic of these entrepôts' development: on Antwerp, see Herman van der Wee, *The Growth of the Antwerp Market (fourteenth-sixteenth centuries)* (The Hague: Martinus Nijhoff, 1963); on Amsterdam, Jonathan Israel, *Dutch Primacy in World Trade, 1585-1740* (Oxford: Clarendon Press, 1989). I will focus on these entrepôts more directly in Chapter 3.

establishment and commercial success of new merchant communities in the major amber trading and manufacturing centres.

Investigating this regional trade requires multiple varieties of sources, to assess where, how and in what amounts amber was being traded. The following analysis relies on two main bodies of sources, one quantitative, one qualitative. The former is evidence available from the Sound Toll Registers (STR) kept by the Danish crown throughout this period, which tracked all licit maritime trade moving into and out of the Baltic region. As with any quantitative source, the STR have gaps that remain obscured behind the clear figures they produce, but nonetheless provide an invaluable sense of the broader patterns of trade. The latter group of sources is a mix of documents gathered from the archives of the cities of Lübeck and Gdańsk, two cities with historical importance in the trade and manufacture of amber. These documents sketch trade practices according to the perspectives of guilds, city officials, and those in conversation with them, many being complaints over perceived infringements of monopoly. Together, these two types of sources can present a well-rounded image of how the amber trade operated in this region and beyond.

The function of that trade was unconventional according to the picture generally painted of Baltic trade during the early modern period. Just as amber was not a typical Baltic commodity, it also was part of a trade that was almost certainly atypical. Moreover, it was necessarily a small trade because amber's very limited quantity was matched with an extremely broad-based demand; the total trade volume of amber corresponded to only a tiny fraction of that of many bulk commodities. By looking at the amber trade, however, new aspects of Baltic trade appear, ones that previously remained

wholly or partially obscured because they lacked the numerical weight so important in economic history. In particular, a focused look at the amber trade suggests a diversity of mercantile interest groups active in the Baltic, with guilds within cities and regions competing against other national interests: Dutch and English merchants, Jews, and Armenians. The presence of the latter two groups especially has great import for explaining the significance of the amber trade, as it suggests part of the process by which the traditional amber trade shifted towards global sea routes and the more extensive, distant markets that became accessible after 1500.

While the historiography surrounding the early modern Baltic trade rarely mentions amber with more than a passing reference, literature on the history of Baltic amber itself turns the sixteenth century into a watershed moment. The past interpretation of that moment oversimplified the amber trade and rendered it invisible during the sixteenth to eighteenth centuries: the basis for this invisibility was the claimed irreparable commercial divide created by the Protestant Reformation and the consequent rise to dominance of Armenian merchants exporting to the Middle East.[3] Rachel King thoroughly discredits the assumption behind this argument, which claims that those managing the amber monopoly in Protestant Prussia would refuse to sell amber to amber-hungry Catholic markets.[4] She limits her focus to Europe, but her work reconsiders the changes in the sixteenth century amber trade as products not of the Reformation, but

[3] These arguments outlined in Chapter 1, 27-30. They remain a particularly outdated aspect of surveys of amber's history that almost never rests on primary source evidence, but rather on the assumption of earlier historians that the Reformation had an overarching significance as a historical turning point. They appear in most general surveys regarding amber during this period, for example Willy Ley, *Dragons in Amber: Further Adventures of a Romantic Naturalist* (New York: The Viking Press, 1951), 16-17; Patty C. Rice, *Amber: The Golden Gem of the Ages* (New York: Van Nostrand Reinhold Company, 1980), 57; or David Grimaldi, *Amber: Window to the Past* (New York: American Museum of Natural History, 1996), 160-164.
[4] Rachel King, "'The Beads With Which We Pray Are Made From It': Devotional Ambers in Early Modern Italy," *Religion and the Senses in Early Modern Europe*, eds. Boer and Göttler (Leiden: Brill, 2012), 153-175.

rather of the expansion of global trade that occurred roughly contemporaneously with that Reformation. The inherent value amber held made it a likely commodity to be pulled into the more efficient and better positioned networks that rapidly developed during this period. Trade networks now directly connected most of Eurasia, the West and East African coasts, and large parts of the Americas. Amber contributed to the spread of these globally rooted networks into the Baltic region.

Regional Context: Trade with and within the Baltic, c. 1500-1800

Understanding the trade in Baltic amber requires some contextualization and reference to the broader trends of the region's history. As exemplified in the earlier discussion of state efforts to control the Sudovian indigenous population, the Baltic region was one characterized by the gradual spread of European culture and economic systems. Figure 2.1 shows the eventual result of that spread circa 1730. The port cities dotting the coast of what are now the Baltic states of Lithuania, Latvia, and Estonia were in large part founded as outposts of the Hanseatic League, a loose federation of independent, commercially focused German cities.[5] As such, the most important Baltic ports tended to all have powerful German, Lutheran mercantile elements throughout the early modern period. Even in Scandinavian ports, where more centralized monarchies were in control, German merchant exclaves drove trade throughout the medieval period and into the seventeenth century.[6] While German merchants ruled commercially, in terms

[5] Peter Spufford, *Power and Profit: The Merchant in Medieval Europe* (New York: Thames and Hudson, 2002), 348-351; Rolf Hammel-Kiesow, "The Early Hansas," in *A Companion to the Hanseatic League*, ed. Harreld (Leiden: Brill, 2015), 15-63.

[6] Where cities were not officially part of the Hanseatic League, the League's merchants still played important roles through foreign offices called *kantors* or *kontors*, for instance in Bruges, London, Novgorod, or Bergen: Mike Burkhardt, "Kontors and Outposts," in *Companion to the Hanseatic League*, ed. Harreld (Leiden: Brill, 2015), 127-161.

of military and political weight, the Hanseatic League ceased to be an important naval power by the sixteenth century, greatly weakening the league's attempts to maintain cohesion and strengthen its position. That small communities of merchants held such sway over trade for such an extended period is in part a result of the nature of the Baltic itself: the region overall was geographically large, but also sparsely populated. Only a small, specific portion of that sparse population had the power and connections to engage in and profit from commerce.

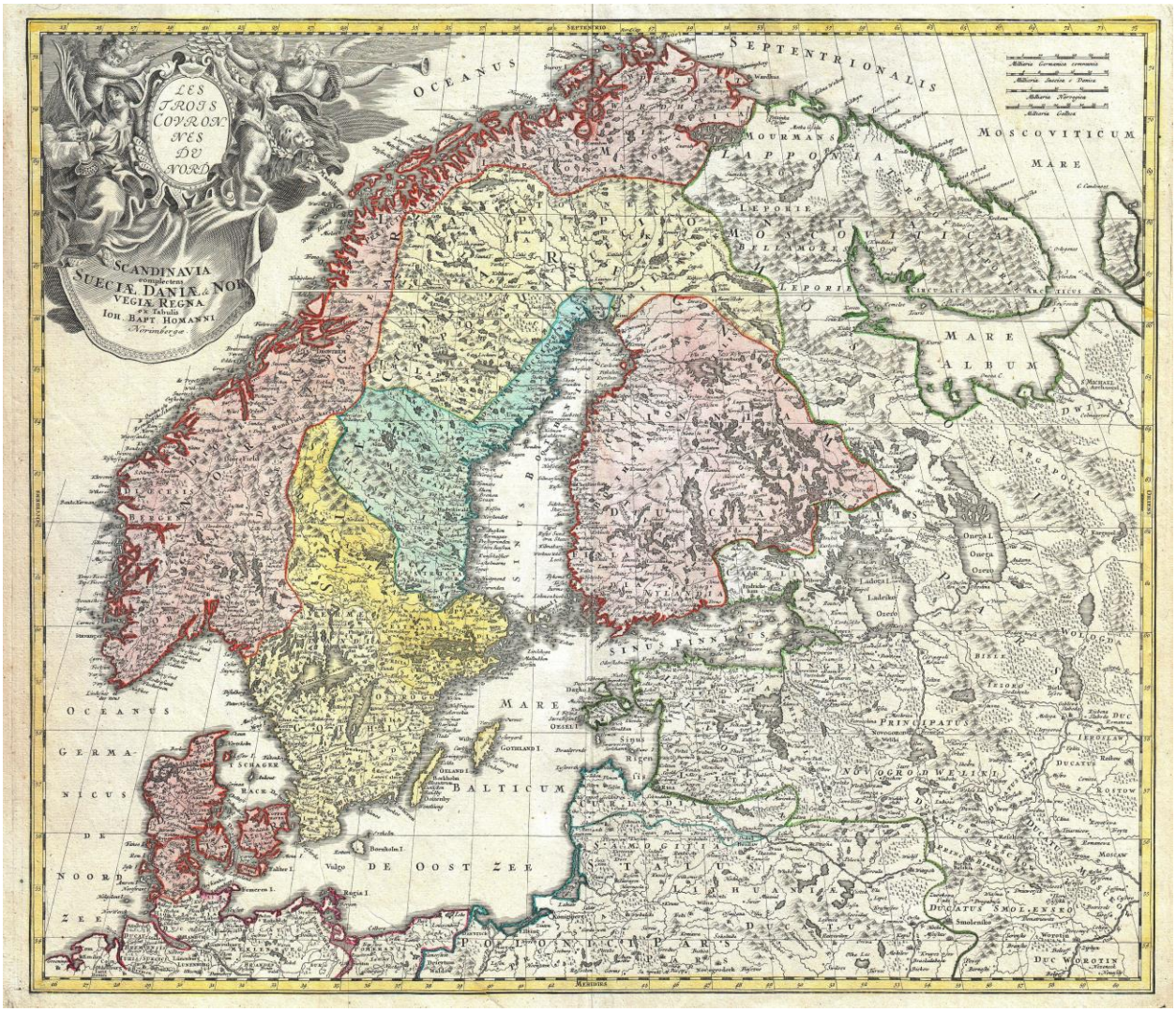


Figure 2.1: Johann Homann (1624-1724), *Major Atlas Scholasticus Ex Triginta sex Generalibus et Specialibus Mappis Homannianis...*, c. 1730.

Baltic geography affected trade in other ways as well. Maritime trade around the Baltic is easy enough, albeit limited in the winter months by the risk of ports icing over. Navigating into and out of the Baltic was another matter: already made difficult by the narrowing of the Jutland strait between the Jutland and Scandinavian peninsulas, the jumble of Danish islands within that strait concentrated maritime shipping even further. Only the Great Belt and Øresund straits were viable points for direct passage between the Baltic and North Seas, the control of both of which was an important economic tool and source of income for the Danish crown for centuries. Indirectly, merchants could trade with the North Sea through the axis formed by Lübeck and Hamburg on either side of Jutland, a position Lübeck exploited to its benefit for centuries.[7] The major rivers emptying into the more populated southern Baltic were all important vehicles for trade, notably the Oder, Vistula, Daugava, Neman, and Neva.[8] Land transport was relatively simple as well on account of the Great European Plain and Swedish lowlands that encompass most of the Baltic Sea.[9] All in all, the Baltic was a region in which transport was relatively straightforward, but where inhospitable climates made all but its southern coast home to mostly dispersed populations amidst plentiful natural resources.

Those natural resources experienced newly focused exploitation from the thirteenth century onward as a result of missionary and settlement efforts, predominantly

[7] The Kiel Canal now accomplishes roughly this same end, allowing ships to avoid passing through the straits to move between the Baltic and North Seas.

[8] These rivers served a vital role in connecting resource-rich hinterlands to coastal ports, powering much of Baltic commerce. Their role in longer distance trades like that in amber is harder to assess: such trade certainly occurred to some level, following the historical pattern of trade along the Amber Road. This overland trade falls outside the scope of my project, but seems likely to have been much less significant in this period: the monopolistic structures governing amber sale in the Prussian region, the commercial pull of the global entrepôts of the Low Countries and England, and the efficiency of Dutch shipping from the late sixteenth century onward granted maritime shipment significant advantages.

[9] For a commodity like amber with a high value and low weight, land transport was very much viable: its early trade described in Chapter 1 was just such an overland phenomenon. Tracking such a trade presents difficulties in terms of scope and language ability that made it insurmountable for this study.

by German groups from the southwest. In earlier eras, trade had flourished around the Baltic, but substantial traffic in the plentiful bulk goods around the sea was unlikely because of the lack of concrete connections to more urbanized, resource-hungry markets further west.[10] The formation of the Hanseatic League in the mid-fourteenth century galvanized the creation of this bulk trade, connecting a series of colonial German imperial cities with access to resource-rich hinterlands to markets in southern and western Europe.[11] Through technological and institutional innovation, as well as a geographic position better suited for connecting Baltic goods to wider European markets, Dutch captains gradually overtook their Hanseatic predecessors to carry the majority of Baltic trade out of that region through most of the sixteenth to eighteenth centuries.[12] Unlike those of the Hanseatic merchants, Dutch interests in the Baltic were transient and almost entirely commercially oriented: cities remained islands of dominant German language and culture sandwiched between the Baltic Sea and indigenous populations. While not interested in establishing substantial diasporic communities, the Dutch were not afraid to exert military pressure to secure advantages in their *moedervaart* ("mother trade"), an attitude that created confrontations with several European powers with Baltic interests.

---

[10] Michael North describes the development of the Baltic as a zone for exchange: *The Baltic: A History*, trans. Kronenberg (Cambridge, MA: Harvard University Press, 2015), 9-27; Carsten Jahnke describes two types of Baltic commodities, the traditional ones produced from the sea or its shoreline, or the bulk commodities from Baltic hinterlands that the Hanseatic cities began to export in the medieval period: "The Baltic Trade," in *A Companion to the Hanseatic League*, ed. Harreld (Leiden: Brill, 2015), 199-201.
[11] Jahnke, "The Baltic Trade," 197-198.
[12] As with most such shifts, a long list of factors contributed to the overwhelming dominance of Dutch shipping in Baltic trade beginning in the sixteenth century: the technological innovation of the fluyt, which had relatively smaller crew sizes and larger cargo capacity than the earlier cog; the early development of efficient systems for raising and distributing capital; the commercial nexuses developing at Antwerp and Amsterdam; the failure of the Scania herring fishery and subsequent switch to the Dutch North Sea one in the fifteenth century; and the better geographic position of the Low Countries for trading Baltic commodities with markets further west. See Richard W. Unger, "Dutch Herring, Technology, and International Trade in the Seventeenth Century," *The Journal of Economic History* 40, no. 2 (1980), 253-279; Catia Antunes, "The Commercial Relationship between Amsterdam and the Portuguese Salt-Exporting Ports: Aveiro and Setubal, 1580-1715," *Journal of Early Modern History* 12, no. 1 (2008): 25-53; Israel, *Dutch Primacy in World Trade,* 43-60.

As time passed, a series of powerful centralized states developed around the Baltic. The traditional powers in Scandinavia were headed at first by the Danish kingdom, whose aforementioned location at the entrance to the sea gave them a powerful negotiating position for trade. The Danes, however, experienced serious setbacks during the Thirty Years' War (1618-1648), whereas the Swedish kingdom made substantial gains in territory and influence to become the dominant force of the seventeenth century.[13] Sweden would maintain its position as the dominant Baltic power until the Great Northern War (1700-1721) saw Russia rise to dominance, epitomized in the establishment and growth of St. Petersburg as a regional centre.[14] While the Dutch were involved in many conflicts to protect their shipping interests in the Baltic, their role as a dominant outside mercantile force meant their presence proved durable to these significant shifts of power and territory.

That presence saw a gradual diminishment after its peak in the seventeenth century, but the Dutch would remain the largest single nation for Baltic shipping throughout the eighteenth century despite large increases in traffic from England and Scandinavia. Even more importantly, the Dutch were especially invested in trade with Gdańsk, the main port city exporting amber throughout the period.[15] Gdańsk was the most populous city on the Baltic proper throughout the seventeenth century because of its convenient position at the end of the Vistula River, the main riverine shipping conduit

[13] Both Swedish and Danish domains extended far outside their present day boundaries. Despite some territorial losses in the previous centuries, in 1600 Denmark still controlled Skåneland, Schleswig-Holstein, Norway, and Iceland; Sweden in 1700 controlled Finland, Pomerania, Livonia, and Ingria.
[14] North, *The Baltic*, 145-182.
[15] Already by 1475-76, around a quarter of Gdańsk's shipping relied on Dutch shipping: that figure would increase to an overwhelming majority by the turn of the seventeenth century, a majority that remained during Gdańsk's regression as a commercial centre throughout the eighteenth century. North, *The Baltic*, 63.

through Poland's agricultural heartland, which supplied huge amounts of grain to western European centres. When grain prices fell dramatically in the second half of the seventeenth century, the city's fortunes turned and the population began to fall both in absolute terms and ones relative to other Baltic centres.[16] Foreign demand for grain drove trade to amber's main export port in Gdańsk, but also spelled its decline when that demand slackened. Throughout both prosperity and hardship, however, amber remained a steady but comparatively small export, one that stood contrary to most of the other commodities shipped from Gdańsk or the Baltic in general.[17]

Baltic trade in the early modern period was predominantly one of grand movements of natural resources such as timber, pitch, grain, wax, and hemp flowing westward to larger markets with larger appetites. While also a commodity closely tied to the Baltic region, amber was unlike those commodities: a semi-luxury good with unique properties and established markets all across Eurasia, it was feasible to trade amber in nearly any direction.[18] In fact, amber had already been carried in nearly every direction by this point, as outlined in Chapter 1. Integrating the trade in amber into the broader picture of Baltic trade will not suddenly overturn understandings of that wider context, but it will reveal new networks at play in the region, ones that may have been overlooked by focusing on the biggest, most voluminous, and best recorded commodities. Tracing amber from the Prussian shores, onto which it swept, to its final markets reveals subtler elements of the forces at play in the Baltic arena for commerce: the markets with the

[16] Erik Lindberg, "Club goods and inefficient institutions: why Danzig and Lübeck failed in the early modern period," *Economic History Review* 62, no. 3 (2009): 604-628.
[17] Edmund Cieślak and Czesław Biernat, *History of Gdańsk*, trans. Blaim and Hyde (Gdańsk: Zakłady Graficzne, 1995), 192.
[18] On semi-luxury and luxury commodities, see Introduction, 5-6.

greatest pull on a uniquely in-demand resource, the groups with the capacity to move that commodity to those markets, and the priorities of those groups in long-distance trade.

Trade by the Numbers: Quantitative Evidence through the Sound Toll Registers

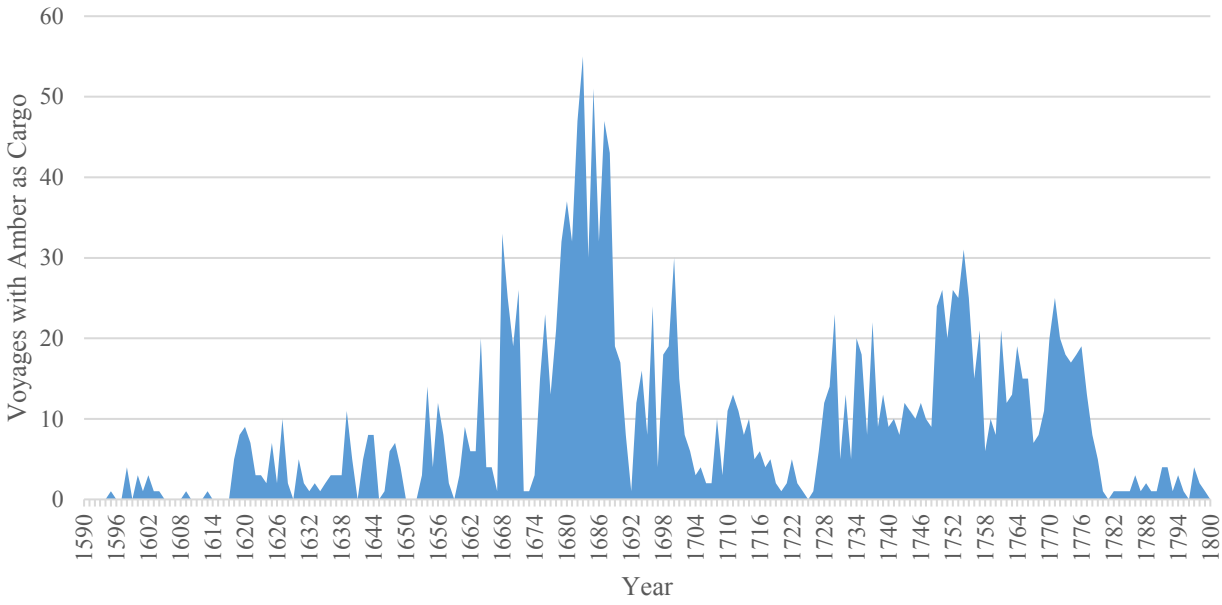
The Sound Toll Registers (STR) are one of the main sources on Baltic trade during the early modern period, and their recent digitization into an online database presents an opportunity to assess the trade in specific commodities.[19] After their establishment in 1429, the Danish Crown exacted a toll on each passage through the Øresund strait until diplomatic pressure forced the toll's retirement in 1857. By banning all foreign passage through the only other passable body of water between the Baltic and the Kattegat Sea, the Great Belt strait, the Danish Crown secured a high level of control on maritime entry to and exit from the Baltic region.[20] While this control was at times only nominal because of the superior naval strength and bargaining position of other states, the fortified strait remained an important source of income and element of economic and foreign policy for the Danish Crown. As a historical source, the tolls are imperfect, and are dynamic due to shifting regimes of record keeping and an increasing emphasis on detail. Not all cargoes moving through the Øresund were accurately or completely recorded in the STR, a consequence of several factors: the exemptions from examination held in turn by captains of different nationalities; the fiscally minded attitude of the toll officials, who at times recorded only those commodities relevant to tolls exacted; and of course the possibility for illicit activities like smuggling or bribery to

[19] Accessible at http://www.soundtoll.nl/. My thanks to the creators and organizers of the Sound Toll Registers Online project, without which it would be impossible for me to use this extremely large and valuable source.

[20] The Little Belt strait, last of the three paths between the Danish islands in the strait, is impassable for seafaring vessels.

avoid or otherwise manipulate the toll.[21] Thus, the STR cannot tell the whole story of trade into and out of the Baltic region, merely that of licit, tariffed trade moving past the important castles at Helsingør and Helsingborg.[22] The voluminous evidence provided by the STR on that licit trade does strongly suggest elements of the character and quantity of early modern Baltic trade.

Figure 2.2 Amber-Carrying Voyages Through the Sound Toll, 1590-1800



[21] Amber's materiality made it particularly suited to such illicit activity because of its combination of light weight and high value.

[22] The limitations of the Sound Toll Registers for tracking the amber trade are a topic of much discussion among Baltic economic historians. Sven-Erik Åström compared figures in the Sound Toll Registers for seventeenth century trade between the Baltic and England with those available in the English Port Books for that time, noting some voyages were missing in the Registers or had inaccuracies, especially prior to 1618: "From Cloth to Iron: The Anglo-Baltic Trade in the Late Seventeenth Century," *Societas Scientiarum Fennica: Commentationes Humanarum Litterarum* 38, no. 3 (1965), 12-13. Jan Veluwenkamp writes in his introduction to the Sound Toll Registers Online database about the unavoidable inconsistencies of records from such a long time period. Moreover, because I accessed my data from the Registers through that database, my figures are one more time removed from the source because in most cases I relied on data transcribed into the database's online form. Nonetheless, the Registers are an invaluable source that track a large proportion of the maritime traffic moving through the Sound, and I am grateful to the creators of that database. As Veluwenkamp suggests, I "will have to rely on my critical mind and wit to avoid mistakes and errant interpretations." "Sound Toll Registers: Concise Source Criticism," 3. http://www.soundtoll.nl/images/files/STRpdf.pdf.

