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**Thinking About Globalization in the Early Modern World**

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In recent years a consensus has emerged in the relatively young sub-discipline of ‘world history’ that the long-distance exchange of commodities, money, ideas, and fashion that we all recognize as an essential feature of the contemporary world is in fact an old phenomenon. Indeed, making this case may well be the *raison d’etre* for the emergence of the field in the first place. Its leading practitioners have overwhelmingly emerged out of historical fields representing the various geographical regions located outside of Europe and North America and/or from the time period now widely (if problematically) known as Early Modern [Goldstone 1998; and Starn 2002]. The relevant chronologies of their fields have not been dominated by the fact of a nineteenth century industrial revolution. Thus, they have identified the pivotal events of their historiographies very differently than have most modern western historians whose key questions have been framed around the problems (when, why, where, how, and to what effect?) of industrialization more than any others. So it is that world historians are not willing to merely settle for the re-placement of the epicenter of globalization outside of Europe or in an earlier time period; they want in fact to “re-orient” (to borrow from the title of an important work in this field) the very questions that are asked, and the kinds of data thought suitable for or worthy of comparative historical analysis [Frank 1998].

At least since the publication of Jean Baptiste Say’s Treatise on Political Economy in 1803 western economists, with only a few exceptions (most notably John Maynard Keynes) have privileged the study of the productive process over that of consumption. That is to say that even before the Industrial Revolution had played itself out fully in historical time, the scholarly stage was set to understand it primarily as an achievement of the expansion of output resulting from the intensification of inputs, a more efficient organization of those inputs, and most especially, from the new technologies associated with machines of all types powered by fossil fuel burning engines. Thus was born the ‘wave of gadgets’ characterization of the Industrial Revolution by T.S. Ashton’s now famous English schoolboy [Ashton

1948:48]. His gadgets were not technologies for better living per se, but rather novelties which allowed Britain to produce more goods, more quickly and more cheaply than anywhere else. This might translate, eventually anyway, into higher living standards for the masses, but the latter was hardly considered to be the primary metric for assessing the relative strength of economic development across countries. Yet, as many world historians have noted, other metrics might have yielded rather different comparative histories. For example, Susan Hanley's work on Tokugawa Japan and Ken Pomeranz's work on Qing China both argue forcefully for comparatively high living standards in their respective studies of these two early modern states, neither of which underwent an Industrial Revolution at all [Hanley 1997; and Pomeranz 2000]. Similar claims have been made for a cultural metric which would favor the great flourishing and expansion of Islamic culture in the 12<sup>th</sup> and 13<sup>th</sup> centuries as well. In each of these cases, the comparative histories suggest the need for the simultaneous implementation of three new ways of framing the problem at hand: 1) the development of new chronologies of globalization; 2) the recognition that there were multiple geographic centers of what Jack Goldstone has called 'efflorescences' [Goldstone 2002]; and 3) the use of alternative yardsticks of economic success to the unsatisfactory, albeit ubiquitous, measure of GDP (Gross Domestic Product).

### **The Case for Revision:**

Revising the chronology of globalization is perhaps the most straightforward of these issues. Economists have long taken it as a matter of faith that the nineteenth century, given the technical achievements of the Industrial Revolution, is the obvious place to look for the origins of the modern globally-connected market system. This view is not shared by the world historians, however, for whom the Industrial Revolution is not the *sine qua non* of intercontinental commodity exchange. While a few of the latter are willing to make a case for the globalization of antiquity, and rather more so for the Middle Ages (especially as regards Islamic expansion before 1300), the most common view is that global connectedness began in earnest with the voyages of Vasco de Gama, Christopher Columbus and their

followers. Most recently Denis Flynn and Arturo Giraldez have dated the moment of the birth of globalization precisely, “in 1571 with the establishment of direct and permanent linkages between the Americas and East Asia” via the intermediary port of Manila [Flynn and Giraldez 2004, p. 99].