That character is primarily that of the afore-mentioned bulk commodities, provided through the colonially imposed networks centring on the Baltic littoral. Nonetheless, a focused search using the digitized database reveals some qualities of a licit trade in amber that differed from the majority of the bulk trades. Amber occurs quite frequently within a database with millions of entries, but it is important to remember that it almost always is carried along with larger cargoes composed primarily of goods such as rye, wheat, potash, wool, and wax.[23] Looking at the amber trade is like peering beneath the wider currents of Baltic trade, detailing instead a smaller, but nonetheless illuminating undercurrent that reveals different trade routes and commercial networks dealing in an atypical, but distinctly Baltic commodity.

I used the STR database's advanced search function, which reveals 1962 voyages carrying amber, illustrated according to yearly frequency in Figure 2.2.[24] Available data suggest that amber's significance as a common Baltic commodity peaked in the 1670s and 1680s, with it then continuing at a reduced level until the onset of the American and French Revolutionary Wars in the 1770s. The frequent wars of the seventeenth and

[23] Other goods carried regularly, but not quite as frequently, with amber include buckwheat, feathers, yarn, hemp, millet, flax, pipe staves, saltpeter, steel, and hides. Overall, these commodities reflect the common sorts of goods shipped from the Baltic, and especially from Gdańsk, during these centuries.

[24] My method for reaching this figure was based primarily on advanced searches in the separated databases for the years 1590-1633 and 1634-1857. In the former database, I searched in its entirety, while in the latter, I limited the range of dates to 1634-1800 to match my chosen timeframe. Using the commodity search function, I then did a wildcard search for "*b*r*n*st*e*n* so as to capture all possible variants of the word used for amber, *barnsteen*. The modern Danish word for amber, *rav*, was hardly used at all in favour of the Dutch, *barnsteen*. Upon finishing this search, I then manually eliminated those hits that did not include some variant of "*barnsteen*," "*bernsteen*," "*bernsten*," "*bornsteen*," etc. Important to consider when viewing this particular graph is that the graph records an instance of amber moving through the toll on a ship, not the volume of amber moving in each year. Inconsistencies in the records for volume made such a comparison extremely unreliable, so I chose not to pursue such an analysis. Amber seems to have been carried in amounts of 100 to 200 pounds in most instances, with occasional voyages with very large amounts and more frequent ones with small cargoes of amber. All following figures are made from the data I gathered in this search, and thus hold the same weaknesses, which are products of the shifting recording systems and priorities of the officials of the Danish Crown working to police and profit from the Øresund strait.

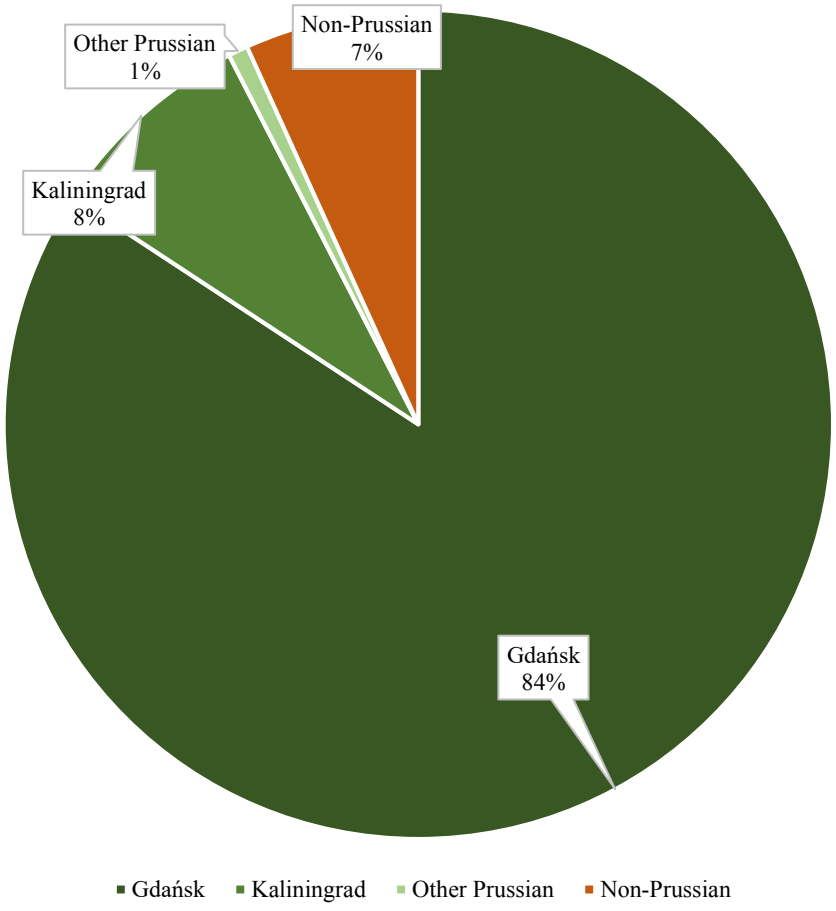
eighteenth centuries inform the many dips in the frequency of amber's carriage through the Øresund: the First (1652-1654), Second (1665-1667), and Third (1672-1674) Anglo-Dutch Wars; the War of the League of Augsburg (1689-1692); the mostly contemporary War of the Spanish Succession (1700-1713) and Great Northern War (1700-1721); as well as the near continuous late eighteenth-century warfare that began with the American (1776-1783) and continued in the French Revolutionary Wars (1792-1802).[25] Wars impacted the commercial practices of groups involved in the amber trade, but other factors clearly played a role as well: while the number of voyages carrying amber reached its peak in the mid-1680s, overall trade remained at a similar level for most of the seventeenth century, before experiencing consistent growth throughout the eighteenth.[26] Evidently, the trade in amber reflects different trends than those governing most Baltic commerce, understandable considering the differences between a semi-luxury good such as amber and the average bulk commodity from the Baltic region.[27]

While the amounts of amber carried in Baltic shipping vary, the primary ports from which it was traded were remarkably consistent: overwhelmingly amber was exported from Gdańsk or the general Prussian region.[28] The evidence illustrated in Figure

[25] The Fourth Anglo-Dutch War (1780-1784), in many ways a side-conflict of the American Revolutionary War, had especially devastating military and economic consequences for the Dutch Republic, who by that point were completely outmatched by their British opponents.
[26] As evidenced in the overall statistics available from the STR database from 1634-1857: http://dietrich.soundtoll.nl/public/stats.php?stat=py.
[27] Earlier records tend to put the amount of amber in each cargo in units of value (Rigsdaler), while later ones tend more towards units of weight (Danish pounds): a lack of reliable data on the price of amber over these years makes conversion between the two measures difficult. Shifts in the tolls themselves suggest differences in the quality or type of amber were often not recorded, but were relevant to the level of toll exacted. Use of descriptive terms provides some hints at the differentiations made between types of amber in terms of tolls. For example, "*vorarbeidet barnsteen*" (already worked amber), "*barnsteen rundverk*" (amber bead), or "*barnsteen røgelse*" (amber incense).
[28] Figure 2.3 depicts these departure ports over the whole period. I looked at the change in departure ports over time using the years featured in Figures 2.3 and 2.4: 1620, 1683, 1700, 1739, and 1776. Every single voyage with a departure port recorded in the first four of those years had departed from Prussia; in 1776, 2

2.3 suggests that amber was a commercial export almost exclusively from the East Prussian region throughout the early modern period, despite the presence of large stretches of beachfront along which amber commonly reached shore in significant amounts. Moreover, it suggests that commercial networks could engage with most of the amber market simply by establishing a contact or factor in Gdańsk. As the biggest port in Baltic trade throughout most of the seventeenth century, Gdańsk provided an obvious

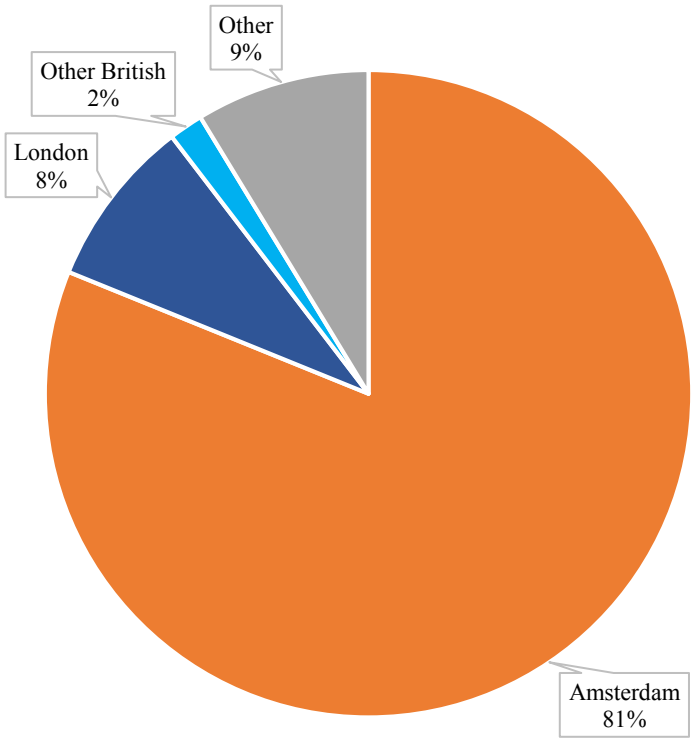
Figure 2.3 Baltic Departure Ports in the STR, 1590-1800[25]



of 18 voyages departed Szczecin (Stettin), with the remaining 16 all leaving Gdańsk. For clarity, the ports from the database that I consider part of the Prussian region and their number of voyages are Baltiysk (8), Klaípeda (4), Elbląg (2), and Puck (1).

Table 2.1: Voyages Destined for London in Select Years		Table 2.2: Voyages Destined for Amsterdam in Select Years[29]	
Year	Percentage (number/total recorded destinations)	Year	Percentage (number/total recorded destinations)
1683	5.6 (3/54)	1683	94.4 (51/54)
1700	6.7 (2/30)	1700	93.3 (28/30)
1739	7.7 (1/13)	1739	84.6 (11/13)
1776	11.1 (2/18)	1776	83.3 (15/18)

Figure 2.4: Destination Ports in the STR, 1648-1800



[29] I chose a sample of five years to track changes that the STR online database cannot synthesize on its own: 1620, 1683, 1700, 1739, and 1776. Each year was chosen based on the number of voyages of surrounding years and the events occurring around that year: 1620 as the final year of the Twelve Years' Truce between the Dutch Republic and the Habsburg dominions; 1683 as the year with amber's highest volume; 1700 as the year before the Great Northern War transformed Baltic geopolitics with the entry of Russian power; 1739 as the year before the War of the Austrian Succession; and 1776 as the beginning of the American Revolution, with its devastating consequences for the Dutch Republic. Together, these years give a sample that spaces somewhat evenly over the chosen period. 1620 had no destination ports recorded, hence its omission from this table.

starting point for the amber trade as well as the trades in grain, timber and potash with which it is most often associated.[30] The STR suggest that Gdańsk served as the overwhelming centre for the amber trade as well as Baltic trade in general.

Almost as much as Gdańsk and Prussia generally dominated the export market for amber, Amsterdam was the main port to which it was shipped. Table 2.1, Table 2.2 and Figure 2.4 demonstrate Amsterdam's dominance, and the secondary importance of London in the trade. While Amsterdam generally peaked in the late seventeenth or early eighteenth century as a European entrepôt, it continued to have great significance for the amber trade until well into the eighteenth century. This continued significance suggests that different patterns of trade were in operation for amber than for the greater volume of Baltic commodities.[31] Part of the reason for Amsterdam's importance as a port in the early modern amber trade was the predominance of Dutch shipping in the trade: 76 percent of voyages made between 1590 and 1800 had captains hailing from the Dutch Republic.[32] Overwhelmingly, Dutch captains listed Amsterdam as their destination port, with many captains from Gdańsk or other Baltic ports also destined there. The number of voyages shows a significant drop in the last few decades of the eighteenth century, a

[30] Gdańsk was the single largest port in the Baltic during the second half of the sixteenth and first half of the seventeenth century, with a population of around 40,000. North, *The Baltic*, 87-88.
[31] Amsterdam's rise as an entrepôt came around 1585, during the early stages of the civil turmoil and religious conflict of the Eighty Years' War (1568-1648). Much of Amsterdam's rise as an entrepôt was Antwerp's loss, as many of the latter city's merchants, craftsmen, and connections relocated to Amsterdam. Amsterdam remained an international centre for trade even after the Dutch Republic lost its dominant position in world trade in the late seventeenth to early eighteenth centuries. Israel, *Dutch Primacy in World Trade*, 12-79 on Amsterdam's rise; 377-416 on its decline.
[32] The towns of the Wadden Islands just outside the Zuiderzee were the most frequent home ports for captains: Vlieland (401), Terschelling (349), and Ameland (153). Six other ports had more than thirty passages to which they were attributed as the home port: Gdańsk (146), Amsterdam (124), London (93), Bremen (39), Harlingen (38), and Woudsend (31). In terms of the more complete regional composition of the ports, towns in the Dutch Republic comprised 1495 out of the total 1962 recorded home ports (76.2%), Baltic ports 271 (13.8%), British ports 149 (7.6%), and German North Sea ports 87 (4.4%).

consequence of the outbreak of the American War of Independence (1776-1783) and the related Fourth Anglo-Dutch War (1780-1784). At least up until that point, Amsterdam remained the principal port for the maritime trade in Baltic amber.

Overall, the evidence of the STR suggests Dutch merchant interests dominated the trade in amber from 1590 to 1800. Not only was the majority of amber carried by Dutch shipping well into the eighteenth century, but the majority of amber was destined for arrival in Amsterdam up until that point as well. How this trade functioned and the wider powers that governed it are harder to discern from the STR: other sources indicate the ways that the trade functioned and the major players in it up until 1800. The amber trade prior to 1800 operated on the linchpin of Amsterdam, the capital of the Dutch Republic, whence most of the ships carrying amber originated. Only a source as voluminous as the STR can provide information at this level, strongly indicating whence, to where, and in what amounts Baltic amber moved. To determine who drove the amber trade and how it functioned, however, these sources are incomplete and somewhat imprecise. The STR declare strongly the dominance of the Dutch in this trade; but archival evidence from the Baltic buttressed by secondary literature points to the importance of local guilds and ethnic merchant communities in determining the regional and wider patterns of the amber trade.

Guilds and Merchant Communities: Bending Amber Monopolies

The Sound Toll Registers are undoubtedly the single most frequently used quantitative sources for understanding Baltic trade. But their comprehensiveness, length, and seemingly all-encompassing nature can obscure the fact that there remain limitations on their ability to depict Baltic trade. Fundamentally, they are a source bound to one

particular, albeit very important, location for Baltic trade: the Øresund strait. The consequences of that limitation are that the STR do not show the people who are buying and selling goods, but rather those who are carrying them. Dutch dominance in terms of shipping capacity does not equate to Dutch dominance in the buying, selling, and moving of amber.[33] Filling the gaps created by the STR requires more local sources: the geographically concentrated and highly regulated status of amber in the Baltic region makes relevant local regions fewer and easier to identify than with many other commodities. The STR data paint in broad, but occasionally misleading strokes that describe shipping; local guild archives in the main amber exporting city, Gdańsk, and the traditional main re-export and manufacturing city, Lübeck, describe the tension between official regulations and the amber trade in practice. Drawing on the evidence of those archival materials shows these tensions to be formative to the regional amber trade.

Local institutions and foreign communities needed to cooperate for trade to be successful: the former controlled legal access to amber, while the latter granted access to reliable networks for marketing that commodity. Moreover, where merchant communities were present within the Baltic region, moving amber was greatly simplified: rather than a series of transactions that required individual relationships between guilds or individual members of guilds, the close connections between common members of such diasporas facilitated movement through space, navigating layers of restrictions and monopolies. These commodities operated in this manner in general, but for amber specifically, these

[33] Moreover, the metropolitan nature of the merchant communities in Amsterdam meant that even trade termed Dutch obscured other networks at play that fit within or alongside official Dutch colonies, networks, and policies. Adam Sutcliffe describes the identity politics active in the Sephardic communities of Amsterdam and London, as religious diasporic identity at times conflicted with the realities of life in those cities: "Identity, Space and Intercultural Contact in the Urban Entrepôt: The Sephardic Bounding of Community in Early Modern Amsterdam and London," *Jewish Culture and History* 7, nos. 1-2 (2004): 93-108.

global diasporic networks were especially important. Amber's material qualities gave it an optimal combination of light weight, ubiquitous demand, and high value very suitable for use in such networks. This material uniqueness made amber a commodity that contributed to the Baltic's integration into the increasingly global commercial world. Amber was immediately caught up in the networks that drove global commercial development upon their arrival near its Baltic sources.

Seeing such networks requires a reliance on records created by guild institutions often threatened or at least annoyed by the very existence of these networks within their domains. Threatened may be the better descriptor: guilds were gradually becoming less and less common over the course of the seventeenth and eighteenth centuries, but still held considerable sway in many Baltic German cities. Guilds came in many forms, but fundamentally were local legal bodies to which a higher authority had granted exclusive rights to a particular craft, service or trade. The principle behind these organizations was that they created a united community within particular professions that could control local conditions and compete more effectively with foreigners.[34] Around the Baltic, such groups were common even into the nineteenth century, reflecting the imperial ties and local mindset of many of the merchants working in these areas. The longevity of guilds in the Baltic stood in contrast to two of their main regional trading partners, the more centralized states of the Dutch Republic and England, where these local bodies were fading by the sixteenth and seventeenth century, albeit with some to be replaced by national bodies or acts designed to promote the collective interests of the entire state

[34] Sheilagh Ogilvie describes the historical development and eventual disappearance of guilds, stressing the diversity of types of guilds and arguing that guilds reflected efforts by particular interest groups to maintain their control over particular industries or trades: "Merchant guilds, efficiency and social capital," chapter in *Institutions and European Trade: Merchant Guilds, 1000-1800* (Cambridge: Cambridge University Press, 2011), 1-18.

rather than maintaining a series of more local bodies.[35] The impacts of the long-term success of the Hanseatic League also appear in this regard: the monopolization of trade in each of the Baltic Hanseatic ports simplified their control over the export of commodities from the hinterlands. Furthermore, the trade routes and mercantile connections forged by the League persisted after its decline, in some respects sustaining the local economic systems that arrived with it.

In terms of the amber trade, the traditions of guild control and of established trade routes appear to have lingered longer than even for other areas of Baltic commerce. The strictness of the controls placed over amber first by the Knights of the Teutonic Order and then by the Dukes of Prussia set the tone for the control of amber throughout the region with severe rules over its production and sale within the Prussian region.[36] After leaving the hands of Prussian authorities, however, amber remained a commodity with especially strong ties to guilds and their infrastructure. The guild with the tightest such connection was the Gdańsk amber-workers' guild, to which Prussian authorities by all accounts sold the majority of their amber. The Gdańsk guild in turn sold much of its amber to Lübeck, despite the general decline of that port by the sixteenth century.[37] While the rise of Dutch shipping in the Baltic in a sense made Lübeck redundant with the onset of direct trade with Gdańsk, the cities of Gdańsk and Lübeck shared long-standing

[35] The innovations of chartered companies and other institutions that replaced guilds were not the complete transformation they may seem to be: new elements like the purchasing of shares still paired with a legally defined monopoly that kept trade and certain industries fundamentally exclusive. In a certain sense, the boundaries of monopoly merely expanded to that of the nation rather than the town or community. Ogilvie, "Merchant guilds," *Institutions and European Trade,* 31-33.
[36] See Chapter 1, 20.
[37] The historical connections between Lübeck and Gdańsk carried over from the days of Lübeck's height as the centre for Hanseatic trade during the fourteenth and fifteenth centuries, which turned Lübeck into a centre for the manufacture of amber exported from Prussia: King, "'The Beads With Which We Pray Are Made From It'," 157-159.

guild institutions that had worked together for centuries by 1600.[38] Those connections helped to mediate disputes between the merchants of the two cities, leaving historical evidence in its wake. For instance, a 1672 dispute between Lübeck merchant Peter Lütkens and Gdańsk merchant David Bauer over a late shipment of amber shows how traditional guild relations continued to function even at that late juncture.[39] Moreover, it shows that even at this point, transactions between guild members in these two cities involving amber were commonplace.[40] Further archival records from Lübeck demonstrate that guild correspondence between that city and Gdańsk, Stolp, and Kaliningrad was a normal means of settling contractual disputes or negotiating collective deals between guilds.[41] In the realm of collecting, selling, shipping, and working Baltic amber, guilds remained important collective bodies for regulation and negotiation well into the eighteenth century.

As much as these amber-workers' guilds were legal bodies attempting to promote the interests of their own members, they were also a more effective means of guaranteeing and supplying credit. Credit is an essential ingredient for any long-distance trade, and many of the disputes recorded in the guild records of Lübeck and Gdańsk centre on unpaid debts or undelivered goods. The case of Lütkens and Bauer demonstrates this point: Lütkens demanded that Bauer deliver amber he had ordered on credit; Bauer responded that he would not ship the amber until Lütkens paid in full the

[38] Lindberg contends that these guild institutions made the two cities less competitive and contributed to their declines; in either case, his article refers continually to the deep-seated connections between the two cities that stemmed from the medieval role of Lübeck as Hanseatic capital: Lindberg, "Club goods and inefficient institutions."
[39] *Archiv der Hansestadt Lübeck* [AHL] 1.1-2, 4726.
[40] This continued trade between Lübeck and Gdańsk shows another weak point of the STR in tracing Baltic trade: Lübeck's trade did not pass through the Øresund strait, instead moving by land and river to North Sea ports on the other side of the Jutland peninsula.
[41] AHL 1.1-2, 0616.

agreed upon price, which Lütkens felt was an overpayment in changed market conditions.[42] In 1647, Abraham Hafeman from Gdańsk apologized profusely and provided numerous excuses to the guild of amber-turners in Lübeck over his failure to deliver amber paid for by guild members.[43] Reputation and trust were fundamental to the uncertain world of early modern business: these documents suggest that guilds were the conduits through which their members maintained both reputation and trust, in the case of Baltic amber at least. Guilds were not only exclusive and inefficient institutions meant to enrich their members at others' expense, but also helped develop reliable networks for trading amber.