Furthermore, despite the fact that the choice of this date ultimately emerges from historical events that first took shape in the European Atlantic, the Pacific and Indian Oceans loom relatively larger in the world historians’ story than does the ‘pond’ of Anglo-American discourse. As they have argued repeatedly, western Europe was not the only location from which the forces of globalization were to emerge; and the Atlantic was not the only, or even the most significant, ocean across which advantageous exchange could take place. For example, the Medieval Islamic sphere of cultural influence, centered on the Mediterranean littoral and extending across the Indian Ocean and subcontinent and into south-east Asia, figures prominently in the world-systems analysis of Janet Abu-Lughod [1989]. Indeed, she is willing to push the argument for a re-centering of globalization to its logical limit. She argues that “the ‘fall of the East’ preceded the ‘rise of the West’ and opened up a window of opportunity that would not have existed had matters gone differently” [Abu-Lughod 1993, p. 90]. Similar kinds of arguments have been made for China as well, especially for: 1) the period of Mongol ascendancy when central Asia functioned as a land bridge between East and West; and 2) subsequently for the great age of overseas exploration during the early Ming Dynasty. Both of these moments witnessed examples of the intensification of intercontinental exchange, but directed from a site other than western Europe.

This multi-faceted view (both in time and space) of the globalization process sits well (if not always explicitly so) with the kinds of work that have long been of interest to many cultural historians of Europe. The cultural attributes of the ‘East’, whether they be Turkish, Persian, Indian or Chinese to name only the most prominent, had a marked influence on the development of European letters and material culture. Indeed, public debates about the morality of consumption dating at least back to the Roman period have all been undergirded by the powerful associations between luxury consumption, refinement, wealth and eastern-ness, even when directly conjoined with discourses about the ‘barbarian’ inhabitants

of those same places. By the time we get to the early modern period, this discourse is especially rich. For example, the historical literature on the ‘rise of consumer culture’ in the eighteenth century, or even earlier for that matter, is not easily distinguishable from that documenting the growing use of, and desire for, eastern trade goods.<sup>1</sup> Both commodities, such as spices, tea, coffee and sugar, as well as manufactures, such as silks, printed cottons and porcelain, figure prominently here. We might even be tempted to believe that the consumer revolution itself would have been inconceivable without the stimulus provided by ‘luxuries’ first trickling and then streaming into Europe from Asia broadly defined. Furthermore, the Americas cannot be left out of the picture, not only because chocolate and tobacco were found there, but more importantly still, the metallic commodity, silver, which greased the wheels of the entire global trade edifice, was located there in prodigious quantities.

Yet despite the happy conjuncture between the agenda of those historians documenting the pre-industrial consumer revolution in Europe and that of the world historians documenting the trade connectivity of the world before steamships and railroads, one group of scholars remains resolutely unimpressed by the strength of these connections. These are the economic historians. Just over three decades ago now, in his path-breaking Marxist interpretation of the rise of a European, capitalist world economy, Immanuel Wallerstein strongly downplayed the importance of sixteenth century Eurasian trade in determining the productive structures of any of the various Asian or European economies.

What Asia provided for Europe at this time was luxuries. Now luxuries are important and not to be sneered at, but they take second place to food (grain, cattle, fish, sugar) and the manpower needed to raise them. They took second place also to bullion, not hoarded bullion but bullion as money... Compared to food and even to bullion, a world-economy can adjust relatively easily to

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<sup>1</sup>The literature on these connections is enormous and amazingly diverse in its range of time period and subject matter covered. An especially rich example of a Renaissance art historical manifestation can be found in Lisa Jardine, 1996, followed up soon thereafter by her collaboration with Jerry Brotton, 2000, itself followed by Brotton, 2004. There are also many excellent essays in Brewer and Porter, 1993; Berg and Clifford, 1999; and Berg and Eger, 2003. For a recent book-length treatment about the changing moral understanding of consumption in early modern Europe broadly, see Smith, 2002.

the shifts in luxury supply. [Wallerstein, 1974: 333]

This is not to argue, of course, that the Asian trade was not profitable to its various European actors. On the contrary, it was extremely lucrative: worthy of the expenditure of more than a million men lost at sea or in the tropics between 1500 and 1795, and a bullion out-flow from Europe of unimaginable proportions, not to mention the repeated rounds of violence to which it gave rise [de Vries, 2003:72 and 82]. But for Wallerstein this gave rise only to the “profits of plunder” and “plunder is over time self-defeating” [Wallerstein, 1974: 335]. The “framework of a single world-economy” in which exploitation could become “self-reinforcing” would have to wait for a later period [Ibid].