Beginning in the sixteenth century, however, new merchant networks with more extensive and less exclusive ways of operating began undermining these traditional guild networks, even as they helped to integrate the Baltic into more global trade networks. After Antwerp transformed into a singularly important entrepôt for all of Europe in the early to mid-sixteenth century, merchant networks centring on that city began to develop.[44] These networks began to create a new pattern of Baltic trade, which placed the Low Countries as the axis directing the movement of goods between the Atlantic coast of France and the Baltic Sea, creating communities of Dutch brokers and merchants in the Baltic in the process.[45] Other networks developed as well: a Scottish diaspora forged

[42] AHL 1.1-2, 4726.
[43] AHL 1.1-2, 0616.
[44] Antwerp's rise to significance as an international centre was the result of a combination of factors, which will be described in greater detail in Chapter 3. These factors pulled a great volume and diversity of global commodities previously unknown in Europe into the city, as well as making it a centre for regional trade in the process. Wijnroks describes the extent of Antwerp-based networks of Dutch and other merchants within the Baltic. Eric Wijnroks, *Handel tussen Rusland en de Nederlanden, 1560-1640: een netwerkanalyse van de Antwerpse en Amsterdamse kooplieden, handelend op Rusland* (Nijmegen: Hilversum, 2003), 35-209; also van der Wee, *Growth of the Antwerp Market.*
[45] James B. Collins, "The Role of Atlantic France in the Baltic Trade: Dutch Traders and Polish Grain at Nantes, 1625-1675," *Journal of European Economic History* 13, no. 2 (1984): 239-289.

connections across the North Sea and into the Baltic region during the sixteenth and seventeenth centuries, further deepening the ties across the larger Northern European maritime region – ties that included links to major entrepôts like Paris.[46] These and other groups of foreign merchants established themselves alongside the existing local guilds, themselves arguably an iteration of German diaspora established in the Baltic region. Under certain circumstances, these newcomers traded extralegally alongside local guilds; in others, they were allowed to become guild members themselves.[47] In either of these instances, however, new connections were established on the basis of these groups having commercial alliances in the Baltic region: locally-minded guilds or ship captains often could not adequately represent the interests of buying parties in their diasporic centres. Moreover, knowledge of potential sellers in those centres was vital to the operation of trade. Integrating Dutch and Scottish minorities into guild structures, or allowing them to work alongside them, was simplified by the fact that both groups were predominantly Protestant and familiar to Baltic regions. Armenians and Jews, the two other groups most

[46] The Scottish diaspora is often overlooked in terms of early modern trade networks, but was quite well established across northern Europe, especially around the Baltic and North Sea regions: see Laurence Fontaine, *History of Pedlars in Europe*, trans. Whittaker (Durham: Duke University Press, 1996), 10-11, 14-15; Douglas Catterall, "At Home Abroad: Ethnicity and Enclave in the World of Scots Traders in Northern Europe, c. 1600-1800," *Journal of Early Modern History* 8, nos. 3-4 (2004): 340-353. In the Prussian region in particular, Scots established lasting communities: Karl-Heinz Ruffmann, "Engländer und Schotten in den Seestädten Ost- und Westpreussens," *Zeitschrift für Ostforschung* 7, no. 1 (1958): 17-39; Maria Bogucka, "Scots in Gdańsk (Danzig) in the Seventeenth Century," in *Ships, Guns and Bibles in the North Sea and the Baltic States, c. 1350-c. 1700*, eds. Macinnes, Riis and Pedersen (East Lothian: Tuckwell Press, 2000), 39-46; Ashley Sims, "Furnishings and Finery: a Scottish Merchant Household in an Age of Global Exchange, c.1634-1674" (PhD Dissertation, University of Alberta, forthcoming).

[47] Ogilvie describes the difficulties newcomers faced in becoming citizens and guild members in Baltic cities, *Institutions and European Trade,* 54-57. She notes Gdańsk's insularity in particular: "In the sixteenth century, Gdańsk excluded any foreigners [...] from living or trading in the town without the agreement of the existing burghers." (55) Itinerant pedlar networks across Europe faced and overcame the legislative and social obstacles to entering trade in cities through strategic marriages and local partnerships, among other strategies: Fontaine, *History of Pedlars*, 20-28. According to Alan Smart and Filippo M. Zerilli's usage, the term extralegal refers to "three domains: the illegal; the informal; and the not-yet-(il)legal, the latter involving issues not yet decided by a legal system." Smart & Zerilli, "Extralegality" in *A Companion to Urban Anthropology*, ed. Nonini (Hoboken, NJ: John Wiley and Sons, 2014), 222.

involved in the amber trade, were either more reluctant or unable to integrate so quickly and so fully into local cultures and institutions.

Historiographically, Armenians have been the group most closely associated with the trade in amber from the sixteenth to eighteenth centuries. This association stemmed from the early nationalist writings of Alfred Rohde, who claimed that the Protestant Reformation created an inseparable commercial rift between amber suppliers in Protestant Prussia and markets for amber rosaries across Catholic Europe.[48] In his explanation for the next turn of the amber trade, Rohde pointed to Armenian amber buyers intent on shipping it to Islamic countries. This greatly oversimplified argument remains the standard explanation for the way the amber trade shifted during the early modern period.[49] While the argument that the Protestant Reformation brought about great change to the amber trade is mostly unsubstantiated, the observation that Armenians arrived at very roughly the same time as that Reformation is certainly true. Around the turn of the seventeenth century, Armenian networks took on great new significance after their forcible relocation from the area around Old Julfa on the Safavid-Ottoman border to the Safavid capital at Isfahan. The new effective Armenian capital at New Julfa became a thriving commercial hub for the next one hundred and fifty years, helped by the monopoly on raw Persian silks granted to its merchants at the turn of the seventeenth century and by the wide-ranging Armenian diaspora.[50] That diaspora eventually crisscrossed the early modern world's major trading regions, with communities in

[48] Alfred Rohde, *Bernstein, ein deutscher Werkstoff: seine künstlerische Verarbeitung vom Mittelalter bis zum 18. Jahrhundert* (Berlin: Deutscher Verein für Kunstwissenschaft, 1937).
[49] See Chapter 2, footnote 3.
[50] Sebouh David Aslanian, *From the Indian Ocean to the Mediterranean: The Global Trade Networks of Armenian Merchants from New Julfa* (Berkeley: University of California Press, 2011), 23-43.

western and southern Asia, Europe, Russia, and Manila.[51] Rather than being a consequence of the Protestant Reformation, the appearance of Armenians in the amber trade was a result of the Baltic's convenient location at the connecting point between two of their main trading centres: Muscovy and Amsterdam.[52] In literature surrounding trade by Armenians during the seventeenth century, amber is an oft-mentioned article of their trade in the Baltic.[53] Armenians are harder to discern in the STR or Gdańsk and Lübeck archives, but occasional mentions indicate their importance to the trade in amber during the seventeenth century.

The most definitive such mention of Armenians in connection with amber is in the STR. In 1620, six cargoes including amber were categorized as carrying *Armenier godz* ("Armenian goods") within the manuscript records.[54] Significant with these entries is the much higher volume of amber carried on these voyages: an average of just over 700 rigsdalers worth of amber is on board each of the six passages, much higher than in other years.[55] A search within the STR database specifically for variations of "*Armenier godz*"

---

[51] Bhaswati Bhattacharya, "Making money at the blessed place of Manila: Armenians in the Madras-Manila trade in the eighteenth century," *Journal of Global History* 3, no. 1 (2008): 1-20; Rudi Matthee, "Anti-Ottoman Politics and Transit Rights: the Seventeenth-Century Trade in Silk between Safavid Iran and Muscovy," *Cahiers du Monde Russe* 35, no. 4 (1994): 739-761.

[52] Aslanian, *From the Indian Ocean to the Mediterranean*, 79-85; Vahan Baibourtian, "Participation of Iranian Armenians in World Trade in the Seventeenth Century," in *Les Armèniens dans le commerce asiatique au début de l'ère moderne*, eds. Chaudhury and Kévonian (Paris: Fondation Maison des sciences de l'homme, 2007), 44-47.

[53] Vahan Baibourtian, *International Trade and the Armenian Merchants in the Seventeenth Century* (New Delhi: Sterling Publishers Ltd., 2004), in Livorno, 112-114; in Amsterdam, 123-128.

[54] These six voyages were the only fully recorded ones for the year: one other was only partially recorded, and two others lumped amber together with another commodity (knives in one case, steel in the other). The Recordid numbers for the six voyages are as follows: 4053736, 4053752, 4053895, 4053897, 4052381, and 4052374.

[55] Figuring exact values for amber cargoes over the entire period is difficult on account of changing systems of recordkeeping: while the norm in 1620 is to record a commodity's amount according to its value in rigsdalers, the norm over the remainder of the seventeenth and much of the eighteenth centuries is to record amounts according to weight in pounds. In either case, one cargo from 1620 records both pounds and value, allowing the creation of a ratio of 550 pounds to 900 rigsdalers (0.611). Using this ratio, the average of 703.83 rigsdalers roughly converts to 430.12 pounds, much greater than the average weights of

reveals three of the above entries cross-listed under that terminology, as well as two other hits within the entire timeframe of the database (1590-1857): one in 1619 and another in 1642.[56] The inconsistency with which the label appears very probably indicates that other instances of Armenian trade in amber occurred through the STR, especially considering the consistent connection between amber and Armenians in 1620 in particular. The Dutch dominance in shipping obscures much of this Armenian presence: Dutch ships moving from Gdańsk to Amsterdam carried these goods, leaving them superficially an object of Dutch trade according to recordkeeping practice used in the STR.[57] While greatly limited by the records available from the STR, what evidence exists suggests that Armenian merchants were an important force for moving amber from Samland to Amsterdam.

In surviving archival material relating to amber trade in Gdańsk and Lübeck, Armenians do not appear at all in spite of strong evidence for their connection to the trade. At least one literary source does connect Armenian traders to amber dealings around Gdańsk: Jean Baptiste Tavernier's late seventeenth century account of his travels in India. Armenians are a regular feature in his work, unsurprising considering their globally dispersed communities and importance in long-distance commerce at the time. In one recollection, Tavernier writes:

> When I was at *Patna*, four *Armenians* who had been before at *Boutan*, return'd from *Dantzick*, where they had made certain Figures of yellow Amber, representing the shapes of several Creatures and Monsters, which they were carrying to the King of *Boutan*, who is an Idolater, as are all his people, to set up in his Pagods. For the *Armenians* for Money

---

amber cargoes in later years where an Armenian connection is not recorded. Averages for select years are as follows: 126.95 pounds in 1683, 150 in 1700, 126.17 in 1739, and 135 pounds in 1776.

[56] I first searched for "*Armenier godz*" specifically, then upon finding very little I reduced the search to a wildcard search for the stem "**Armen***." The 1642 result makes the connection between amber and Armenian trade even clearer, with its full STR entry being "*Uforarbeidet bernsteen Armenisch gods*" (Unworked [i.e. raw] amber Armenian goods), see Recordid: 838998.

[57] The origins of ships are denoted according to the home port of each ship's captain, obscuring any diversity of crew members or merchant buyers and sellers in the process.

> will sell any thing of Idolatry; and they told me besides, that if they could but have made the Idol which the King of *Boutan* bespoke of them, they should have done their business. Which was to have been a Monsters head, with six horns, four ears, four arms, and six fingers upon every hand, all of yellow Amber; but they could not find pieces big enough.[58]

Tavernier's account makes clear the extent and efficiency of Armenian networks spreading into Gdańsk: the four merchants heard a request from the King of Bhutan, travelled across the breadth of Eurasia to fill his order, and evidently were able to purchase amber of very high quality in the era of the ducal Prussian amber monopoly. The greatest limitation to their procuring the amber they desired was not the Beach Riders and fees demanded by the Dukes of Prussia, but rather amber's own material tendency to cleave into small pieces.

Archival documents recorded by Wilhelm Tesdorpf in the late nineteenth century strongly indicate the presence of Armenian, and Jewish, mercantile interests active in the East Prussian region. He records a list of instructions from 1783 for the official agents working to police amber collection at that time: many of the punishments and attitudes remained the same as those recorded by Andreas Aurifaber in his sixteenth century work. But an emphasis on controlling parties known to deal illicitly in amber appears that was not present in Aurifaber's *Historia Succina*. Tesdorpf's transcription of the archival document reads:

> The Beach-Riders (*Strand-Reiter*) at Pillau must carefully search the vessels from Elbing and elsewhere before they unload. And also those same [knights], just as the Beach-Officers (*Strand-Bediente*) at Neutief, Schwarz-Ort and Memel [do], must keenly inspect the same people and travellers, especially Jews, Armenians, fishermen and coastal peasants, who move themselves from this to the other side of the beach, and there absolutely no suspicious people, in particular the Jews, amber-workers, soldiers and

[58] Patna is a city in northeastern India, near to the Buddhist kingdom of Bhutan. Jean Baptiste Tavernier, *The Six Voyages of John Baptista Tavernier, Baron of Aubonne through Turky, into Persia and the East-Indies, for the space of forty years*, trans. Phillips (London: William Godbid for Robert Littlebury and Moses Pitt, 1677), Early English Books Online Database, Wing / T255, 183.

> vagabonds on the spits and in the coastal villages, should be suffered. Thus must the Beach-Officers, if they encounter these people in the coastal regions, stop them and send them off to the amber-court, but return the soldiers wandering without licence on the beach to their garrisons. On the other hand, the coastal peasants and fisherfolk, who have contact with the same suspicious people, or harbour them, must be subjected to judgment and punishment.[59]

These instructions attest not only to the regular commercial activity of Armenian and Jewish networks in the amber-producing region, but also to the threat they posed to official control over amber until nearly the turn of the nineteenth century.[60] Moreover, it reflects the continued threat of local peasants and soldiers to control over the commodity: amber was a versatile, liquid resource that could easily transform itself into other forms of capital, if only it remained hidden until suitable buyers appeared. Jews and Armenians were active buyers on account of their extensive networks, but soldiers also were because of their relatively sacrosanct status, transience, and the transportability of amber. Authorities evidently struggled to control illicit dealings in amber, to the extent that the regulation following that quoted above commands that officials "avoid the drink ... [and] have no contact or community with the Jews, amber-workers and others ... Otherwise

---

[59] "Der Strand-Reiter zu Pillau muss die Elbingsche und andere Fahrzeuge, ehe sie ablegen, genau besuchen, auch muss derselbe sowohl, als die Strand-Bediente zu Neutief, Schwarz-Ort und Memel diejenige Leute und Reisende, besonders Juden, Armenianer, Fischer- und Strand-Bauern, welche sich vom dies- oder jenseitigen Strande übersetzen lassen, scharf visitieren, und da überhaupt keine verdächtige Leute, insonderheit die Juden, Börnstein-Arbeiter, Soldaten und Vagabonden auf den Nehrungen und in denen Strand-Dörfern schlechterdings nicht gelitten werden sollen, so müssen die Strand-Bediente, wenn sie dergleichen Leute in den Strand-Gegenden antreffen, solche anhalten und ans Börstein-Gericht abliefern, die sich am Strand unbefugterweise herumtreibende Soldaten aber an ihre Garnisons zurückweisen. Dahingegen diejenige Strand- und Fischer-Bauern, welche mit dergleichen verdächtigen Leuten Umgang haben, oder beherbergen, zur Verantwortung und Strafe gezogen werden müssen." "Beilage 5: Instruktion für die Strand-Reiter und Kammer-Knechte vom 30. August 1783," in Wilhelm Tesdorpf, *Gewinnung, Verarbeitung und Handel des Bernsteins in Preussen von der Ordenszeit bis zur Gegenwart: eine historisch-volkswirtschaftliche Studie*, (Jena: Verlag von Gustav Fischer, 1887), 581-582. The term spits in this context refers to the thin, peninsular sandbars that separate the amber-rich Curonian and Vistula lagoons from the greater Baltic Sea.

[60] In the case of Jewish networks, their continued presence is unsurprising, but Armenian trade had begun to diminish in significance by the eighteenth century; Aslanian contends that the turning point for Armenian fortunes came in 1746-1747 as a result of increased taxes and religious pressure on the Armenian centre at New Julfa: *From the Indian Ocean to the Mediterranean*, 202-205.

they will make their own faithfulness suspect."[61] Authorities were preoccupied with the amber that clearly was slipping through the large cracks in their monopolistic system, cracks much widened by the presence of ready amber buyers and movers in the form of Armenians and Jews.

While the appearance of Armenians in relation to amber in the STR suggests their connection to its trade, connections to Jewish merchants or networks are not alluded to at all. Moreover, the preponderance of secondary literature that connects Armenians to the amber trade hardly ever mentions the active presence of Jewish merchants. This silence stands contrary to the evidence of Tesdorpf's transcribed archival documents, in which Jews and Armenians are always mentioned nearly in the same breath. Looking closely at the Jewish networks in place around Gdańsk and the Baltic generally suggests they were suited to the amber trade in a fashion similar to Armenians. The parallels between the two groups are numerous: two diasporic, mercantile minority communities that recovered from forcible expulsion and migration to take advantage of expanding global commerce after 1500.[62] Much as the forced relocation of the Armenian community at Old Julfa to the Safavid capital at Isfahan precipitated a period of commercial growth and prosperity for the Armenian diaspora, the expulsion of the Sephardic Jews from Spain created an

[61] „Hiernächst müssen die Strand-Reiter und Kammer-Knechte den Trunk vermeiden, und sich dadurch zu ihren Dienstgeschäften nicht unfähig machen, auch bey Strafe der Cassation mit denen Juden, Börnstein-Drehern und andern der Börnstein-Parthiererey wegen verdächtigen Leuten keinen Umgang oder Gemeinschaft haben, noch weniger selbige beherbergen; desgleichen, wenn sie nach Koenigsberg kommen, nicht in verdächtigen Krügen logiren, und sich für allen Verkehr mit denen Börnstein-Arbeitern, oder berüchtigten Parthirtanten hüten. Widrigenfalls sie sich selbst der Treulosigkeit verdächtig und der vorerwehnten Strafe schuldig machen."
"Instruktion für die Strand-Reiter und Kammer-Knechte vom 30. August 1783," 582.

[62] Armenians and Jews are two of the principal "trade diasporas" described by Philip D. Curtin in his seminal work, *Cross-Cultural Trade in World History* (Cambridge: Cambridge University Press, 1984); Francesca Trivellato compares these two diasporas: "The organization of trade in Europe and Asia, 1400-1800," in *The Construction of a Global World, 1400-1800 CE, Part 2: Patterns of Change*, ed. Bentley (Cambridge: Cambridge University Press, 2015), 169-170.

extensive linguistic and mercantile network that quickly took advantage of connections across the expanding European empires of Portugal, England and the Dutch Republic.[63] Often identifying as "Portuguese Jews" because of their continued connections to that nation and its empire, members of this Sephardic diaspora would establish important positions in the entrepôts of northwestern and Mediterranean Europe before establishing outposts across the major cities and trade routes of the early modern world.[64]

As ubiquitous as Sephardic merchants became in long-distance trade after 1500, their presence in the Baltic region faced the major obstacle of local guild barriers to the entry of all non-burghers into protected trades and crafts, especially Jews. Yiddish-speaking Ashkenazic Jews were generally the intended targets of these exclusionary regulations; but Sephardic Jews faced resistance as well once they began to establish themselves in Baltic ports in the sixteenth century. Sion Lus was an early Sephardic merchant who tried to expand his networks into the Baltic via Gdańsk.[65] Maintaining this foothold did not prove a simple affair, as the pair of Dutch brothers Lus hired as agents in Gdańsk double-crossed him, an action apparently motivated by Lus' status as "an

---

[63] The practice of the Jewish religion became illegal in the joint kingdoms of Castile and Leon in 1492, forcing Sephardic (Spanish) Jews to choose between conversion or expulsion from Spain. Portugal followed suit in 1497. These events would compel those Jews unwilling to convert to Catholicism leave the Iberian Peninsula or practice Judaism covertly under eventual threat from both public sentiment and authorities including the Spanish and Portuguese Inquisitions.

[64] On the Portuguese identity of Sephardic Jews: Francesca Trivellato, *The Familiarity of Strangers: The Sephardic Diaspora, Livorno, and Cross-Cultural Trade in the Early Modern Period* (New Haven: Yale University Press, 2009), 44.

[65] I did not find concrete evidence for whether or not Sion Lus and his sons were Sephardic, but Eric Wijnroks describes them as "possibly of originally Jewish descent [*mogelijk oorspronkelijk Joodse afkomst*]". In the early era of Sephardic trade such uncertainty is to be expected: in later years, merchants of the "Portuguese nation" would become more open as to their religious backgrounds. Their family history strongly suggests that the Lus family was indeed a Sephardic one, being of Spanish origin from the Sephardic hub of Livorno in Tuscany and with capital invested in the Jewish-dominated semi-luxury commodities of pearls and diamonds. Eric Wijnroks, *Handel tussen Rusland en de Nederlanden*, 257-258. On Livorno as a centre of Sephardic commerce, see Trivellato, "A New City, A New Society? Livorno, the Jewish Nation, and Communitarian Cosmopolitanism," Chapter 3 in *The Familiarity of Strangers*, 70-101.

outsider" in the Amsterdam community of merchants.[66] Sephardic merchants operating in Gdańsk faced local opposition as well, although their position was made relatively secure by the unique nature of the luxury goods they brought to the city.[67] Where Sion Lus failed to establish a profitable position in trade with Gdańsk, others succeeded, participating in trade at the highest levels as brokers in the bulk trades of the city.[68] Sephardic Jews played key roles in the trade between the Low Countries and the Baltic, roles often obscured by the focus on Dutch dominance in that trade. Nonetheless, Sephardic Jews were unlikely to have been those that drew the concern of the authorities described in the 1793 instructions for amber officers, although they were very likely responsible for exporting some of that illicitly gained amber. Instead, the more local Ashkenazic Jews were much better positioned to operate in such small-scale extralegal activities.

The Ashkenazic diaspora operated separately from the Sephardic one, two groups of coreligionists separated by culture, language and geography.[69] Ashkenazic Jewry was the more populous of the two groups by the seventeenth century, but was concentrated overwhelmingly in the relatively tolerant Polish-Lithuanian Commonwealth, as compared

---

[66] The brothers cheated and eventually forced Lus into insolvency, whereas they worked in a similar fashion for other Dutch merchants without duplicity. Janny Venema terms Lus an outsider without any further suggestion that Lus had Jewish connections, merely Tuscan ones, but having the former quality would be a more likely reason for such treatment: *Kiliaen van Rensselaer (1586-1643): Designing a New World* (New York: State University of New York Press, 2010), 99-100.

[67] Maria Bogucka, "Jewish Merchants in Gdańsk in the 16th-17th Centuries: A Policy of Toleration or Discrimination?" *Acta Poloniae Historica* 65 (1992): 49-50, 54-55.

[68] For example, the case of Abraham Perengrino (1585-1652), who was born to an Old Christian Portuguese family before converting to Judaism, fleeing to Hamburg, and eventually working as a factor for a Sephardic organization in Hamburg in Gdańsk. Benjamin Nicolaas Teensma, "De Levensgeschiedenis van Abraham Perengrino, Alias Manuel Cardoso de Macedo," *Studia Rosenthaliana* 10, no. 1(1976): 1-36.