A remarkably similar assessment of the early modern trade-boom, but from the very different perspective of quantitative neo-classical economics and based on very different evaluative criteria, has recently been proffered by O’Rourke and Williamson. In a series of related articles exploring the origins of economic globalization, they test and refute the claims of the world historians that globalization began in 1571, or at any other early modern date. They conclude that only the technological revolution of the early nineteenth century, which made “possible the movement of bulk commodities between continents so much more cheaply than domestic prices, and domestic resource allocation, were significantly affected by international trade,” can signal the true birth of a global economy [O’Rourke and Williamson, 2002b: 45]. In this view it was the nineteenth century transport revolution which precipitated the “decline in the international dispersion of commodity prices” which they argue is “*the only irrefutable evidence that globalisation is taking place*” [Italics in original, O’Rourke and Williamson, 2002b: 26]. Their critical benchmark may be commodity price convergence, in comparison with Wallerstein’s integration of “Asian primary production” into the “European division of labor,” but their actual assessments about the chronology of globalization are not far apart [Wallerstein, 1974: 332]. Both arguments likewise rest on some shared critical assumptions about the limitations of early modern intercontinental trade, namely that it was dominated by a trade in luxury items, and therefore could not muster the power to transform the economic structures of production in either Asia or Europe. O’Rourke and Williamson have this to say

about the spices, silk, sugar and gold, which they claim dominated European imports, and the silver, and lesser amounts of linens and woollens, which made their way into Asia in return:

By definition, these non-competing goods were very expensive luxuries in importing markets, and thus could bear the very high cost of transportation from their (cheap) sources. Also by definition, their presence or absence in Europe had little impact on domestic production since they were largely non-competing. Again by definition, their presence or absence in Europe had an impact only on the living standards of the very rich who could afford these expensive luxuries. [O'Rourke and Williamson, 2002b: 27].

Not surprisingly, when they construct their quantitative model of import supply and demand to evaluate the relative strength of the various factors responsible for the trade boom of the pre-nineteenth century period, the growth of European import demand is measured exclusively by European “surplus income,” estimated in this case by the growth in English land rents [O'Rourke and Williamson, 2002a: 434]. That is to say, they limit any potential stimulus to European import demand to be responsive only to increases in the incomes of the very rich, and not to changes in taste broadly defined, or to increases in the incomes of other segments of the population. They go on to argue that any changes in the standard of living of workers, and all others not counted among the land-owners or the urban merchants who supplied them, “would have had only a trivial impact on European import demand”[Ibid]. On these grounds general income growth and/or the income elasticity of demand for non-elites can be disregarded as potential variables in their framework.

Is this in fact a reasonable assumption? Ironically, in an important contribution to another old chestnut of the Industrial Revolution legacy, namely the so-called Standard-of-Living debate, Joel Mokyr makes an opposite claim about what he calls the “small luxury” trade in tea, sugar, coffee and tobacco. He argues for the usefulness of trade/consumption data for these commodities precisely because “these series reflect the living standard of the entire population of Britain” [Mokyr, 1988: 73]. Indeed, they are especially reflective of “the economic welfare of the masses because consumption was *only weakly*

*affected by changes in the economic conditions of the upper income brackets*” [Emphasis added, Ibid].