[69] These were only two of many linguistically and culturally distinct Jewish denominations across Europe and the Mediterranean, which included "the Ashkenazic Jews in central and eastern Europe, the Jews of Avignon, Italian Jews (*Lo'azim*) and Ashkenazic Jews in the Italian peninsula, Greek-speaking (Romaniote) Jews in the Balkans and the eastern Mediterranean, Arabic-speaking Jews (*Musta'rabim*) in the Levant and North Africa, and [...] the Sephardim who had settled in the Ottoman Empire": Trivellato, *The Familiarity of Strangers*, 44.

to the global mercantile network of the Sephardic Jews.[70] Within and without the Commonwealth, German-dominated Baltic ports tended to have exclusionary policies towards Jewish mercantile and artisanal activity. For Gdańsk, the major German-dominated city under the control of the Polish Crown, the desire to maintain these policies came at odds with the dominance of Ashkenazic river merchants. These merchants supplied Gdańsk with much of the produce of the Polish interior in one direction, and the interior with the consumables and luxury goods available in Gdańsk in the other.[71] Despite the reliance of the city's inhabitants on this river trade, they held no qualms over voicing complaints about Jewish activity within it.[72] But more worrisome than Jewish river merchants were Ashkenazic Jews who wished to settle permanently in Gdańsk, threatening the ever-concerned craftsmen and smaller businessmen of the city. Guildsmen's complaints reflect a continual cycle of expanded and reduced privileges for Jews in the city, and pushed the centre for Gdańsk's Jewish population to the suburbs.[73] The unusual constitutional status of Gdańsk lent it greater autonomy, but also less ability to follow the generally pro-Jewish policies of the Polish kings. The often anti-Semitic and

[70] Poland-Lithuania went from having a Jewish population equivalent to only a fraction of the Iberian Jewish one in the late fifteenth century to the largest in Europe by the late seventeenth century, comprising 350,000 of a total of 532,000 European Jews outside the Ottoman Sultanate according to Jonathan Israel: *European Jewry in the Age of Mercantilism, 1550-1750* (Oxford: Clarendon Press, 1985), 5; 170.
[71] Moshe J. Rosman, "Polish Jews in the Gdańsk Trade in the Late 17th and Early 18th Centuries," in *Danzig, Between East and West: Aspects of Modern Jewish History* (Cambridge, MA: Harvard University Press, 1985), 114-116.
[72] For instance the 1693 petition submitted by John Stanislas Jablonsky to the mayor of Gdańsk, which asked for remuneration for the costs of an unsuccessful case against a Jewish toll administrator in the wholesale trade. Jablonsky acted on behalf of some of the city's apparently aggrieved Christian merchants, with the support of the Bishop of Kuyavia, whose diocese lay upstream on the Vistula. *Archiwum Państwowe w Gdańsku* [APG] 300R/Bb20c, 11-20. My thanks to Dr. Christopher Mackay for his help in translating this document.
[73] Bogucka, "Jewish Merchants in Gdańsk," 48-49. Jews often settled just outside major trade hubs where they were excluded, as for example in the Danish-controlled city of Altona outside Hamburg or Moisling outside Lübeck: Israel, *European Jewry*, 43-44, 151.

anti-competitive opinions of burghers carried far more weight than in other towns.[74] Despite the continual opposition and suspicion they faced from townsfolk, Poland's Ashkenazic Jewry successfully penetrated Gdańsk's industries and trades, as evidenced in the trail of legal evidence left by some of their activities.

From its beginning, the Jewish population of Gdańsk existed in a state of legal uncertainty or illegality: when the city came under the suzerainty of the Polish crown in 1454, it was allowed to maintain its *privilegium non tolerandis Judaeis*, which banned the presence of Jews in the city. In addition, Gdańsk retained the right to ban all trade between foreigners in the city, forcing all legal trade to flow through members of the city's guilds.[75] These legal barriers to the entry of Jews into the city, and especially into the city's trade and industries, did not prevent significant Jewish communities from appearing in areas just outside the city's jurisdiction by the second half of the sixteenth century.[76] Despite a precarious legal position, which saw Jews completely expelled at least once in 1616, the Jewish population played a continuously more significant role in the economic life of Gdańsk, helped by the dominant role Ashkenazic merchants played in the riverine trade that powered the city.[77] After Gdańsk began to decline economically in the second half of the seventeenth century, guilds struggled to control their various industries, as "odd-jobbers" established competing workshops illicitly within the city and

[74] Gdańsk's semi-autonomous status stemmed from its strong bargaining position when it became a Polish domain in the mid-fifteenth century. The obligations of the city to the Polish Crown were relatively small, and many decisions in which the king had a role in other cities were left entirely to the Gdańsk City Council's discretion: Cieślak and Biernat, *History of Gdańsk*, 98-100. Royal authorities did not always side with Jews, as in the case of the royal commission of 1749, and the declaration of the following year, in which Polish king Augustus III generally sided with the interests of merchants and craftsmen against the city's elites: Ibid., 249-284.
[75] Bogucka, "Jewish Merchants in Gdańsk," 47-48.
[76] These communities appeared contemporaneously to the arrival of the first Sephardic merchants from Amsterdam, including Sion Lus and his associates.
[77] On the Jewish expulsion of 1616: Bogucka, "Jewish Merchants in Gdańsk," 50-51.

in its suburbs, Jews and Mennonites prominent amongst them.[78] In the area of the world's most abundant amber deposits, such odd-jobbers no doubt included some amber-workers; Jewish and Armenian pedlars and merchants were their likely suppliers.

A trail of evidence shows regular instances of Ashkenazic Jews accused of engaging in economic activity outside the areas opened to them: overstaying the time allotted for their stay in Gdańsk, participating in wholesale trades, speculating in currency, and participating in "dishonest" trading to the disadvantage of Gdańsk merchants.[79] Often, these offences went unreported or unpunished even in instances where Jews had clearly overstepped the legal spaces allotted to them. Such was the case of Jochem Benjamin, who lived in the city on a temporary pass for fifteen years while trading in second-hand commodities from England.[80] In other cases, Jews were tried for trading directly with foreign wholesale merchants, some of whom would have been Sephardic coreligionists.[81] Even more suggestive of the success of Jewish merchants in avoiding the legal barriers preventing their full entry to the Gdańsk market is the case of Joël Meyer, who managed a smuggling network designed to bring illegal bullion into the city with the help of enterprising lower-class women. Significantly, Meyer's activities involved both the Prussian Resident, the representative of the Prussian state in Gdańsk, and prominent rabbis around Gdańsk, who themselves were later charged with crimes of money laundering and illegal trade. Clearly, illicit networks like Meyer's turned

[78] Cieślak and Biernat, *History of Gdańsk*, 206-208.
[79] Edmund Kizik, "Jews Before the Danzig Court in the Mid-Eighteenth Century," trans. Bubczyk, *Acta Poloniae Historica* 97 (2008): 150-151, trans. Robert Bubczyk.
[80] Benjamin's activities did not end with exile, but with suicide; his presence is recorded because of a request by the local Jewish community that his body be returned to them. Ibid., 152-153.
[81] Ibid., 157-158.

substantial profits and had the tacit consent of powerful figures within the city.[82] In Gdańsk, Ashkenazic Jews from all around the city's neighbouring regions had the capacity to meet with a broad array of foreign merchants. Thus, the site most important to the export of amber had networks crisscrossing it, networks referred to at a slightly later time in the 1783 instructions for amber officials in East Prussia.

Worries over the increasing importance and competitiveness of Jewish merchants were not limited to Gdańsk, suggesting a level of interconnectivity among Jewish merchants around the Baltic. By the mid-eighteenth century, Jewish merchants also worked in Lübeck, a major amber-importing city that was also one slow to relax its traditional guild strictures. Lübeck had a long history of religious tensions with Jews and during the early modern period it kept tight controls over the number of Jews allowed into the city and the activities in which they were allowed to engage.[83] In 1680, Lübeck allowed two *Schutzjuden* (sg. *Schutzjude*), Jews protected by authority of Lübeck as an Imperial Free City, to move into the city to act as moneychangers and lenders - this perceived intrusion promptly faced resistance from local guilds and artisans.[84] In the guild-delineated commercial and manufacturing spaces of early modern Lübeck, Jews' mercantile efficiency, networks, and competition posed a serious threat to the established guilds of the city. But the repeated petitions to the city made by those guilds to curtail or

---

[82] One rabbi, Chaim Schmul, had over 400,000 fl. of illegal banking to his name, all done at the local inn in which he was permitted to stay. The innkeeper described the rabbi's activities as comparable to that of "a representative of the largest local banks." Ibid., 160-162.

[83] Lübeck's attitude toward Jews was staunchly exclusionary until pressure from the Holy Roman Emperor in the early seventeenth century; with the mid-seventeenth century Peace of Westphalia, the city gained increased autonomy that it promptly used to expel or restrict Jews from trading or living in the city: Israel, *European Jewry*, 146.

[84] "Luebeck," *Virtual Jewish Library*, http://www.jewishvirtuallibrary.org/luebeck; Salomon Carlebach, *Geschichte der Juden in Lübeck und Moisling. Dargestellt in 9 in dem Jünglings-Verein (Chevras Haschkomoh) zu Lübeck gehaltenen* (Lübeck, 1898), 13-21, https://archive.org/details/geschichtederjud00carluoft.

restrict the activities of the few Jews allowed to operate suggest that *Schutzjuden* were continually acting outside the spaces legally delimited for them. Against, within and around the restrictions of guild monopolies, Jews played an important part in Lübeck's trade, including its guild-controlled amber trade.

In 1744, the Lübeck guild of amber-workers themselves lodged a complaint against a *Schutzjude* active within the city named Meier Isaac Stern.[85] The guild protested Stern's infringement of their monopolistic rights by "buying away the biggest and best pieces of amber among the merchants and ship-captains, and making these wares more expensive for us."[86] The guild did not challenge Stern's privilege to operate in the city, only contended that that privilege "should comprise only exchange, money handling, and bulk trades."[87] If he were allowed to work in the trades of the city, "it would equate to reaching into the civic pantry and snatching the bread away from a craftsman's mouth."[88] The guild's fundamental argument is that Stern's activities outside his granted mandate upset the traditional monopolistic balances of the city, harming the livelihoods of their own guildsmen and the other (Christian) craftsmen of the city.

The guild's attack on Stern's licence to trade merited a response from the *Schutzjude*. Rather than referring to the restrictions on his own privilege, he instead attacked the ability of the amber-workers' guild to craft and market the finest pieces of amber:

---

[85] Stern was part of an important family of Jews that arrived in Lübeck sometime around the turn of the eighteenth century. Carlebach notes that the origins of this family were uncertain, but likely in Hamburg or Bonn, and that their arrival seems to have occurred as relatives of one of Lübeck's *Schutzjuden*. *Geschichte der Juden in Lübeck*, 27-28.

[86] "[...] die größesten und besten Stücke von dem Bernstein, bei den Kaufleuten, und Schiffern, Wegkaufe, und uns diese Ware verteürer [...]": AHL, 1.1-2, 17140.

[87] "[...] nur in Wechseln, geld negoce, und Handlungen groß bestehen soll [...]", Ibid.

[88] "Diese heisst in die bürgerliche Nahrung greiffen und einem Handwercks-Mann das brod vor den Mund wegnehmen." Ibid.

> It is well enough known that such amber as I buy is of a sort that here in this country cannot be worked, rather such as is despatched by sea to the East and West Indies, where it is so good and rare as to be considered and paid for as gold. According to reports, it is said to be used by the Hottentots [sic] in a particular way and thus does not belong whatsoever to the work of the amber craftsmen, and is thus only a nugget they would like to have.[89]

Stern had access to buyers and networks that were not known or easily accessible to the members of the guild, access that enabled him to engage in a long-distance trade in amber despite heavy restrictions on Jewish activity inside Lübeck. Moreover, he emphasizes the profits to be made from shipping amber to such distant markets as the West and East Indies, claiming that amber was as valuable as gold in those locales. Stern's profits were enough to earn the ire of an amber-workers' guild that was clearly losing its grip on the trade in amber in the city. His activities were not unique, as shown in the parallel petition submitted collectively by several other merchant guilds specializing in Baltic regional trades, who distanced themselves from Stern but argued for an open amber trade on the principle of free trade.[90]

Layers and layers of legal controls over trade and craftsmanship in Baltic ports easily create the impression of a tightly regulated and controlled space. But the reality of the early modern Baltic was far more diverse and interconnected, as various non-local

---

[89] "Es ist genug bekannt, dass solcher Bernstein, so ich Kauffe eine Sorte ist, die hier zu Lande gar nicht verarbeitet werden kann, sondern solcher per mare nach Ost. oder West. Indien gesandt wird, alwo er so gut und rar, als gold gehalten und bezahlt wird. Dem Bericht nach, soll er von die Hottentotten auf gewissen Art gebraucht werden und gehört also gar nicht zu der Bernsteindreher Arbeit, ist folglich nur ein aufgesuchtes werck von denenselben." Ibid.

[90] "[...] Bernsteindrehern ein generale freiheit, allen und jeden den Bernsteinkauf zu verbieten und die Verkaufer Solcher gestaltem, zu schränken, dass die unverarbeiten Bernstein an niemand anders dan an das Amt der Bernsteindreher verkaufen sollen, behauptet werden will, dieses aber sämtlichen commercirenden zum Nachtteil gereichen, und der bisherigen freiheit Fesseln[?] anlegen wurde, und unsere Abliegenheit es erfordert für die Abkehrung alles das jenigen [...]" ([...] the amber-workers want to be claiming a general freedom to prohibit the sale of amber to each and everyone and to close such sellers out of crafting, that the unworked amber should be sold to noone other than to the office of amber-workers, this however is detrimental to our commerce, and would attach shackles to the freedom known until now, and our obligation requires for the shipment of all those things [...]": Ibid. The guilds involved, which traded to Scania, Novgorod, Bergen, Riga, and Stockholm, made clear in their petition that they were not supporting Stern against the amber-workers' guild, merely voicing concern over the court's decision to close the trade on account of him.

groups found legal openings or local alliances, or managed quiet but profitable businesses, to steadily grow their standing in Baltic trade. Armenians and Jews were the two largest and most important of these groups, drawing on their global connections, mercantile and financial expertise, and sometimes privileged status as representatives of other nations to establish themselves even in very anti-Jewish cities like Gdańsk and Lübeck. Amber was a commodity that fit readily in these global networks, a semi-luxury good valuable relative to its weight and very marketable in distant markets to which Jews and Armenians had access. Close examination of these groups and the archival trail left by their activities adds colour to the oversimplified picture of Dutch dominance in Baltic trade suggested by the STR. The exact nature of mercantile connections remains difficult to fully ascertain; but these global networks trading in amber had penetrated a Baltic space often defined by its trade with northwestern Europe.

Conclusion: The Global Baltic

Whether carried by ships or merchants of Dutch or Armenian, Jewish or any other nationality, amber was caught up in the reorientation of trade around the Low Countries that began in the sixteenth century. As Gdańsk profited from the sale of its various bulk commodities, then declined as the value of these commodities dropped, amber steadily trickled out through this port. Amber was not a typical Baltic commodity. But its singularity reveals just how commonplace infringements upon nominal guild monopolies were, helped by the arrival of new networks and new actors with new priorities. Those networks can easily be oversimplified - Dutch, Sephardic, Armenian, Ashkenazic, Hanseatic, and so forth - but they were, in Francesca Trivellato's words, "alliances built via marriage and economic specialization," rather than a "vague sense of belonging to the

same nation."[91] As new contacts were established, and patterns for creating profit determined, those active in these new networks shifted established trade, pulling it into the wide-ranging networks that were developing by licit or illicit means.

Communities of Jews and Armenians bought amber at or close to its sources and sent it far afield: in Stern's case, from one declining Baltic port to markets in Asia and the Americas; in the case of the Armenian merchants described by Tavernier, from the Baltic to the Himalayan kingdom of Bhutan. Global circulation was not a new phenomenon for amber. But the presence of these groups near its place of production suggests a whole new level of integration into burgeoning global trade networks. Rather than amber moving through layers of middlemen along well-established but slow overland routes, it now moved by sea destined for locations much more distant than previously feasible. Available sources give two different perspectives on the movement of Baltic amber at this time. The STR suggests the dominance of Dutch shipping and an overwhelming pattern of trade from Gdańsk to Amsterdam; archival sources point to the importance of Jewish and Armenian mercantile networks, which brought amber not only to Amsterdam, but also directly connected the Baltic region to global markets. Thus, the Baltic had multiple avenues through which to move amber. But such a focus on the Baltic alone still leaves much unexplained as to how or by whom it was used once it escaped the Baltic by means of the bottleneck of the Øresund strait or otherwise. To begin to answer these questions, I will turn first and foremost to the imperial and commercial entrepôts of Antwerp, Amsterdam and London.

[91] Trivellato, *The Familiarity of Strangers*, 45.

Chapter 3

Counterflow Commodity in Motion: Baltic Amber Goes Global

Inside and outside the Baltic region in which it was most abundant, amber was pulled into shifting global trade routes after 1500. The Sephardic and Armenian communities, so prominent to the trade inside the Baltic, became even more so outside of that space, because of their wide-ranging networks well acquainted with global markets for high quality amber. Merchants within these networks artfully used the infrastructures created for trade between Europe and Asia to legally and extralegally ship amber to those regions. The records kept by the European states most involved in trading with Asia provide glimpses of the private trade in amber and related goods around the Cape of Good Hope, with more narrative sources indicating the widespread smuggling of amber throughout the sixteenth to eighteenth centuries. The uses of amber as a luxury or semi-luxury commodity across Asia explain the potential profits powering private trades. Together, these sources depict a trans-imperial, global trade network for luxury commodities like amber, one not limited to the boundaries of any particular state. It was this multidimensional network that successfully capitalized on the connection between amber's region of relative abundance around the Baltic to the extremely populous and amber-hungry markets in Asian regions like Japan, Bhutan and China.

Amber's movement to Asia in large part occurred along the Cape route, a particularly well-studied trade route within the globalizing early modern world. On this route, amber played an uncommon role as what I term a "counterflow commodity," referring to those few commodities that moved from Europe to Asia along the Cape route

prior to 1800.[1] Such commodities constitute a counterflow to the overwhelming weight of commodities from Asia moving into Europe from 1500 onward - valuable spices, high quality textiles, gemstones, and so forth. During the early centuries of trade along the Cape route, European trade for these commodities depended on the export of massive volumes of bullion - primarily silver, but also some of copper, lead, and gold.[2] Amber and other analogous goods, most similarly Mediterranean coral, flowed along different channels than the bullion pouring into Asia, both because of the unique material features from which their value derived and because of the very particular regions in which they could be collected. In amber's case, a long-standing earlier trade had already been moving it across Eurasia.[3] But the institutional frameworks and rapidly growing global connections of the period after 1500 pulled it into a new sort of trade as a counterflow commodity along the Cape route. There was never enough available amber that it comprised a significant part of the value or weight of the European side of the exchange around the Cape; but its trade reveals other easily overlooked aspects of that important exchange.

A focus on Baltic amber as a counterflow commodity gives emphasis to one particular movement of one distinctive commodity, a commerce occurring alongside a rapidly growing number of such commodity flows. The networks driving the trade in Baltic amber along the Cape route were fundamentally global ones that pulled this

---

[1] I adapt Michael H. Fisher's use of the term "counterflow," which described the overlooked movement of Indian travellers and immigrants to Britain during the early period of Anglo-British involvement on the subcontinent: *Counterflows to Colonialism: Indian Travellers and Settlers in Britain 1600-1857* (Delhi: Permanent Black, 2004).

[2] This bullion dependence is well-noted, see for example Malyn Newitt, *A History of Portuguese Overseas Expansion, 1400-1668* (London: Routledge, 2005), 70; John C. Boyajian, *Portuguese Trade in Asia under the Habsburgs, 1580-1640* (Baltimore: The Johns Hopkins University Press, 1993), 51-52.

[3] See Chapter 1.

particular northern European commodity along the Cape route to India, China or Japan in a fashion not dissimilar to how they pulled American emeralds, silver, or pearls to those same markets. Recent histories of several such analogous global commodity flows have begun to demonstrate the extent to which trans-imperial, Sephardic-dominated networks controlled the global trade in those commodities. Kris Lane traced the global trade in Colombian emeralds, which flowed in Sephardic hands from the jungles of the Colombian interior to markets across Eurasia, especially the Islamic Ottoman, Mughal and Safavid empires.[4] Molly Warsh's *American Baroque* (2018) similarly describes the role of Caribbean pearls in early modern global exchange, noting the imperial and Sephardic networks at play in the trade.[5] Both of these works describe how colonial American regions were pulled into global trade because of their wealth in a particular rare natural resource. While the Baltic region was within Eurasia, making its amber wealth not such a sudden addition to global trade connections, the reorientation and expansion of amber output after 1500 and the colonial dynamic between Prussian overlords and indigenous Sudovian labourers has striking similarities to the processes that occurred with American pearls and emeralds.[6] Needless to say, the networks trading any of these commodities were overlapped and interwoven, and operated through a similar combination of licit and illicit, hidden and visible trade.

Where amber ended up after its transport was not a matter of accident or convenience, but rather a product of the regimes of value placed upon amber in different

[4] Kris Lane, *Colour of Paradise: The Emerald in the Age of Gunpowder Empires* (New Haven: Yale University Press, 2010).
[5] Warsh notes the significance of Sephardic merchants most frequently in chapters 5 (pp163-192) and 6 (193-241): Molly A. Warsh, *American Baroque: Pearls and the Nature of Empire, 1492-1700* (Durham: University of North Carolina Press, 2018).
[6] These labour relations in the Baltic described in Chapter 1, 20-23.

markets.[7] The example of colour's culturally contingent value illustrates one simple way in which these regimes of value functioned: Colombian emeralds moved to Islamic markets where their bright green colour was especially meaningful, much as Caribbean pearls' colour held meaning that reflected European preoccupations with sexuality and purity.[8] Amber has an even wider array of unique material features than either emeralds or pearls: its tactile warmth, scent, flammability, softness, and varied colours opened a broader array of possible meanings and uses, and thus regional markets. Thus, unsurprisingly, amber found particularly profitable niches in Japan, Bengal and China, wending its way to specific markets where great value was attached to this commodity. The demand created by amber's materiality gave momentum to this substance in early modern global trade.

The crystallization of global networks after 1500 brought commodities to markets where they had previously been extremely scarce or entirely unknown. In markets where a new commodity's materiality resonated with local tastes, new trade routes developed that connected disparate regions of Eurasia, Africa and the Americas. In the case of Baltic amber, the number of these resonant markets was impressive because of its unusually flexible materiality, making amber a profitable commodity for long-distance trade. Varying regimes of value, long-distance transportation and financial networks, plus amber's own physical features, worked in tandem to create a long-distance commodity flow. As an early modern counterflow commodity in the Cape trade, Baltic amber filled a small but significant niche in the developing global commercial world. Ultimately, this

[7] Karin Hofmeester and Bernd-Stefan Grewe concisely define Appadurai's term "regimes of value" as "the varying valuation of things and practices in different societies": "Introduction: Luxury and global history," in *Luxury in Global Perspective: Objects and Practices, 1600-2000*, eds. Grewe and Hofmeester (Cambridge: Cambridge University Press, 2016), 7.
[8] Lane, *Colour of Paradise*, 6; Warsh, *American Baroque*, 12-30.

niche comprised only one strand in a thickening web of early modern commerce. Tracing that strand suggests the extent and features of the wider global web.

Europe and Asia, c. 1500-1800: Distant Markets Converging

Before 1500, the entire landmass of Eurasia acted as a barrier to direct exchange between western Europe and eastern Asia. Janet Abu-Lughod evocatively depicted the commercial boom of the thirteenth century, with trade between these two regions occurring by means of several overlapping commercial zones, with commodities sold from one region to the next, each step along the way gradually increasing their price.[9] For commodities of very limited, concentrated supply and wide demand such as amber, this formulation inhibited significant traffic from reaching the rich, densely populated markets hungry for amber in India, China and Japan. When Baltic amber did arrive to the eastern parts of Eurasia, for instance to northern China under the Liao dynasty (907-1125 CE), it did so not as much by commercial means as through a series of specific tributary relationships, which moved amber precisely because of its rarity and high value.[10] These means were not conducive to moving large volumes of amber, and more local sources of amber in the Hukawng valley in present-day Myanmar and near the Japanese city of Kuji could not match the quality and quantity of Baltic amber production, especially considering the demographic weight of nearby regions.[11] Around the turn of the sixteenth century, the constraints on the trade in Baltic amber to eastern Asia suddenly loosened as

---

[9] Janet L. Abu-Lughod, *Before European Hegemony: The World System A.D. 1250-1350* (Oxford: Oxford University Press, 1989), 34.
[10] Jenny F. So, "Scented Trails: Amber as Aromatic in Medieval China," *Journal of the Royal Asiatic Society* 3rd series 23, no. 1 (2013): 86-95; Xu Xiaodong, "East-West Connections and Amber under the Qidans," in *Noble Riders from Pines and Deserts: The Artistic Legacy of the Qidan,* ed. So (Hong Kong: Chinese University of Hong Kong, 2004), 30–37.
[11] David Grimaldi, *Amber: Window to the Past* (New York: American Museum of Natural History, 1996), 32-33; 40-42.

the opening of the Cape route pulled the European supply into direct contact with regions of very high demand.

The sixteenth century was the beginning of a period in which global trade routes shifted and expanded, largely as a result of Europeans' efforts to more easily and profitably access commodities from eastern Asia. In the last decade before 1500, the voyages of Christopher Columbus (1492-1493) and Vasco da Gama (1497-1499) opened European routes to Asian and American markets and resources. These two routes themselves had important impacts on the flows of commodities into and out of Europe,

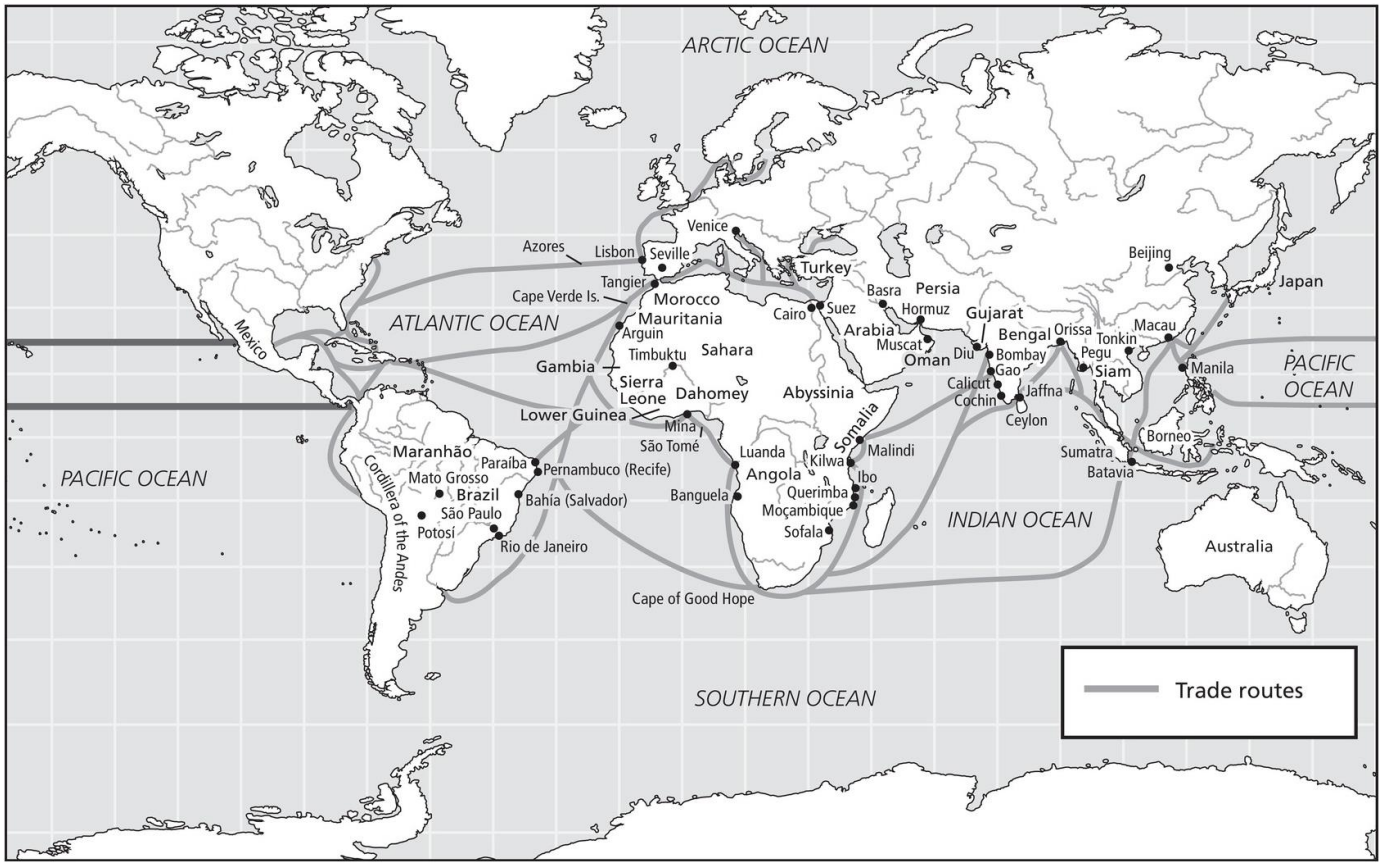


Figure 3.1: "Long-distance maritime trade routes, c. 1700" in Francesca Trivellato, "The organization of trade in Europe and Asia, 1400-1800" in *The Construction of a Global World, 1400-1800 CE, Part 2: Patterns of Change*, ed. Jerry Bentley (Cambridge: Cambridge University Press, 2015), 184.

the Americas, Africa and Asia, but perhaps more importantly galvanized the creation of other routes and connections that gradually integrated the global economy. In many ways, these shifts served to better incorporate Europe and the Americas into the already well-connected commercial regions of the Indian Ocean and China Seas.[12] In 1571, the establishment of the Spanish royal city of Manila marked the beginning of a direct route that powered a massive volume of direct exchange between the Americas and eastern Asia. As well, European merchants traded increasingly with both the Ottoman ports of the eastern Mediterranean and western African ports controlled by several states in that region. All of these changes connected disparate markets around the world with a new constellation of long-distance trade routes, depicted in Figure 3.1 circa 1700, developing export industries and changing regional cultures of consumption in the process. While European activity was critical to this global process, Asia remained the focal point of these new trade connections because of its unparalleled manufacturing industries, especially for textiles.[13] As European nations developed their overseas colonies and domestic industries, the wealth and resources they attained were only in part accumulated for themselves, as many of the commodities over which they gained control were rerouted instead to Asia for the first several centuries after 1500.

---

[12] Abu-Lughod surveys these systems in Parts II and III of *Before European Hegemony*, 135-351.

[13] A wide-ranging debate continues over the moment at which the most developed areas of Europe surpassed those of eastern Asia in terms of consumption and development. Kenneth Pomeranz and Andre Gunder Frank each sought to push this date later than it had generally been placed, arguing respectively that Asia remained ahead in the late eighteenth and early nineteenth centuries: Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000); Frank, *ReOrient: Global Economy in the Asian Age* (Berkeley: University of California Press, 1998). On the opposing side stand scholars including Broadberry and Gupta, who contend that eastern Asia was more comparable to the less developed eastern and southern regions of Europe than the rich northwestern one: Stephen Broadberry and Bishnupriya Gupta, "The early modern great divergence: wages, prices and economic development in Europe and Asia, 1500-1800," *Economic History Review* 59, no. 1 (2006): 2-31.

The shifting arrangement of global trade routes after 1500 only slowly changed Asia's place at the centre of world trade. European forays into American colonization and direct trade in the Indian Ocean and China Seas marked a new chapter in global connectivity, but were in large part motivated by the European desire to attain these products in greater volumes and at competitive prices and then to profit through their arbitrage trade back to Europe.[14] Spices were the key commodity for the earliest years of Portuguese trade through Goa, but already by the late sixteenth century textiles had surpassed them in volume and value: in Portuguese trade during the eighty years from 1580 to 1640, textiles comprised over sixty percent of the total value of Asian imports from Goa to Lisbon.[15] The insatiable European demand for the various high quality textiles produced in eastern and southern Asia was a primary driver for global trade until the later eighteenth century, but other products figured significantly in that trade from its early years as well: ceramics including Chinese porcelain; spices including Kerala pepper, Sri Lankan cinnamon, or Moluccan cloves, nutmeg, and mace; Indian diamonds and other gemstones; and various other luxury products including ebony wood, ivory and musk.[16] Later, still other commodities gradually gained purchase among European consumers, for instance Chinese tea and porcelain. The generally lower prices in Asia combined with the limited supply and insatiable demand for these goods across Europe and its colonies gave a huge impetus to the trade between the two regions, creating the trade empires of the Portuguese *Estado da India*, Dutch East India Company (*Vereenigde*

[14] Arbitrage trading is the process of buying a commodity in a region where its price is depressed in order to sell it again in an area where its price is higher, turning a profit in the process.
[15] Figures are for the category of "Cotton, silken cloth, thread." The textiles within are rarely differentiated more specifically within ledgers, making it difficult to determine which varieties of textiles were the most common. Boyajian, *Portuguese Trade under the Habsburgs*, 44.
[16] Ibid., 42-43.

Oost-Indische Compagnie: VOC*)*, and Anglo-British East India Company (EIC). The ever-increasing trade of these various institutions transformed many of these commodities from ones limited only to the highest echelons of society into ones not merely accessible to most levels of society, but deemed necessities by them.[17] Increasing global connectivity allowed for the sudden dispersion of commodities all around the world, shifting global consumer cultures in the process. The incredible variety of Asian goods brought back to Europe along the Cape route did not come cheaply, however, requiring an equally valuable eastward flow of goods.

Europe's American colonization and entry into the developed markets of Asia happened in concert, allowing for the massive exchange that occurred between Europe and Asia at that time. Only by the extraction and exploitation of commodities native or transplanted to American colonies were European mercantile institutions able to acquire goods of sufficient value to sustain their exchange with India, China, Japan, or elsewhere. By far the most critical of these American resources for trade was the high quality silver mined and minted in the Spanish-American colonies, which flooded markets globally from the mid-sixteenth century onwards.[18] The Spanish Habsburgs would use this bullion

[17] Along with the commodities described here came a massive increase of so-called colonial groceries, those commodities mass produced in American colonies by means of plantation slave labour, which were as critical to the onset of the so-called "Consumer Revolution." A cultural shift occurred contemporaneous to these increasingly available commodities, one which propagated the idea of working for the accumulation of material belongings. On the seventeenth-century consumption of global commodities among the lower social classes, see Anne E. C. McCants, "Exotic Goods, Popular Consumption, and the Standard of Living: Thinking about Globalization in the Early Modern World," *Journal of World History* 18, no. 4 (2007): 433-462. On the cultural shift that saw consumers increasingly value the accumulation of consumer goods, see Jan de Vries, *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present* (Berkeley: University of California Press, 2008).

[18] The most critical mine for this expansion was Potosí in present-day Bolivia, but the silver-mining region that now comprises the Mexican province of Zacatecas would eventually produce more silver overall. These two mining regions increased global production of silver and other precious metals several fold over the course of the sixteenth to eighteenth centuries. Carlos Marichal, "The Spanish-American Silver Peso: Export Commodity and Global Money of the Ancien Regime, 1550-1800," in *From Silver to Cocaine:*

to power the heyday of their dynasty during the sixteenth and seventeenth centuries, paying for their numerous wars and the management of their unprecedentedly large dynastic territorial holdings. As this silver entered the economies of Europe, however, it also rushed into Asia, in immense amounts along the Cape route and even larger quantities via the Manila-Acapulco galleon trade.[19] China absorbed a seemingly endless volume of silver, as its massive weight of population and economy shifted from paper to silver currency. Other eastern Asian regions also desired silver, either for their own domestic spending or for re-export to the seemingly bottomless silver market that existed in China.[20] In this trade, silver acted as commodity rather than currency, but had dramatic monetary impacts once it reached its final destinations, resulting in wide-ranging inflationary impacts everywhere from China to the amber-rich Duchy of Prussia.[21]

The increasingly global world affected the Prussian amber industry through more than inflation, as amber began to flow along the Cape route as a counterflow commodity. European merchants depended on American silver for trade with eastern Asia for a

---

Latin American Commodity Chains and the Building of the World Economy, 1500-2000, eds. Topik, Marichal and Frank (Durham, NC: Duke University Press, 2006), 31-36.

[19] Dennis O. Flynn and Arturo Giráldez, "Cycles of Silver: Global Economic Unity through the Mid-Eighteenth Century," *Journal of World History* 13, no. 2 (2002): 391-427.

[20] The sure profits created by the extremely high Chinese demand for silver during the sixteenth century made the silver trade from Japan to China one of the earliest ventures for European intra-Asian trade: Suzuki Yasuko, *Japan-Netherlands Trade 1600-1800: The Dutch East India Company and Beyond* (Kyoto: Kyoto University Press, 2012), 1-25.

[21] This general inflationary process is traditionally termed the "Price Revolution" within the European context, as argued by Earl J. Hamilton, *American Treasure and the Price Revolution in Spain, 1501-1650* (Cambridge, MA: Harvard University Press, 1934). In recent years, several historians have reconsidered the Price Revolution as a global phenomenon rather than a European one: Flynn and Giráldez, "Cycles of Silver"; Toby Green, "Africa and the Price Revolution: Currency Imports and Socioeconomic Change in West and West-Central Africa during the Seventeenth Century," *Journal of African History* 57, no. 1 (2016): 1-24. The impacts of this inflation were significant, especially for long-term contracts for payment in silver like that governing the amber monopoly in Prussia: the Prussian dukes leased the amber monopoly to the Jaski family before major inflation began, expanding the Jaski family's profits and hurting the finances of the duchy in the process. Wilhelm Tesdorpf, *Gewinnung, Verarbeitung und Handel des Bernsteins in Preussen von der Ordenszeit bis zur Gegenwart: eine historisch-volkswirtschaftliche Studie*, (Jena: Verlag von Gustav Fischer, 1887), 14-15.

reason: counterflow commodities were few and far between, and were generally not able to be extracted profitably in large enough volumes to match the massive and ever-growing desire European consumers held for Asian manufactures. Nonetheless, these commodities held a special place in this long-distance exchange, serving to illuminate aspects of Europe's part in the early globalizing world that easily remain overlooked with a focus on only the high volume commodities of the Cape trade - silver eastward; textiles, spices, and ceramics westward. According to Boyajian, early counterflow commodities included "Portuguese wines and oil [...] Portuguese arms, naval hardware, and munitions [...] a little glassware, crystal, and jewelry, some coral, and a few clocks."[22] By the seventeenth century, some types of European woollens also began to attain markets in Asia.[23] Amber fit into a broader, more global category of early modern commodities, among which it and Mediterranean coral were relatively unique for moving eastward along the Cape route. This category comprised particular high value, low weight goods that tended to have a luxury or semi-luxury character, for instance tortoiseshell and pearls from the Caribbean, and emeralds from South America. As Karin Hofmeester and Bernd-Stefan Grewe note, "luxury commodities are often global commodities, produced in one part of the world and consumed in another."[24] Amber fits this description, with its limited supply located far from major consumption markets in Asia. As global routes sprang up, from Manila to Acapulco, or Lisbon or Amsterdam to Goa or Batavia, a

[22] Boyajian, *Portuguese Trade in Asia Under the Habsburgs*, 51.
[23] Beverly Lemire describes the gradual growth of the market for woollen cloth in China. *Global Trade and the Transformation of Consumer Cultures: The Material World Remade, c. 1500-1820* (Cambridge: Cambridge University Press, 2018), 157-164.
[24] Grewe and Hofmeester, "Introduction," 1. Their collection contains numerous examples of such global luxury commodities.

particular subset of networks developed along those routes that specialized in trading specific commodities.

The works of Lane, Warsh, and others have used these commodities as focal points for this aspect of early modern exchange.[25] Fundamentally, their works emphasize the global nature of exchange, recentring conceptions of trade away from past Eurocentric standards of European-Asian and European-American exchange to investigate new directions or routes for early modern commodity flows. Imperial networks were critical to the exploration and development of infrastructure to extract these resources, often in exploitative and ecologically damaging ways; but their transport to distant markets occurred via truly global networks rather than through constricted pathways flowing within single empires. Sephardic and Armenian merchants and their associates exemplify the workings of these networks, operating trans-imperially in all the centres of early modern trade - whether American, Asian, African or European - to bring these commodities to the markets most desirous of them. Easily hidden and valuable at relatively small weights and sizes, these commodities naturally fit into the often extralegal or hidden commercial practices that initially were all that was available to marginalized groups like Sephardim.[26] Moreover, these networks tended to already have connections to the specialized industries required to process these commodities. These historians show that following early modern commodity flows allows for histories of

[25] Lane, *Colour of Paradise*; Warsh, *American Baroque*; on Mediterranean coral, see Francesca Trivellato, *The Familiarity of Strangers: The Sephardic Diaspora, Livorno, and Cross-Cultural Trade in the Early Modern Period* (New Haven: Yale University Press, 2009); on American tobacco and chocolate, see Marcy Norton, *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World* (Ithaca, NY: Cornell University Press, 2008).
[26] I define extralegality according to Smart and Zerilli's configuration in Chapter 2, 60, footnote 47.

global scope that also keenly demonstrate the ways that particular individuals and geographies impacted the changing scope of trade after 1500.

Amber contributes to the image of a global and multicentric trade presented by these commodity-focused histories in that it challenges notions of European exceptionalism. Lane and Warsh describe the global process by which emeralds and pearls entered the developing global economy, both emphasizing the role of individual actors and showing the need to discard the notion that Europeans single-handedly effected the early modern increase in global connectivity. The movement of Baltic amber from Europe to Asia followed similar processes to those of Lane's emeralds to the Islamic world and Warsh's pearls to Europe and elsewhere. New global connections powered newly exploitative programs of extraction by more efficiently connecting varied regimes of value. That increased extraction in turn powered increased trade and densified global connections.

In order to demonstrate the latter aspect of this process for Baltic amber, I draw attention to how it moved from Europe into the hands of Asian consumers and to the ways in which those consumers used amber. Institutional, narrative and material sources all present different aspects of this commodity flow, suggesting the evidentiary blurriness around amber's movement, a traffic that was predominantly managed through private trade. Amber's materiality informed its role within different regimes of value, being the fundamental basis for this particular commodity flow. Gathered from Prussian shores by indigenous Baltic labour, then pulled into legal and extralegal regional trades moulded around uneven local monopolies, amber moved onward to markets on the other side of Eurasia where its multifaceted materiality was highly valued.

Company Trades in Amber: The Cape Route

Amber's role in the Cape trade is most easily visible in the institutional sources that tracked the licit movement of goods along that route. The state-controlled India armadas of Portugal and state-chartered East India companies of the Dutch Republic and England all served to centralize the records surrounding each respective organization's trade around the Cape. I use secondary sources to describe the foundational Portuguese trade, and archival sources from the Dutch and Anglo-British East India companies to trace amber's place in their trade around the Cape. Amber was not the most prominent commodity on this route, nor was the Cape route the exclusive avenue by which Baltic amber could reach eastern Asian consumers. Amber entered land trade routes across western and central Asia by means of Armenian networks via Black Sea or eastern Mediterranean ports.[27] The Armenian propensity for trading in amber and analogous goods, as well as their prominent Amsterdam community, indicate their importance to this trade, and Jean Baptiste Tavernier's account of Armenian merchants delivering amber from Gdańsk to Bhutan confirms Armenian involvement, a subject explored in Chapter 2.[28] But clearer indications of the structures and mechanisms of the Armenian amber trade are harder to discern, both because of my own lack of appropriate linguistic abilities and the still developing secondary literature on Armenian diasporic networks.

---

[27] Sebouh David Aslanian, *From the Indian Ocean to the Mediterranean: The Global Trade Networks of Armenian Merchants from New Julfa* (Berkeley: University of California Press, 2011), 79-85. See also Chapter 2, 60-61.

[28] Jean Baptiste Tavernier, *The Six Voyages of John Baptista Tavernier, Baron of Aubonne through Turky, into Persia and the East-Indies, for the space of forty years*, trans. Phillips (London: William Godbid for Robert Littlebury and Moses Pitt, 1677), Early English Books Online Database [EEBO], Wing / T255, 183. I mention this moment in terms of its Baltic significance in Chapter 2, 63.

For these reasons, I focus on the more consolidated, albeit still murky sources regarding traffic in amber on the Cape route.[29]

Amber's journeys to wider global markets could begin in the Baltic, as illustrated in the case of Meier Isaac Stern in Chapter 2.[30] In terms of volume, though, most amber could not escape the magnetic pull of the entrepôts of northwestern Europe, Antwerp, Amsterdam, and London, where the concentrated networks and resources available in those cities could envelop it. For the Cape trade, these centres were even more important because of the monopolistic nature of the East India trade: the monopolies placed on trade east of the Cape made these ports nearly mandatory as departure points either for direct export around the Cape, or in Antwerp's case indirect export via Lisbon. In his *Succini Historia* (1572), Andreas Aurifaber describes Antwerp [*Antdorpff*] as a redistributive hub for Baltic amber; the Sound Toll Registers indicate that an overwhelming majority of amber-bearing ships were destined for Amsterdam from the late sixteenth through until the later eighteenth century.[31] London played a lesser role as a re-export centre for amber than Amsterdam even after it overtook Amsterdam in terms of general importance as an entrepôt, likely a consequence of the continued dominance of Amsterdam in the luxury gem and jewel trades so often entangled with the amber trade.[32] Once it entered the markets of Antwerp, Amsterdam, or London, amber could readily

[29] Important to note, but also outside the scope of my research, is that amber was also moving to and from the Americas, for the same reasons that it found such purchase in private and extralegal trade networks operating on the Cape route.
[30] Chapter 2, 71-72.
[31] Andreas Aurifaber (1512?-1559), *Succini historia: ein kurzer grundlicher Bericht [...]*, (Königsberg: Johan Daubman, 1572), 61-62; see Chapter 2, 52-53.
[32] Even after London became Europe's largest importer of raw diamonds from India, those raw diamonds were mostly re-exported to Amsterdam, still the centre for gem-cutting and jewellery-making: Gedalia Yogev, *Diamonds and Coral: Anglo-Dutch Jews and Eighteenth-Century Trade* (Leicester: Leicester University Press, 1978), 67-68; Herbert I. Bloom, *The Economic Activities of the Jews of Amsterdam in the Seventeenth and Eighteenth Centuries* (Port Washington, NY: Kennikat Press, 1969 [orig. 1937]), 40-44; Boyajian, *Portuguese Trade in Asia*, 135-136.

move to almost anywhere, as opposed to the limited direct connections of amber's major Baltic ports in Gdańsk and Lübeck.

These three cities served as the entrepôts for the three main states engaged in early trade on the Cape route: Portugal for sixteenth century Antwerp, the Dutch Republic for Amsterdam during the long seventeenth century, and Britain for London during the seventeenth and eighteenth centuries.[33] The title of entrepôt generally refers to the abundance of global commodities that were available there, but these three cities also necessarily served as important centres for the counterflow commodities moving in exchange as well. These cities were critical for the collection of financing and commodities – silver and other metals, coral and amber, woollen textiles, and so forth – that comprised the eastward counterflow cargoes.

Antwerp was the spice depot of the Portuguese *Casa da India*, chosen consciously to compete with the Mediterranean port of Venice, but also served to connect the Portuguese monarchy to their creditors in Germany and the Low Countries.[34] Amsterdam was the principal port and entrepôt of the Dutch Republic, whose VOC (established 1602) successfully outcompeted Portuguese Cape and intra-Asian trade to become the largest European trading institution.[35] The British East India Company overtook the VOC

[33] Amsterdam's dominance as northwestern Europe's main entrepôt began around the last decade of the sixteenth century and continued several decades into the eighteenth century: Jonathan Israel, *Dutch Primacy in World Trade, 1585-1740* (Oxford: Clarendon Press, 1990).
[34] The historiography surrounding Antwerp's growth as an entrepôt summarized in Jeroen Puttevils, *Merchants and Trading in the Sixteenth Century: The Golden Age of Antwerp* (London: Pickering & Chatto, 2015), 1-18. By the mid-sixteenth century, Antwerp's trade far exceeded the volume of Venice's during its fifteenth century heyday: Peter Spufford, *Power and Profit: The Merchant in Medieval Europe* (New York: Thames & Hudson, 2002), 387-388. On the Portuguese crown's reliance on foreign creditors: Boyajian, *Portuguese Trade in Asia*, 18-28.
[35] Boyajian, *Portuguese Trade in Asia*, 86-105; Israel, *Dutch Primacy in World Trade*, 38-79.

at some point during the early eighteenth century.[36] This rough chronology moving from Portuguese to Dutch to British dominance is useful for giving a sense of which entrepôt had the best and most competitive offerings at each point in time. But throughout this period the trades and commercial domains of these three cities and empires were overlapped and interconnected, with all having a stake in aspects of the eastward Cape trade from the late sixteenth to eighteenth centuries.[37] The blurriness of each centre's dominance goes further for the jewellery industries important to the global amber trade, the centres for which remained in Antwerp and Amsterdam even after London became the more important general entrepôt. After arriving in any of these entrepôts, amber could easily enter into the infrastructures for global trade centring on each one.

Secondary and primary literature attest to amber's presence in the Cape trades of all three states, albeit with varying levels of clarity. Karin Hofmeester notes "amber from the Baltic Sea region" among commodities brought to Goa from Portugal.[38] James Boyajian mentions amber several times in his account of the Portuguese Cape trade of the late sixteenth and early seventeenth centuries, but as a commodity moving westward rather than eastward.[39] This carriage may indicate amber acting as a liquid store of value by which profits were transported from India back to Europe, more likely it is a result of confusion over the dual meaning of the word amber at the time, which could denote both

[36] Israel, *Dutch Primacy in World Trade*, 377-398.
[37] In their intra-Asian trading, these states competed with pre-existing Arabian, Swahili, Gujarati, Malay, and Chinese networks that carried substantial volumes of trade throughout the early modern period. On these pre-existing networks, see Sebastian Prange, *Monsoon Islam: Trade and Faith on the Medieval Malabar Coast* (Cambridge: Cambridge University press, 2018).
[38] Karin Hofmeester, "Diamonds as global luxury commodity," in *Luxury in Global Perspective: Objects and Practices, 1600-2000*, eds. Grewe and Hofmeester (Cambridge: Cambridge University Press, 2016), 63.
[39] Boyajian, *Portuguese Trade under the Habsburgs,* 48, 136, 208, 239.

amber and ambergris.[40] Andreas Aurifaber's single mention of amber being shipped onwards to *Heidenschaften* ("heathen places") from Antwerp confirms that some amount of long distance eastward amber trade occurred during the era of Portuguese dominance along the Cape route.[41] Clear statements of an eastward trade in Baltic amber on the Cape route remain elusive for the early Portuguese-dominant era of trade, hinting at the complexity of the early modern relation between the two regions.

In the company trades of the EIC and VOC, amber appears almost entirely in connection to private trade. Private trade is an umbrella term for the commercial activity of private firms or individuals conducted by means of state-controlled or –sponsored infrastructures like those of the EIC, VOC or Portuguese India armadas. The term private trade comprises both legal and extralegal activities, as private trade was legal in the EIC, VOC and Portuguese India armada trades around the Cape, but aboard each ship limited to certain commodities and to amounts commensurate to a crew member's rank. Independent merchants also received license to engage in private trade, but only in specific commodities with the consent of company officials. Alongside these legal trades, however, occurred constant extralegal activity despite the best efforts of bureaucrats in the distant metropole.

---

[40] The gaps in my own linguistic ability and archival research for the Portuguese context make these distinctions harder to clarify. Alonso de Ovalle outlines the theories surrounding whales more clearly, as well as outlining the value and meanings associated with "white," "grey," or "black" amber(-gris): *An Historical Relation of the Kingdom of Chile* in *A collection of voyages and travels, some now first printed from original manuscripts* vol. 3 (London: Awnsham and John Churchill, 1704), 35-36. The markets and commodities associated with "amber" in different accounts inform whether its author refers to amber or ambergris, with amber very often listed alongside coral and ambergris almost always with civet and musk. On the ambergris found in Seychelles, which was monopolized by the sultan: Donald F. Lach and Edwin J. van Kley, *Asia in the Making of Europe Volume III: A Century of Advance, Book Two: South Asia*, (Chicago: University of Chicago Press, 1993), 942.

[41] Aurifaber, *Succini Historia*, 62.

The different policies towards private trade of the EIC and VOC shaped the ways amber functioned in their respective networks. The VOC's nominally strict policies regarding private trade made amber an object much less visible within their networks, generally appearing in their archival records only in the form of explanations for missing Company amber or illicit amber found being privately traded. For instance in 1638, a chest filled with amber appears during its journey as a private delivery from one VOC officer to François Caron, then the head of the VOC post on Dejima Island at Nagasaki in Edo Japan. The chest's seizure amounted to little despite its nominally illicit contents: Nicolaes Coeckebacker, the head of the VOC in Batavia, ordered it sent on to Caron regardless.[42] Cases of this sort were typical in the VOC, where extralegal private trade was ubiquitous among its high-ranking officers in Asia. Typically, such trade was only reported in exceptional circumstances, and meaningful punishments were even more infrequent, as discussed by Pamela McVay.[43] As Beverly Lemire notes, "unlucky men, including captains and other officers, were dismissed from the company's service when their entrepreneurial infractions were confirmed;" discovery was the exception in the continuous extralegal trade of the period, and punishment even more so.[44]

---

[42] Nationaal Archief [NA], The Hague, 01.04.02, 1132 (1640), 79-80v; NA, 01.04.02, 1135 (1642), 671; 737. Dejima Island was the only legal site for European trade with Japan from 1641 to 1853, under control of the Dutch. The reasons for this seizure remain somewhat unclear, occurring amidst the heightened tensions of Japan's gradual imposition of the *sakoku* policy of decreased foreign contact- the searches for amber and other contraband to which VOC agents arriving on Dejima were subjected to according to Engelbert Kaempfer suggest that the VOC concern may have been over angering Japanese authorities: Engelbert Kaempfer, *The History of Japan Together with a Description of the Kingdom of Siam 1690-1692* vol. II, trans. Scheuchzer (New York: AMS Press Inc., 1971 [orig. 1906]), 212.

[43] McVay points out that Nicolaas Schaghen was only caught in his extralegal activities through the investigation of several of his affiliates; the investigating officer only followed up because of the combination of his resentment for Schaghen's jump to the directorship of Bengal without moving up the VOC ranks and increasing metropolitan pressure to enforce private trade regulations. Pamela McVay, "Private Trade and Elite Privilege: The Trial of Nicolaas Schaghen, Director of Bengal," *Itinerario* 20, no. 3 (2010): 69-86.

[44] Lemire, *Global Trade*, 169.

The significant levels of private trade carried out in the Portuguese, Dutch and British trading empires in Asia become most visible in the EIC after it opened the diamond trade to private adventure in 1664.[45] Many of the merchants and agents who comprised these networks were of Sephardic origin, whether New Christian or openly Jewish: increased pressure from the Portuguese and Spanish Inquisitions coincided with Cromwell's readmittance of the Jews to England, creating a dominant new group of Sephardic diamond traders in London.[46] These merchants sent silver bullion, coral and, less frequently amber, pearls and emeralds, eastward to be used explicitly for the purchase of diamonds.[47] I first found mention of amber in the EIC's requests for private trade in 1710, when Samuell Locks requested permission from the EIC Directors to send "Hatts, Stockings, Clocks & Amber" worth 100 pound sterling to the East Indies.[48] The most valuable shipment of amber on a single voyage was the 554 pounds sterling sent by George Challoner and David De Castro to the EIC's Fort St. David, on the Coromandel Coast in 1749.[49] Amber was integrated into this particular iteration of private trade, a legal one that thus appears more regularly in the archival record. But while amber's role in this particular exchange for diamonds was an important one that demonstrates amber's use in Sephardic networks moving global luxury commodities, this role was only one that amber played. Other private trade networks appear when institutional sources are considered alongside narrative ones, demonstrating how amber moved via agents who

[45] As Yogev notes, this move acknowledged a pre-existing state of affairs. EIC officials and owners were allowed to engage in diamond trading from 1625 onward, which gradually developed into an extralegal diamond trade involving unlicensed individuals: the edict of 1664 aimed to turn this illicit trade into earnings for the company. Yogev, *Diamonds and Coral*, 81-83.
[46] Ibid., 81-93.
[47] The note that goods sent eastward are "for the purchase of diamonds" appears on nearly all records relating to Sephardic merchants, but rarely so for ones for English merchants.
[48] British Library, India Office Records [IOR] E/1/2/218-219v.
[49] British Library, IOR/E/3/110, 155-155v.

worked within and without legally demarcated commercial avenues, aiming to maximize their own profits and financial security.

Situating the Amber Trade: Amber and Other Gems in Private Networks

Accessing illicit private trade remains difficult because of its fundamentally extralegal and thus poorly recorded nature. The bureaucracies supporting licit trade created voluminous and accessible sources by which to investigate the early modern Cape trade, but much like the similarly voluminous Sound Toll Registers, those sources cannot reveal all aspects of trade. For my purposes of following amber, these gaps are especially important: amber's materiality made it a commodity carried almost exclusively in private trade. That private trade moved it via imperial bureaucracies along the Cape route, then carried it via intra-Asian trade to eventual consumers. Quantifying commodities moving in this fashion is a futile endeavour because those engaged in extralegal activities did not wish these activities to be recorded – in most cases, they wished the exact opposite so as to avoid discovery. Only where they failed to coerce, inculpate or elude authorities do they become visible in the historical record.[50] Through these momentary glimpses, some of the practices and cargoes associated with extralegal private trade come into focus. Those glimpses make clear that particular commodities including amber were especially common in such trade.

As with other resources with a luxury or semi-luxury character, amber had value as a commodity, but also as a gift and alternate currency. Much like diamonds or other gemstones, amber could be carried as a personal possession or included easily in

[50] The difficulties surrounding the quantification of extralegal trade, and the corresponding doubt cast upon figures of trade totals are outlined in Lemire, *Global Trade*, 142-146.

allotments for private ventures that went unrecorded. The EIC edict of 1609 banning private trade in diamonds proved impossible to enforce, leading to the eventual opening of diamonds to private trade by EIC servants and ship's officers in the East Indies in 1625, to EIC ship owners in 1650 and finally to private adventure in 1664.[51] Carrying diamonds was such a common practice because they shared amber's quality of being of high value and low weight. Whereas diamonds were useful for bringing portable wealth back to Europe, however, amber was useful for bringing easily accessible wealth eastward. In their summary of advice for would-be overland travellers to eastern Asia, Awnsham and John Churchill advised that people carry amber and coral to be used as ready sources of funds on their journey.

> Such as will not carry all their Stock in ready Mony, must be careful to carry those Commodities that will turn to best account, among which the brightest yellow Amber, and the largest red Coral are in great esteem. These, tho not wrought, are profitable, and to avoid the Duties paid at several places, may be carry'd in a Bag, or Portmantua [*sic*] on the Horse the Traveller rides, for those are not search'd.[52]

Thus, in eastern or western Asia, amber was a light and concealable commodity that had ubiquitous enough value to work as a substitute for cash. Anyone who got hold of a supply of amber could be confident that that amber would find a ready buyer, an admirable quality in a commodity for this circuitous type of private trade.

As much as amber's features made it a liquid asset for travellers, it also fit into an established, highly specialized private trade in gemstones and other luxuries. Just as the amber carried by travellers was hidden in bags or portmanteaus, however, the amber in this commerce remained generally hidden inside the sealed chests assigned to private

---

[51] Yogev, *Diamonds and Coral*, 82-83.
[52] Awnsham and John Churchill, "An Introductory Discourse, containing The whole History of Navigation from its Original to this time," in *A collection of voyages and travels, some now first printed from original manuscripts* vol. 1 (London: Awnsham and John Churchill, 1704), lxxiv.

trade for East India Company servants and ships' officers. The case of one especially unlucky Portuguese convoy destined for Lisbon from Goa allows a glimpse into the scale of private trade in gemstones in 1615-1616: the shipwreck of two of the three ships in the convoy led to the eventual unsealing of private chests amidst the salvage operations. Boyajian states that that unsealing revealed "more precious stones than any of the officials of the *Casa da Índia* recalled in their collective memories or could find in written records."[53] Amongst the diamonds, gold, musk, and silks recovered were "several pounds of amber."[54] Another event in the same year, the searching of two suspicious Dutch-captained ships docked in Lisbon, revealed another large cargo of diamonds later found to be owned almost entirely by New Christian merchants.[55] New Christian control over the Portuguese gem trade is less surprising considering their overall control of the Portuguese Cape trade from the late sixteenth century onward; but the unexpected scale of that hidden trade suggests their quantitative role is underestimated in most sources.[56] Moreover, those merchants proved successful at preserving their control over the specialized trade in diamonds, amber, coral and other similar commodities in other empires, deftly creating a trans-imperial network that operated inside and outside of official view.

Changing policies by the EIC galvanized the relocation of the Sephardic merchants so active in the gemstone trade with India from Lisbon to London. The operations of this trade network, generally characterized by the exchange of coral from the Mediterranean and silver from the Americas for diamonds and other gemstones from

[53] Boyajian, *Portuguese Trade in Asia*, 137.
[54] Ibid., 136.
[55] Ibid., 137.
[56] Boyajian notes the dominance of New Christians in the Cape trade throughout *Portuguese Trade in Asia*, for example 33, 81, 241.

India, have been thoroughly described by Gedalia Yogev and Francesca Trivellato.[57] A critical element for their success was the presence of agents of this merchant network for a commodity's entire journey from place of production to final sale: coral to India from Livorno, amber likewise from East Prussia.[58] Amber appears in the archival documents relating to this trade from the early eighteenth century onward, one of an exclusive list of commodities shipped by the so-called "Coral Merchants" of London.[59] These merchants were almost certainly powering the earlier extralegal private trade in diamonds that the EIC sought to legalize and profit from with their 1664 opening of the diamond trade. I found ten instances of private merchants specifically mentioning amber in their requests for private trade on EIC ships, the earliest in 1710 and the latest in 1768; I found twenty instances of amber recorded as part of a EIC records of private trade aboard their ships, the earliest in 1722 and the latest in 1753.[60] Not all of these merchants were of Sephardic or other Jewish origin, but they formed the most prominent part of them. This group was

[57] Yogev, *Diamonds and Coral*; Trivellato, *The Familiarity of Strangers*.
[58] I described the significance of Sephardic and other Jewish merchants and pedlars in the export of amber from the Baltic region in Chapter 2, especially 63-72. The Paradesi community at Madras, the main hub for the EIC diamond trade, was established in the mid-seventeenth century by transplanted Sephardic Jews and New Christians originally from Goa, Amsterdam and London. This new community was successful enough to own the rights to several diamond mines near Madras: Kenneth McPherson, "Anglo-Portuguese commercial relations in the Eastern Indian Ocean from the Seventeenth to the Eighteenth centuries," *South Asia: Journal of South Asian Studies* 19, no. 1 (1996): 52-56; Jonathan Schorsch, "Mosseh Pereyra de Paiva: An Amsterdam Portuguese Jewish Merchant Abroad in the Seventeenth Century," in *The Dutch Intersection: The Jews and the Netherlands in Modern History*, ed. Kaplan (Leiden: Brill, 2008), 63-86; Yogev, *Diamonds and Coral*, 69-70.
[59] Yogev, *Diamonds and Coral*, 83. Other commodities sent eastward by the Coral merchants include (unsurprisingly) coral, pearls, emeralds, bugles and silver bullion.
[60] Merchant requests: British Library, IOR/E/1/2/218-219v (September 1710); IOR/E/1/14/30-30v (June 1722); IOR/E/1/13/577-577v (September 1722); IOR/E/1/17/350-351v (September 1726); IOR/E/1/19/297-298v (November 1728); IOR/E/1/21/366-366v (November 1730); IOR/E/1/32/29-30v (January 1742); IOR/E/1/35/336-337v (January 1749); IOR/E/1/44/506 (September 1762); IOR/E/1/51/94-95v (September 1768). Amber in EIC records: IOR/E/3/101/226v (February 1722); IOR/E/3/102/281 (April 1725); IOR/E/3/108/334v (March 1724); IOR/E/3/109/38 (December 1743); 222-223 (April 1746); 312 (January 1746); 312v-313 (January 1746); 330v (July 1747); IOR/E/3/110/5v (February 1747); 155-155v (March 1749); 162v-163 (August 1749); 232 (January 1749); 247v (January 1749); 248 (January 1749); IOR/E/3/111/7 (December 1750); 8v (December 1750); 101 (August 1751); 141v (January 1752); 279 (January 1753).

organized and capable of acting collectively, as shown in the several petitions they voiced to the EIC in instances where bureaucracy threatened their communal profits.[61] They had some bargaining power with the Company, merited because their move from the former Portuguese hub at Goa to the British trading centre of Fort St George (Madras / Chennai) was largely responsible for the EIC's holding a significant share of the diamond trade. While Company regulations generally seem to funnel this private trading activity towards Indian diamonds, the EIC was not averse to granting requests like that made by Henry Isaac "that the Produce, of such Silver and Coral as may be in Bengal, on my own and [another coral merchant's] Account, may be paid into your Cash there, and Bills of Exchange granted to my Attorney."[62] These merchants wielded control over their specific networks of supply and distribution to trade trans-imperially for their own benefit.

As well as moving within these specific networks surrounding the diamond trade, amber was also carried by VOC and EIC officials for their own profits. Officers and servants of both companies at every level engaged in private trade both licit and illicit.[63] While private trade gradually became an accepted part of the EIC, and one of the major incentives for enterprising young men to begin working for the company, the VOC was much slower and more inconsistent in its legitimization of the rampant illicit private trade occurring within and between both companies.[64] While amber appears more in the private

[61] For instance, the 1746 request made by twelve merchants to move amber and coral from two ships bound for Bengal to two others. The greater part of this group was Jewish, including members of prominent Anglo-Dutch Jewish families such as Abraham and Jacob Franco, David De Castro, Jacob Salvador and Aron Goldsmid. British Library, IOR/E/1/34/9-10v (January 1746).
[62] British Library, IOR/E/1/34/62-62v (May 1747).
[63] These practices are most visible in high profile cases at the highest levels, as discussed in either company by Huw Bowen and Pamela McVay: Bowen, "Privilege and Profit: The Commanders of East Indiamen as Private Traders, Entrepreneurs, and Smugglers, 1760-1813," *International Journal of Maritime History* 19, no. 2 (2007): 45; McVay, "Private Trade and Elite Privilege."
[64] Stoyan Sgourev and Wim van Lent note that VOC officials did try to create a more attractive framework for private traders in the last half of the eighteenth century, but too late to compete with the EIC's rapid

trade records of the diamond trading Sephardic merchants working through the EIC, in the VOC it appears more frequently in the hands of high-profile officials, as noted above. Records survive only as a result of chance discoveries because of the trade's extralegal nature. For instance, the aforementioned chest of amber intercepted on its way to François Caron, which occurred in the midst of the tense transition to stricter trade controls in Japan: a chest filled with amber known to be a commonly smuggled material was perhaps a risky thing for the head of the VOC in Japan to receive at the time.[65] In another prominent case of amber smuggling, Salomon Sweers, a member of the VOC Council of the Indies in Batavia, was found guilty of sending amber to China, leading to his suspension from his seat on that council. Importantly, Sweers acted communally with the help of his own private network of family members, merchant contacts and a Chinese associate.[66] As the private movement of amber was explicitly banned by decree by the VOC, the actions of either of these men merited punishment: the indifference in one case and suspension in the other suggest the uneven and inconsistent measures with which illicit amber trading was met even when discovered.[67]

While few such instances of amber being explicitly linked to high-ranking VOC officers exist, various sources indicate that amber was a commodity mainly controlled by the Dutch. Aboard one VOC ship in the late seventeenth century, there was a cargo of 1548 ¾ pounds of amber, worth over 18,000 guilders.[68] Needless to say, this amount dwarfs any figure recorded within the EIC's private trade records. Tavernier, the

---

growth: "Balancing Permission and Prohibition: Private Trade and Adaptation at the VOC," *Social Forces* 93, no. 3 (2015): 933-955.

[65] See Chapter 3, footnote 42.

[66] "Salomon Sweers," in *Beschrijving van het Archief: Geschiedenis van de archiefvormers* (The Hague: Nationaal Archief, 1928), http://databases.tanap.net/ead/html/1.10.78/index.html?N1006C.

[67] The ban on amber trading noted in Ibid.

[68] NA, 01.04.02, 8681, 56.

seventeenth-century French traveler and gem merchant, states that amber was: "the best Commodity that could be imported into China, if the Trade were free for Strangers. At present the Hollanders have engross'd all this Trade to themselves, and the Chineses come all to Batavia to buy it."[69] Apparently, Chinese authorities placed restrictions on the trade in amber as well, albeit avoidable ones as shown in the case of Salomon Sweers. In Pierre-Daniel Huet's description of Dutch trade activity around the turn of the eighteenth century, amber was listed as a Dutch commodity shipped to Bhutan, Siam, Tonquin and China.[70] Much of the large volume of amber reported moving to Amsterdam in the Sound Toll Registers appears to have been re-exported around the Cape by the VOC.[71]

The apparent dominance of the Dutch in the amber trade at this time could also be related to their exclusive European right to licit trade with the amber-hungry market of Japan. In his posthumously published *History of Japan* (1727), Engelbert Kaempfer attests to the rampant amber smuggling occurring with the participation of nearly everyone on the island of Dejima.[72] He also notes the significant consequences for those whose private amber and coral trading was uncovered.

> If they have any goods beyond the sum, they are legally entitled to, chiefly red corals, amber, and the like, it is an easy matter to dispose of them in private, by the assistance of the officers of our Island, who generally will take them off their hands themselves. The Ottona himself is very often concern'd in such bargains, they being very advantageous. Formerly we could sell them, by a deputy, to the foreigners, who at the time of our Combangs came over to our Island, and that way was far the more profitable for us. But

[69] Tavernier, *The Six Voyages of John Baptista Tavernier*, 152.
[70] Pierre-Daniel Huet, *Memoirs of the Dutch trade in all the states, kingdoms, and empires in the world shewing its first rise and prodigious progress*, trans. unstated (London: J. Sackfield, 1700), EEBO, Wing / H3300A, 139-144.
[71] Chapter 2, 52-53.
[72] Kaempfer was employed from 1680 to 1682 as the physician for the VOC trading post on Dejima Island near Nagasaki, upon which time he based his book.

> one of our Directors, in 1686, play'd his cards so aukwardly, that ten Japanese were beheaded for smugling, and he himself banish'd the country for ever.[73]

Evidently, smuggling was worth the risks involved for both Japanese and Dutch officials on the island, both of which parties were supposed to be guarding against such illicit activity. Kaempfer later describes the price effects of rampant amber smuggling, writing: "Japan hath been so thoroughly provided [of coral and amber] by smuglers, that at present there is scarce fifty per cent to be got upon them, whereas formerly we could sell them ten, nay an hundred times dearer."[74] Searches of arriving VOC officials by the Japanese guards on Dejima Island were to no avail in repressing this smuggling, perhaps unsurprising considering the inculpation of those guards in smuggling indicated in Kaempfer's earlier quotation.[75]

From the sixteenth to eighteenth centuries, amber flowed along the Cape route via the armada ships of Portugal and the company ships of the Dutch Republic and Britain. Overwhelmingly, this amber moved via concealed private trade, appearing only occasionally as unlucky smugglers, pilferers or officials had their illicit amber dealings uncovered. Those illicit dealings worked via networks seamlessly intertwined with the imperial infrastructures of the Portuguese, Dutch and British commercial endeavours in the Indian Ocean and China Seas. Sephardic merchants in particular were critical to the diamond-focused traffic along the Cape route, but did not act alone: profit united disparate commercial agents as they evaded the bans and tariffs continually issued with regards to the traffic in amber. While these agents often worked in coordinated networks

---

[73] Kaempfer, *History of Japan*, vol. II, 238. "Ottona" refers to the *otona*, the main Japanese official in charge of supervising the Dutch on the island.
[74] Kaempfer, *History of Japan*, vol. II, 215.
[75] "Those who are newly arriv'd, in going or coming out of our Island, must suffer themselves to be search'd, whether or no [*sic*] they have contraband goods about them, chiefly amber and corals, [...] the natives being very fond of these commodities": Kaempfer, *History of Japan*, vol. II, 212.

united by culture or religion, unusual commercial alliances arose alongside opportunities for profit as well. These opportunities allowed people of all stripes and social levels to turn the sudden creation of global connections to their pecuniary advantage. Lying latent behind all of this commercial activity, however, was persistent and culturally contingent regional demand. This demand was the foundation for the constellation of trade networks along which amber flowed to and around Asia's maritime markets.

Using Amber in Early Modern Asia: Value across Cultures and Spaces

Amber had as many possible uses and meanings as its flexible materiality allowed for. Just as European consumers closer to the Baltic sources for amber had accessed its full array of material uses, consumers across Asia shaped, polished, burnt, and powdered amber into forms with uses for display, health, religion or sociability. These various uses were unevenly spread across Asia's wide array of cultures and geographies, each market assessing amber according to the material qualities that were most meaningful or unique within its surrounding culture. Generally, amber was more valuable in Asian markets, in most instances acting as a luxury or semi-luxury commodity mostly inaccessible to the lower classes of each society.[76] By outlining some of the uses amber held in various markets, the shape of the culturally contingent consumer demand that powered its movement across and around Eurasia comes into closer focus.

Kaempfer's *History of Japan* not only mentions the smuggling of amber, but also records the author's comments on the ways in which it was valued in Japan. These

[76] While this generalization holds true for my own findings, the relative dearth of sources or materials relating to lower class consumption at this time means that amber could very well have penetrated a wider proportion of the social spectrum than I present here. Lemire describes the case of mother-of-pearl in Europe, a luxury material used judiciously by lower class artisans and consumers to give added value to objects made generally of low quality materials: *Global Trade*, 156.

comments outline the specific niches filled by amber in Japanese consumer culture, while also highlighting the differences between amber's value in Europe and Japan. He writes:

> The Nations, that live furthest to the East, and more particularly the Japanese, set a much greater value upon Amber, than they do upon Ambergrease, nay they esteem it more than the precious stones, (red coral only excepted) of which they make little or no use. But of all the different sorts of Amber, the yellow transparent one, which is so common and so little valued with us in Europe, is the most acceptable to them, and what they would give almost any price for, because of its perfection, and the antiquity they attribute to it. All the other species of Amber are despised by them, so far that endeavouring to convince them of their ill taste, and to give them reasons, why they are and ought to be esteemed preferable to the yellow one, I was only laughed at, and found, that I had taken pains to as little purpose, as it would be to persuade an European, that gold is of less value than silver.[77]

Kaempfer's bemusement at the Japanese taste for yellow amber is a simple and evocative indication of the cultural differences between him and the Japanese culture he encountered, with ramifications for amber's value. Additionally, it provides an explanation for the rampant amber smuggling occurring on the island: the least valuable amber in Europe, the yellow, was the most valuable in Japan, surely a tempting opportunity for VOC officers.[78] But amber was not only prized for its beauty as a decorative material in Japan: Kaempfer lists amber as an ingredient for the production of a type of perfumed mouthwash in the Japanese town of Odowara.[79] Thus amber's flexible materiality filled several cultural niches in Japan.

The yellow amber brought into Japan likely served several functions, but had a particular prominence in the production of netsuke, a product specific to Japanese sartorial conventions of the time. Kimonos were the typical Japanese garb, a robe that

---

[77] Kaempfer, *History of Japan* vol. III, 299.
[78] The most valuable amber in Europe has traditionally been that of a deep, cloudy red termed "Falernian" after Pliny's usage: Pliny the Elder, *The Natural History,* trans. Bostock (London: Taylor and Francis, 1855), accessed at http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.02.0137%3Abook%3D37%3Achapter%3D12.
[79] Kaempfer, *History of Japan* vol. III, 64-65.

lacked pockets and was tied around the body with a sash. To carry items around, kimono-wearers put them on one end of a string that hung from their sash, with netsukes serving as counterweights.[80] Figure 3.2 depicts the small bag attached to the sash of the attendant assisting the actor. Netsukes required materials that were lightweight but bulky, could withstand rubbing and resist cracking, and that fit into the aesthetic paradigms of contemporary Japan, at least for higher-class owners.[81] Amber and analogous commodities such as coral fit these qualities perfectly, making it a particularly

Figure 3.2: Torii Kiyonaga, "The Actor Nakamura Rikō I with an Attendant"; Woodblock print; Japan; ca. 1784; Metropolitan Museum of Art, JP727.

[80] See the attendant in Figure 3.2.
[81] Barbra Teri Okada, "Netsuke: The Small Sculptures of Japan," *The Metropolitan Museum of Art Bulletin* 38, no. 2 (1980): 3.

privileged material for netsuke production.[82] Tavernier notes the use of coral in netsukes: "the Japonners [...] valu[e] nothing so much as a good grain of Coral, wherewith they pull the string that shuts their Purses."[83] Coral shared amber's beauty, lightness, and workability, but lacked its warmth and light resinous scent, making amber yet more meaningful for such an object of daily use.

Another market in which amber's material features took on a variety of meanings was the Himalayan mountain kingdom of Bhutan. Tavernier describes his encounter with four Armenians who had carried "certain Figures of yellow Amber, representing the shapes of several Creatures and Monsters" from Gdańsk to the King of Bhutan.[84] This commissioned work shows amber as the material for an object of extremely high social clout and value in the kingdom. But amber was not only popular with the king, as noted later by Tavernier.

> The richer sort intermix Coral and Amber Beads, of which their women make them Neck-Laces. The men as well as the women wear Bracelets upon their left hands only, from the wrist to the elbow. The women wear them strait, the men loose. About their necks they wear a silken twist, at the end whereof hangs a Bead of yellow Amber or Coral, or a Boars Tooth, which dangles upon their breasts. On their left sides, their Girdles are button'd with beads of the same.[85]

The sensory experience of wearing strings of amber beads appealed to these consumers as much as European rosary wearers: amber bead wearers valued the translucent colour, felt their warmth, smelled their resinous scent and appreciated their smoothness.[86]

---

[82] One of the most famous netsukes of the nineteenth century was the "Hare with Amber Eyes," showing the status amber held within these objects.
[83] Tavernier, *The six voyages of John Baptista Tavernier*, 151.
[84] Ibid., 183.
[85] Ibid., 184.
[86] Rachel King, "'The Beads With Which We Pray Are Made From It': Devotional Ambers in early Modern Italy," in *Religion and the Senses in Early Modern Europe*, eds. Boer and Göttler (Leiden: Brill, 2012), 167-168; see also Chapter 1, 28-30.

In addition to its visual beauty and tactile qualities, amber was valuable for its use as incense: scent and combustibility augmented the cultural niches that amber filled in Bhutanese society. This practice was more common in China, as demonstrated in Tavernier's description of the Bhutanese practice as the observation of "some Ceremonies of the Chineses."[87] Indeed, Samuel Chappuzeau echoes Tavernier's assertion regarding Chinese amber burning, stating that:

> When any great Lord makes a considerable Feast, to shew his magnificence and splendour, at the close of the Feast they bring into the Hall three or four Perfuming Pots, upon which they throw a large quantity of Amber, sometimes to the value of a thousand Crowns and upwards; seeing the more there is burnt of it, so much the greater splendor it adds to him who treats. Besides they make use of it after this manner, because Amber thrown into the Fire, giveth a certain Smell which is not unpleasant, and because the Flame excels all other Flames. Hence it is that Amber is one of the best Merchandices that one can bring into China, and whereof the Holland Company does reserve to themselves the particular Commerce, the Chineses coming to buy of them in Batavia.[88]

While this practice is once again linked to upper class consumption, the amounts required for such a practice are far greater than those of the other practices. Amber for combustion could be of a lower, cheaper quality than that for use in artisanal objects, demonstrating that markets in China absorbed a spectrum of qualities of amber. The description of amber in the *Chronicle of Foreign Lands* (1623), the first Western-style atlas published in China, further indicates amber's multifaceted value in China, including references to both its provenance on the coast of Poland and to its use in vessels, decorative items and

[87] "They observe also some Ceremonies of the Chineses, burning Amber at the end of their Feasts, though they do not worship fire like the Chineses": Tavernier, *The six voyages of John Baptista Tavenier*, 184; on Chinese amber burning, 152.
[88] Samuel Chappuzeau, *The history of jewels, and of the principal riches of the East and West taken from the relation of diverse of the most famous travellers of our age: attended with fair discoveries conducing to the knowledge of the universe and trade*, trans. unstated (London: Hobart Kemp, 1671), EEBO, Wing / C1959, 111-112.

fragrances.[89] Amber's inclusion in Chinese medical texts by the first century attests once again to the generally wider appreciation for its uses in China.[90]

The particularly high value and rarity of amber made it a common element in state gifts, especially in China. In his account of his experiences with the Dutch embassy to the new Qing emperor from 1655 to 1657, Johannes Nieuhof noted numerous amber items in his list of goods for the emperor and his family, including "Several Corral and Amber Beads [...] to the Queen Mother, [...] the King himself and his Royal Consort" and "the Image of the Child Jesus [...] most admirably wrought in Amber."[91] Nieuhof's list of gifts for the Qing emperor, his mother, and royal consort affirms amber's significance as a royal gift, with the emperor receiving fifty pounds of amber and two pounds of amber beads and each of his female relations receiving rosaries and other amber objects.[92] These gifts were carefully chosen to please the emperor, as "the Treasuries wherewith the Hollanders intended to purchase the China Trade."[93] Important to note in this instance is that even when gifted to the Qing emperor, a variety of different sorts of amber were included: rough amber suitable for burning or for crafting into local forms was still fit for

[89] Giulio Aleni, *Zhifang waiji* (Chronicle of Foreign Lands), Book 5, 11, https://ctext.org/wiki.pl?if=en&res=520749. Aleni finished the book in 1623 in Hangzhou, carrying on work begun by other Jesuits living in China. My thanks to David Sulz and Dr. Ryan Dunch for their help in finding and deciphering relevant parts of this work.
[90] Berthold Laufer, "Historical Jottings on Amber in Asia," *Memoirs of the American Anthropological Association* 1 (1905): 217-222.
[91] Johannes Nieuhof, "Chapter XIX: Of the Last Chinese and Tartar War, Wherein the Tartars Overran and Conquered the Whole Empire of China," in *An Embassy from the East-India Company of the United Provinces to the Grand Tartar Cham, Emperor of China* (London: Johannes Nieuhof, 1671), 6. http://www.globalcommodities.amdigital.co.uk.login.ezproxy.library.ualberta.ca/Documents/Images/SOAS_ED66_4_53673/171#Chapters
[92] Ibid., 14-16.
[93] Ibid., 16.

Figure 3.3: Snuff bottle with women and children in a garden; amber with coral stopper; China; Qianlong period (1736-1795); Metropolitan Museum of Art, 24.80.105a, b.

an emperor.[94] With the importation of rough amber, local artisans could produce objects like the snuff bottle depicted in Figure 3.3. Such an object accentuated amber's beauty, insulating properties and scent as the snuff bottle's owner used it in a culturally specific way. Amber's expressive potential and other unique material features gave it value enough to figure as a royal diplomatic gift in the notoriously selective Chinese market.

The interplay between amber's usefulness as gift and value as commodity appears in its uses in India as well. The amber brought by EIC private trade to various regions of

[94] A similar taste for rough, unfinished coral was expressed by the Bhutanese with regards to coral, as noted by Tavernier: "Coral rough, or wrought into beads, yields profits enough; but they had rather have it rough, to shape it as they please themselves." *The six voyages of John Baptista Tavernier*, 184.

India was used for similarly valuable creations, as evidenced in both material and written sources. The priming flask depicted in Figure 3.4 shows amber's use in combination with pearls, gold, enamel and diamond, indicating it filled a complex luxury and aesthetic niche. The flask is a transnational object not only for the inclusion of amber and other globally sourced materials, but also for the integration of Italian mountings into an artisanal piece otherwise crafted with Indian artistic motifs.[95] The use of amber in

Figure 3.4: Priming Flask; Amber, Gold, Enamel, Pearls, Diamond; India; Late 16th Century; Metropolitan Museum of Art, 41.100.39.

luxurious, martially related objects like the priming flask is confirmed in Thomas Roe's journal written during his time as English ambassador to the Mughal emperor. He lists "Knives large and fair, wrought with Amber, Coral, Gold or Silver, or Inlaid with Glas"

[95] The Metropolitan Museum of Art identified the mountings of the priming flask as being of Italian origin. https://www.metmuseum.org/art/collection/search/29387?sortBy=Relevance&ft=priming+flask&offset=0&rpp=20&pos=15

among items suitable to bring to India as gifts or commodities.[96] Sources are less clear on the other uses of amber in India, but William Baldaeus asserts that it is held "in great esteem among the Japoneses and the Indians in general."[97]

The broad survey I presented here demonstrates some of the ways that amber's material features fit into diverse Asian cultural uses. As varied as uses for amber were across Asia, they remained contingent, as evidenced in an account of spoiled amber aboard the VOC ship the *Naaldwijk* in 1685. The ship's report states that "the 54 ½ pounds of raw amber from chest No. 207 is so poor and damaged by turpentine oil, that it should serve no better purpose than to have oil made of it, of which [amber oil] the Chinese have no knowledge."[98] Amber's varied material features and the varied Asian cultural environments to which it was sent matched unevenly. The Chinese population may have been incognisant or unappreciative of the uses of amber oil, but amber remained a commodity with a multifaceted value in China. Present across Asia, amber's uses were as diverse and irregular as its material features allowed.

Conclusion: Amber in Asia

As global routes sprung up and densified after 1500, buttressed by state-sponsored commercial institutions and the private trade of individuals and trade diasporas, Baltic amber played a unique role shaped by its materiality. After entering northwestern European global entrepôts, most commonly Amsterdam, amber moved along the Cape route alongside piles of silver and a limited selection of other counterflow commodities. Much as Sephardic

[96] Thomas Roe, "Sir Thomas Roe's Journal Giving an Account of his Voyage to India, and his Observations in that Country, and particularly at the Court of the Great Mogul, where he resided as Embassador from James the First King of England," in *A collection of voyages and travels, some now first printed from original manuscripts* vol. 1 (London: Awnsham and John Churchill, 1704), 813.
[97] Quoted in Lach and Kley, *Asia in the Making of Europe*, 1068.
[98] NA, 01.04.02, 8681, 57v.

merchants figured in amber's local collection and shipment from the Baltic, they and other enterprising commercial agents appeared all along its journey to Asian markets, in spite of frequent bans and controls on amber's movement in the EIC and VOC. A commodity such as amber was easily hidden and had value enough that it could act as an alternate currency across Asia, but without fail particular markets desired particular forms of amber more than others. Whether for use in Japanese *netsuke*, upper-class Chinese amber-burning parties, or beads strung around Bhutanese necks, amber filled particular cultural niches in ways made possible by its unusual combination of material qualities. Other materials simply would not do. Amber was a counterflow commodity because of the value placed on its unique materiality.

Conclusion

Amber took a winding and often shadowy path from Baltic shores to the hands of Asian consumers. The nature of that path was continually shaped by the nature of amber itself, its varied features shaping its collection, transport, and value everywhere it went. Used as everything from cutlery handles to medicinal incense in Europe, amber's increased export to Asia along the Cape route allowed new cultures of amber use to develop that drew on its materiality: Japanese netsukes, incense for Chinese parties, or beads for wealthy Bhutanese. Moreover, amber was easily concealed and highly valuable, traits that made its trade especially accessible to well-positioned but often marginalized Jewish and Armenian networks. While its suitability for smuggling and other extralegal transport diminish its visibility in the historical record, they also create frequent mention of its material features and the knowledge consumers and traders had of those features. In Europe, its various uses were known since before Pliny's time; in China, since at least the fifth century. This unique commodity from a region generally considered peripheral took on new meanings as it entered global markets.

Amber harvested from the Baltic littoral and Prussian lagoons by Sudovian fisherfolk wended its way to these distant markets because of the presence of specific networks around the Baltic. Sephardic and Armenian merchant communities played significant roles in its trade despite legal restrictions on their commercial activity generally and on the trade in amber specifically. Licit amber, collected, sorted, and exported by the Dukes of Prussia, overwhelmingly left the port of Gdańsk for Amsterdam, scarcely noticeable amidst the vast quantities of grain, timber, and other bulk commodities amidst which it travelled. Some of this amber found final consumption in Europe, as bourgeois table utensils, a medicinal component, or the beads of a rosary. But increasingly, amber flowed out along the expanding

maritime Cape route to Asia's large and selective markets. Once there, often brought through poorly recorded private trade, amber once again experienced a myriad array of uses according to varied regimes of value, earning impressive incomes for VOC and EIC officers, Sephardic merchants and firms, and no doubt for travellers and sailors of lesser means as well. So often targeted with monopolistic or regulatory laws, the movement of amber unsurprisingly continued to operate extralegally as much as legally throughout the early modern period: amber was a material easily smuggled and informally exchanged, in large amounts or in small.

Tracing this commodity shows one more thread in the global fabric of early modern trade, a thread that reveals new aspects of long-distance commercial interactions at that time. The Baltic was not merely Europe's breadbasket and the warehouse for its shipping supplies, it was also a global region unto itself, with established and active global networks present there by the sixteenth century. From a broader perspective, the Baltic contributed a critical counterflow commodity to Europe's eastward trade around the Cape. While made a counterflow commodity by geographical coincidence, however, amber's gradual absorption into global trade was not an entirely unique phenomenon. This commodity flow shared features with that of American commodities like emeralds or pearls, or other European counterflow commodities like Mediterranean coral. Baltic amber's movement to Asia demonstrates that even as Europeans actively expanded global trade through colonies and foreign adventure, the commodities of Europe were significant in the ongoing solidification of global connectivity. Along with these other global commodities, amber was a unique material that transformed into a unique global commodity with access to new markets after 1500. As contact with differing regimes of value around the globe grew, amber was irresistibly pulled into the global trade of the early modern period, and the Baltic region along with it.

Bibliography

Primary Sources

Unpublished Material

Archiv der Hansestadt Lübeck
Archiwum Państwowe w Gdańsku
India Office Records, British Library, London
Nationaal Archief, The Hague
Sound Toll Registers Online (STRO) Database, http://www.soundtoll.nl/

Published Material

Aurifaber, Andreas. *Succini historia: ein kurzer grundlicher Bericht, woher der Agtstein oder Bornstein vrsprunglich komme, das er kein Baumhartz sey, sonder ein Geschlecht des Bergwachs, und wie man jnen manigfaltiglich in Artzneien moge gebrauchen*. Kaliningrad [Königsberg]: Johan Daubman, 1572. Accessed April 2018. https://archive.org/details/SucciniHistoriaEinKurzerGrundlicherBerichtWoherDerAgtsteinOder.

"Beilage 5: Instruktion für die Strand-Reiter und Kammer-Knechte vom 30. August 1783." Transcribed from the "Koenigl. Ost-Preussische Krieges- und Domainen-Cammer." In Wilhelm Tesdorpf. *Gewinnung, Verarbeitung und Handel des Bernsteins in Preussen von der Ordenszeit bis zur Gegenwart: eine historisch-volkswirtschaftliche Studie*. Jena: Verlag von Gustav Fischer, 1887. 578-583.

Churchill, Awnsham and John. *A collection of voyages and travels, some now first printed from original manuscripts*, volume I. London: Awnsham and John Churchill, 1704.

Hartman, George. *The true preserver and restorer of health being a choice collection of select and experienced remedies for all distempers incident to men, women, and children*. London: T. B., 1682. Early English Books Online Database, Wing / H1004.

Kaempfer, Engelbert. *The History of Japan Together with a Description of the Kingdom of Siam 1690-1692*. Translated by J. G. Scheuchzer. New York: AMS Press Inc., 1971 [original 1906].

Nieuhof, Johannes. *An Embassy from the East-India Company of the United Provinces to the Grand Tartar Cham, Emperor of China*. London: Johannes Nieuhof, 1671. Global Commodities Database. http://www.globalcommodities.amdigital.co.uk.login.ezproxy.library.ualberta.ca/Documents/Images/SOAS_ED66_4_53673/171#Chapters.

Ovid. *Metamorphoses*.

Pliny the Elder. *The Natural History*. Translated by John Bostock. London: Taylor & Francis, 1855. Accessed November 2017. http://www.perseus.tufts.edu/hopper/text?doc=urn:cts:latinLit:phi0978.phi001.perseus-eng1.

Tavernier, Jean Baptiste. *The Six Voyages of John Baptista Tavernier, Baron of Aubonne through Turky, into Persia and the East-Indies, for the space of forty years*. Translated by John Phillips. London: William Godbid for Robert Littlebury and Moses Pitt, 1677. Early English Books Online Database, Wing / T255.

Wirsung, Christoff. *The general practise of physicke conteyning all inward and outward parts of the body, with all the accidents and infirmities that are incident vnto them, euen from the crowne of the head to the sole of the foote*. Translated by Iacob Mosan Germane. London: Richard Field, 1605. Early English Books Online Database, STC (2nd ed.) / 25864.

Secondary Sources

Abu-Lughod, Janet L. *Before European Hegemony: The World System A.D. 1250-1350.* Oxford: Oxford University Press, 1989.

Antunes, Catia. "The Commercial Relationship between Amsterdam and the Portuguese Salt-Exporting Ports: Aveiro and Setubal, 1580-1715." *The Journal of Early Modern History* 12, no. 1 (2008): 25-53.

Appadurai, Arjun. "Introduction: commodities and the politics of value." In *The social life of things: Commodities in cultural perspective*. Edited by Arjun Appadurai. Cambridge: Cambridge University Press, 1986. 3-63.

Aslanian, Sebouh David. *From the Indian Ocean to the Mediterranean: The Global Trade Networks of Armenian Merchants from New Julfa*. Berkeley: University of California Press, 2011.

Åström, Sven-Erik. "From Cloth to Iron: The Anglo-Baltic Trade in the Late Seventeenth Century." *Societas Scientiarum Fennica: Commentationes Humanarum Litterarum* 38, no. 3 (1965): 1-86.

Auslander, Leora. "Beyond Words." *American Historical Review* 110, no. 4 (2005): 1015-1045.

Baibourtian, Vahan. *International Trade and the Armenian Merchants in the Seventeenth Century*. New Delhi: Sterling Publishers Ltd., 2004.

--. "Participation of Iranian Armenians in World Trade in the Seventeenth Century." In *Les Armèniens dans le commerce asiatique au début de l'ère moderne*. Edited by Sushil Chaudury and Kéram Kévonian. Paris: Fondation Maison des sciences de l'homme, 2007. 43-48.

Bhattacharya, Bhaswati. "Making money at the blessed place of Manila: Armenians in the Madras-Manila trade in the eighteenth century." *Journal of Global History* 3, no. 1 (2008): 1-20.

Beck, Curt W. "The chemistry of amber." *Estudios del Museo de Ciencias Naturales de Alava* 14, no. 2 (1999) : 33-48.

--. “The Role of the Scientist: The Amber Trade, The Chemical Analysis of Amber, and the Determination of Baltic Provenience.” *Journal of Baltic Studies* 16, no. 3 (1985): 191-199.

Beck, Curt W. and Lily Beck. “Analysis and Provenience of Minoan and Mycenaean Amber. 5, Pylos and Messenia.” *Greek, Roman, and Byzantine Studies* 36, no. 2 (1995): 119-135.

Beck, Curt W., Martha Gerving and Elizabeth Wilbur. *The Provenience of Archaeological Amber Finds: An Annotated Bibliography*. London: International Institute for the Conservation of Historic and Artistic Works, 1966.

Berg, Maxine. “Asian Luxuries and the Making of the European Consumer Revolution.” In *Luxury in the Eighteenth Century: Debates, Desires and Delectable Goods*. Edited by Maxine Berg and Elizabeth Eger. Basingstoke: Palgrave Macmillan, 2003). 228-244.

Błażejewski, Artur. “The Amber Road in Poland: State of Research and Perspectives.” *Archaeologia Lituana* 12 (2011): 57-62.

Bliujienė, Audronė. *Northern Gold: Amber in Lithuania (c. 100 to c. 1200)*. Leiden: Brill, 2011.

Bloom, Herbert I. *The Economic Activities of the Jews of Amsterdam in the Seventeenth and Eighteenth Centuries*. Port Washington, NY: Kennikat Press, 1969 [original 1937].

Bogucka, Maria. “Jewish Merchants in Gdańsk in the 16th-17th Centuries: A Policy of Toleration or Discrimination?” *Acta Poloniae Historica* 65 (1992): 47-57.

--. “Scots in Gdańsk (Danzig) in the Seventeenth Century.” In *Ships, Guns and Bibles in the North Sea and the Baltic States, c. 1350-c. 1700*. Edited by Allan Macinnes, Frederik Pedersen and Thomas Riis. East Lothian: Tuckwell Press, 2000. 39-46.

--. “The Role of Baltic Trade in European Development from the XVIth to the XVIIIth Centuries.” *Journal of European Economic History* 9, no. 1 (1980): 5-20.

Bowen, Huw. “Privilege and Profit: the Commanders of East Indiamen as Private Traders, Entrepreneurs, and Smugglers, 1760-1813.” *International Journal of Maritime History* 19, no. 2 (2007): 43-88.

Boyajian, James C. *Portuguese Trade in Asia under the Habsburgs, 1580-1640.* Baltimore: The Johns Hopkins University Press, 1993.

Broadberry, Stephen and Bishnupriya Gupta. “The early modern great divergence: wages, prices and economic development in Europe and Asia, 1500-1800.” *Economic History Review* 59, no. 1 (2006): 2-31.

Burkhardt, Mike. “Kontors and Outposts.” In *Companion to the Hanseatic League*. Edited by Donald J. Harreld. Leiden: Brill, 2015. 127-161.

Camporesi, Piero. *Juice of Life. The Symbolic and Magic Significance of Blood*. Translated by Robert R. Barr. London: Continuum, 1995.

Carlebach, Salomon. *Geschichte der Juden in Lübeck und Moisling, Dargestellt in 9 in dem Jünglings-Verein (Chevras Haschkomoh) zu Lübeck gehaltenen*. Lübeck, 1898. Accessed April 2018. https://archive.org/details/geschichtederjud00carluoft.

Catterall, Douglas. “At Home Abroad: Ethnicity and Enclave in the World of Scots Traders in Northern Europe, c. 1600-1800.” *Journal of Early Modern History* 8, nos. 3-4 (2004): 340-353.

Causey, Faya. *Ancient Carved Ambers in the J. Paul Getty Museum*. Los Angeles: J. Paul Getty Museum, 2012. http://museumcatalogues.getty.edu/amber/.

Christensen, Aksel E. *Dutch Trade to the Baltic About 1600: Studies in the Sound Toll Register and Dutch Shipping Records*. The Hague: Martinus Nijhoff, 1941.

Cieślak, Edmund and Czesław Biernat. *History of Gdańsk*. Translated by Bożenna Blaim and George M. Hyde. Gdańsk: Zakłady Graficzne, 1995.

Collins, James B. “The Role of Atlantic France in the Baltic Trade: Dutch Traders and Polish Grain at Nantes, 1625-1675.” *Journal of European Economic History* 13, no. 2 (1984): 239-289.

Curtin, Philip D. *Cross-Cultural Trade in World History*. Cambridge: Cambridge University Press, 1984.

Douglas, Mary and Baron Isherwood. *The world of goods: towards an anthropology of consumption* [revised edition]. London: Routledge, 1996 [original 1979].

Drinkwater, Hollie. “Material in Context: The Amber Head of Christ of the Wallace Collection Pax.” *Journal of the British Archaeological Association* 169 (2016): 95-121.

Duden, Barbara. *The Woman Beneath the Skin: A Doctor’s Patients in Eighteenth-Century Germany*. Translated by Thomas Dunlap. Cambridge, MA: Harvard University Press, 1991.

Elias, Norbert. *The Civilizing Process*. Translated by Edmund Jephcott. Oxford: Blackwell Publishing, 2000 [original 1939].

Fisher, Michael H. *Counterflows to Colonialism: Indian Travellers and Settlers in Britain 1600-1857*. Delhi: Permanent Black, 2004.

Flauensgaard, Jacob. *Working in Plastic, Bone, Amber, and Horn*. New York: Reinhold Book Corporation, 1968.

Flynn, Dennis O. and Arturo Giráldez. “Cycles of Silver: Global Economic Unity through the Mid-Eighteenth Century.” *Journal of World History* 13, no. 2 (2002): 391-427.

Fontaine, Laurence. *History of Pedlars in Europe*. Translated by Vicki Whittaker. Durham: Duke University Press, 1996.

Frank, Andre Gunder. *ReOrient: Global Economy in the Asian Age*. Berkeley: University of California Press, 1998.

Ganzelewski, Michael. “Bernsteinbergbau in der Dominikanischen Republik.” In *Bernstein: Tränen der Götter.* Edited by Michael Ganzelewski and Rainer Slotta. Bochum: Deutsches Bergbau-Museum Bochum, 1999. 383-394.

--. “Entstehung und Lagerstätten des Baltischen Bernsteins.” In *Bernstein: Tränen der Götter.* Edited by Michael Ganzelewski and Rainer Slotta. Bochum: Deutsches Bergbau-Museum Bochum, 1999. 11-18.

Glassie, Henry. *Material Culture.* Bloomington: University of Indiana Press, 1999.

Gosden, Chris. “What do objects want?” *Journal of Archaeological Theory and Method* 12, no. 3 (2005): 193-211.
Gosden, Chris and Yvonne Marshall. “The Cultural Biography of Objects,” *World Archaeology* 31, no. 2 (1999): 169-178.
Green, Toby. “Africa and the Price Revolution: Currency Imports and Socioeconomic Change in West and West-Central Africa during the Seventeenth Century.” *Journal of African History* 57, no. 1 (2016): 1-24.
Grewe, Bernd-Stefan and Karin Hofmeester. “Introduction: Luxury and global history.” In *Luxury in Global Perspective: Objects and Practices, 1600-2000.* Edited by Bernd-Stefan Grewe and Karin Hofmeester. Cambridge: Cambridge University Press, 2016. 1-26.
Grimaldi, David. *Amber: Window to the Past*. New York: American Museum of Natural History, 1996.
Hamilton, Earl J. *American Treasure and the Price Revolution in Spain, 1501-1650*. Cambridge, MA: Harvard University Press, 1934.
Hammel-Kiesow, Rolf. “The Early Hansas.” In *A Companion to the Hanseatic League*. Edited by Donald J. Harreld. Leiden: Brill, 2015. 15-63.
Hilgner, Alexandra, Susanne Greiff and Dieter Quast, eds. *Gemstones in the First Millennium AD: Mines, Trade, Workshops and Symbolism*. Mainz: Verlag des Römisch-Germanischen Zentralmuseums, 2017.
Hinrichs, Kerstin. “Bernstein, das “Preussische Gold” in Kunst- und Naturalienkammern und Museen des 16. – 20. Jahrhunderts.” PhD Dissertation, Humboldt-Universität zu Berlin, 2007.
Hodacs, Hanna. *Silk and Tea in the North: Scandinavian Trade and the Market for Asian Goods in Eighteenth-Century Europe.* London: Palgrave Macmillan, 2016.
Hofmeester, Karin. “Diamonds as global luxury commodity.” In *Luxury in Global Perspective: Objects and Practices, 1600-2000.* Edited by Bernd-Stefan Grewe and Karin Hofmeester. Cambridge: Cambridge University Press, 2016. 55-90.
Hughes-Brock, Helen. “Greek Beads of the Mycenaean Period (ca. 1650-1100 BC): The Age of the Heroines of Greek Tradition and Mythology.” In *Beads and bead makers: gender, material culture, and meaning*. Edited by Lidia D. Sciama and Joanne B. Eicher. Oxford: Berg, 2001. 247-271.
Israel, Jonathan I. *Dutch Primacy in World Trade, 1585-1740.* Oxford: Clarendon Press, 1989.
--. *European Jewry in the Age of Mercantilism, 1550-1750*. Oxford: Clarendon Press, 1985.
Jahnke, Carsten. “The Baltic Trade.” In *A Companion to the Hanseatic League*. Edited by Donald J. Harreld. Leiden: Brill, 2015. 194-240.
King, Rachel. “Rethinking ‘the oldest surviving amber in the West’.” *The Burlington Magazine* 155, no. 1328 (2013): 756-762.
--.“‘The Beads With Which We Pray Are Made From It’: Devotional Ambers in Early Modern Italy.” In *Religion and the Senses in Early Modern Europe*. Edited by Wietse Boer and Christine Göttler. Leiden: Brill, 2012. 152-175.

Kizik, Edmund. “Jews Before the Danzig Court in the Mid-Eighteenth Century.” Translated by Robert Bubczyk. *Acta Poloniae Historica* 97 (2008): 147-165.
Kopytoff, Igor. “The cultural biography of things: commoditization as process.” In *The social life of things: Commodities in cultural perspective*. Edited by Arjun Appadurai. Cambridge: Cambridge University Press, 1986. 64-92.
Krumbiegel, Günter and Briggite Krumbiegel. “Bernsteinlagerstätten und –vorkommen in aller Welt.” In *Bernstein: Tränen der Götter.* Edited by Michael Ganzelewski and Rainer Slotta. Bochum: Deutsches Bergbau-Museum Bochum, 1999. 31-46.
Lach, Donald F. and Edwin J. van Kley. *Asian in the Making of Europe Volume III: A Century of Advance, Book Two: South Asia*. Chicago: University of Chicago Press, 1993.
Lane, Kris. *Colour of Paradise: The Emerald in the Age of Gunpowder Empires*. New Haven: Yale University Press, 2010.
Larsson, Sven Gisle. *Baltic Amber- a Palaeobiological Study*. Klompenborg, DN: Scandinavian Science Press Ltd., 1978.
Laufer, Berthold. “Historical Jottings on Amber in Asia.” *Memoirs of the American Anthropological Association* 1 (1905): 211-244.
Lemire, Beverly. *Global Trade and the Transformation of Consumer Cultures: The Material World Remade, c. 1500-1820*. Cambridge: Cambridge University Press, 2018.
Ley, Willy. *Dragons in Amber: Further Adventures of a Romantic Naturalist*. New York: The Viking Press, 1951.
Lightbown, Ronald W. *Mediaeval European Jewellery: with a catalogue of the collection of the Victoria and Albert Museum*. London: Victoria and Albert Museum, 1992.
Lindberg, Erik. “Club goods and inefficient institutions: why Danzig and Lübeck failed in the early modern period.” *Economic History Review* 62, no. 3 (2009): 604-628.
“Luebeck.” *Virtual Jewish Library*. http://www.jewishvirtuallibrary.org/luebeck.
Luik, Heidi and Mirja Ots. “Bronze Age Double Buttons in Estonia.” *Estonian Journal of Archaeology* 11, no. 2 (2007): 122-140.
Marichal, Carlos. “The Spanish-American Silver Peso: Export Commodity and Global Money of the Ancien Regime, 1550-1800.” In *From Silver to Cocaine: Latin American Commodity Chains and the Building of the World Economy, 1500-2000*. Edited by Steven Topik, Carlos Marichal and Zephyr Frank. Durham, NC: Duke University Press, 2006. 25-52.
Matthee, Rudi. “Anti-Ottoman Politics and Transit Rights: the Seventeenth-Century Trade in Silk between Safavid Iran and Muscovy.” *Cahiers du Monde Russe* 35, no. 4 (1994): 739-761.
McCants, Anne E. “Exotic Goods, Popular Consumption, and the Standard of Living: Thinking about Globalization in the Early Modern World.” *Journal of World History* 18, no. 4 (2007): 433-462.
--. “Porcelain for the Poor: The Material Culture of Tea and Coffee Consumption in Eighteenth Century Amsterdam.” In *Early Modern Things: Objects and their*

Histories, 1500-1800. Edited by Paula Findlen. London: Routledge, 2013. 316-341.
McKendrick, Neil, John Brewer and J. H. Plumb. *The Birth of a Consumer Society: The Commercialization of Eighteenth-century England*. London: Europa Publications, 1982.
McPherson, Kenneth. "Anglo-Portuguese commercial relations in the Eastern Indian Ocean from the Seventeenth to the Eighteenth centuries." *South Asia: Journal of South Asian Studies* 19, no. 1 (1996): 41-57.
McVay, Pamela. "Private Trade and Elite Privilege: The Trial of Nicolaas Schaghen, Director of Bengal." *Itinerario* 20, no. 3 (2010): 69-86.
Muzinger, Mark R. "The Profits of the Cross: Merchant Involvement in the Baltic Crusade (c. 1180-1230)." *Journal of Medieval History* 32, no. 2 (2006): 163-185.
Newitt, Malyn. *A History of Portuguese Overseas Expansion, 1400-1668*. London: Routledge, 2005.
North, Michael. *The Baltic: A History*. Translated by Kenneth Kronenberg. Cambridge, MA: Harvard University Press, 2015.
Norton, Marcy. *Sacred Gifts, Profane Pleasures: A History of Tobacco and Chocolate in the Atlantic World*. Ithaca, NY: Cornell University Press, 2008.
Nowothnig, Walter. "Zwei Bernsteinspeicher der Spätlatenezeit bei Breslau-Hartlieb." *Nachrichtenblatt für Deutsche Vorzeit* 12 (1936): 173-175.
Ogilvie, Sheilagh. *Institutions and European Trade: Merchant Guilds, 1000-1800*. Cambridge: Cambridge University Press, 2011.
Okada, Barbra Teri. "Netsuke: The Small Sculptures of Japan." *The Metropolitan Museum of Art Bulletin* 38, no. 2 (1980): 3-48.
Prange, Sebastian. *Monsoon Islam: Trade and Faith on the Medieval Malabar Coast*. Cambridge: Cambridge University Press, 2018.
Pomeranz, Kenneth. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton: Princeton University Press, 2000.
Prestholdt, Jeremy. "On the Global Repercussions of East African Consumerism." *American Historical Review* 109, no. 3 (2004): 755-781.
Puttevils, Jeroen. *Merchants and Trading in the Sixteenth Century: The Golden Age of Antwerp*. London: Pickering & Chatto, 2015.
Reinicke, Rolf. *Bernstein: Gold des Meeres* Rostock: Hinstorff Verlag, 2015.
Rice, Patty C. *Amber: The Golden Gem of the Ages*. New York: Van Nostrand Reinhold Company, 1980.
Rohde Alfred. *Bernstein, ein deutscher Werkstoff: seine künstlerische Verarbeitung vom Mittelalter bis zum 18. Jahrhundert*. Berlin: Deutscher Verein für Kunstwissenschaft, 1937.
Rönnbäck, Klas. "An Early Modern Consumer Revolution in the Baltic?" *Scandinavian Journal of History* 35, no. 2 (2010): 177-197.
Rosman, Moshe J. "Polish Jews in the Gdańsk Trade in the Late 17th and Early 18th Centuries." In *Danzig, Between East and West: Aspects of Modern Jewish History*. Cambridge, MA: Harvard University Press, 1985. 111-120.

Ruffmann, Karl-Heinz. “Engländer und Schotten in den Seestädten Ost- und Westpreussens.” *Zeitschrift für Ostforschung* 7, no. 1 (1958): 17-39.

“Salomon Sweers.” In *Beschrijving van het Archief: Geschiedenis van de archiefvormers*. The Hague: Nationaal Archief, 1928. http://databases.tanap.net/ead/html/1.10.78/index.html?N1006C.

Schorsch, Jonathan. “Mosseh Pereyra de Paiva: An Amsterdam Portuguese Jewish Merchant Abroad in the Seventeenth Century.” In *The Dutch Intersection: The Jews and the Netherlands in Modern History*. Edited by Yosef Kaplan. Leiden: Brill, 2008. 63-86.

Schreiber, Hermann. *The History of Roads: From Amber Route to Motorway*. Translated by Stewart Thomson. London: Barrie and Rockcliff, 1961.

Sciama, Lidia D. “Gender in the Making, Trading and Uses of Beads: An Introductory Essay.” In *Beads and bead makers: gender, material culture, and meaning.* Edited by Lidia D. Sciama and Joanne B. Eicher. Oxford: Berg, 2001. 1-45.

Seger, Hans. “Der Bernsteinfund von Hartlieb bei Breslau.” *Altschlesien* 3 (1931): 171-184.

Sgourev, Stoyan and Wim van Lent. “Balancing Permission and Prohibition: Private Trade and Adaptation at the VOC.” *Social Forces* 93, no. 3 (2015): 933-955.

Sims, Ashley. “Furnishings and Finery: a Scottish Merchant Household in an Age of Global Exchange, c. 1634-1674.” PhD Dissertation, University of Alberta, forthcoming.

Singer, Graciela Noemi Gestoso. “Amber exchange in the Late Bronze Age Levant in Cross-cultural Perspective.” *Aula Orientalis* 34, no. 2 (2016): 251-264.

Slotta, Rainer. “Die Bernsteingewinnung in Samland (Ostpreußen) bis 1945.” In *Bernstein: Tränen der Götter*. Edited by Michael Ganzelewski and Rainer Slotta. Bochum: Deutsches Bergbau-Museum Bochum, 1999. 169-214.

Smart, Alan and Filippo M. Zerilli. “Extralegality.” In *A Companion to Urban Anthropology*. Edited by Donald M. Nonini. Hoboken, NJ: John Wiley and Sons, 2014. 222-238.

So, Jenny F. “Scented Trails: Amber as Aromatic in Medieval China.” *Journal of the Royal Asiatic Society* 3rd series 23, no. 1 (2013): 86-95.

Spekke, Arnold. *The Ancient Amber Routes and the Geographical Discovery of the Eastern Baltic*. Stockholm: M. Goppers, 1957.

Spufford, Peter. *Power and Profit: The Merchant in Medieval Europe*. New York: Thames and Hudson, 2002.

Sutcliffe, Adam. “Identity, Space and Intercultural Contact in the Urban Entrepôt: The Sephardic Bounding of Community in Early Modern Amsterdam and London.” *Jewish Culture and History* 7, nos. 1-2 (2004): 93-108.

Suzuki, Yasuko. *Japan-Netherlands Trade 1600-1800: The Dutch East India Company and Beyond.* Kyoto: Kyoto University Press, 2012.

Teensma, Benjamin Nicolaas. “De Levensgeschiedenis van Abraham Perengrino, Alias Manuel Cardoso de Macedo.” *Studia Rosenthaliana* 10, no. 1 (1976): 1-36.

Tesdorpf, Wilhelm. *Gewinnung, Verarbeitung und Handel des Bernsteins in Preussen von der Ordenszeit bis zur Gegenwart: eine historisch-volkswirtschaftliche Studie*. Jena: Verlag von Gustav Fischer, 1887.

Thirsk, Joan. *Economic Policies and Projects: The Development of a Consumer Society in Early Modern England.* Oxford: Clarendon Press, 1978.

Trivellato, Francesca. *The Familiarity of Strangers: The Sephardic Diaspora, Livorno, and Cross-Cultural Trade in the Early Modern Period*. New Haven: Yale University Press, 2009.

--. "The organization of trade in Europe and Asia, 1400-1800." In *The Construction of a Global World, 1400-1800 CE, Part 2: Patterns of Change*. Edited by Jerry H. Bentley. Cambridge: Cambridge University Press, 2015. 160-189.

Trusted, Marjorie. *Catalogue of European Ambers in the Victoria and Albert Museum*. London: Victoria and Albert Museum, 1985.

Unger, Richard W. "Dutch Herring, Technology, and International Trade in the Seventeenth Century." *The Journal of Economic History* 40, no. 2 (1980): 253-279.

Veluwenkamp, Jan W. "Sound Toll Registers: Concise Source Criticism." October 2011. http://www.soundtoll.nl/images/files/STRpdf.pdf.

Venema, Janny. *Kiliaen van Rensselaer (1586-1643): Designing a New World*. New York: State University of New York Press, 2010.

de Vries, Jan. *The Industrious Revolution: Consumer Behaviour and the Household Economy, 1650 to the Present.* Cambridge: Cambridge University Press, 2008.

Warsh, Molly A. *American Baroque: Pearls and the Nature of Empire, 1492-1700*. Durham: University of North Carolina Press, 2018.

van der Wee, Herman. *The Growth of the Antwerp Market (fourteenth-sixteenth centuries)*. The Hague: Martinus Nijhoff, 1963.

Wijnroks, Eric. *Handel tussen Rusland en de Nederlanden, 1560-1640: een netwerkanalyse van de Antwerpse en Amsterdamse kooplieden, handelend op Rusland*. Nijmegen: Hilversum, 2003.

Xu, Xiaodong. "East-West Connections and Amber under the Qidans." In *Noble Riders from Pines and Deserts: The Artistic Legacy of the Qidan*. Edited by Jenny F. So. Hong Kong: Chinese University of Hong Kong, 2004. 30-37.

Yogev, Gedalia. *Diamonds and Coral: Anglo-Dutch Jews and Eighteenth-Century Trade*. Leicester: Leicester University Press, 1978.