Admittedly, Mokyr is working largely with early nineteenth century data in this analysis, but his discussion of the issues involved extends back into the eighteenth century as well. Who is right then? Was the Asiatic trade comprised of goods so exclusive as to rest on only the fickle whims and desires of the super rich? Or was it really a trade based on “small luxuries,” available to many, even if in only modest quantities not to be taken for granted? Furthermore, does our answer to this question matter to our understanding of the larger forces of globalization before the nineteenth century? That is, could a luxury trade also be a transforming trade?

Others have already taken issue with O’Rourke and Williamson’s restrictive definition of globalization as commodity price convergence and nothing else [Flynn and Giraldez, 2002 and 2004]. It is not my intention here to pursue that particular line of debate any further. Instead, I want to focus my comments on the strength of their assumptions about the demand characteristics of the Asiatic (and to a lesser extent the New World) ‘luxury’ trades, and in particular to evaluate the impact of the early modern trade boom on the standard of living of Europeans who were not located at the top of the income distribution. What we do know already from literary and visual sources, as well as from the growing field of the history of material culture (often focused on elites, but increasingly on the daily life of non-elites as well) needs to be evaluated in the context of quantitative evidence about the breadth and depth of the consumption of tea, coffee, sugar and tobacco on the commodities side, and silk, chintz, and porcelain on the manufactures side. Is there specific distributional evidence to uphold the broad claims of the historians of the consumer revolution, who see the seventeenth and eighteenth centuries as pivotal well in advance of the transport revolutions of the nineteenth century? What can we say with certainty about consumer demand responses to changes in either income or the prices of these commodities? And how did those responses vary across the wealth spectrum? Finally, what do we know about the response of European production to these trades? Were the Asiatic goods all non-competing as O’Rourke and Williamson assert, or did Europeans in fact make substitutions between them and goods produced at

home?

This remainder of this paper will argue that the intercontinental luxury trades of the early modern period were in fact transformative, at least on the European side. (There is growing evidence, and much logic, that they were as well on the Asian side, but the full explication of that story will have to come from historians who specialize in the various locales of the Asian export trade, and their industrial and agricultural hinterlands.<sup>2</sup>) The argument will proceed in the following manner. First I will review what is known about the volume of colonial grocery consumption. Tea and coffee will be treated together, along with an examination of the evidence regarding the use of sugar and tobacco. Next, I will turn my attention to manufactured goods imported from Asia, including porcelain, but most especially silk and cotton textiles. I will then address the validity of the assertion that the early modern luxury trades were non-competing, that is, that traditional European productive processes did not face direct competition from these goods, nor were they transformed by them. In particular, I will consider the alleged decline of European beer consumption and the emergence of the Delftware (and subsequent English) pottery industries. [*Note: these last two sections are not finished as of this writing. They will be drafted for presentation at the Workshop.*] Finally, I will conclude by considering the ramifications of these findings for the larger debate about the nature and origins of economic globalization.

### **The Colonial Groceries: tea, coffee, sugar and tobacco**

The argument that groceries, almost all of which were imports to Europe, dramatically increased in importance across the early modern period for both household consumption patterns and national trade statistics (not to mention the rationalization of public finance on a basis of excise taxation, much of which fell on these groceries) can hardly be thought of as something new. As early as 1731 Daniel Defoe numbered the English consumers of imported luxuries not in the “hundreds or thousands, or hundreds of

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<sup>2</sup>See for example, Vainker, 2003, and especially Adshead, 1997.

thousands, but millions” [quoted in Berg and Clifford 1999, p. 6]. While middling tradesmen and laborers may not have enjoyed the highest quality versions of these goods, they nonetheless formed the critical target audience for the abundance of coarser varieties which indeed made up the bulk of the trade. Carole Shammas estimates that the percentage contribution of groceries to the total value of all imports into England and Wales increased from 16.9% in 1700 to 34.9% in 1800, during a century which witnessed the concomitant dramatic increase in imports of all kinds and strong downward pressure on the import prices of groceries [Shammas 1990, p. 77]. From the 1730's onwards tea was among the most important of the colonial groceries for England, having joined tobacco and sugar as an item of “mass consumption” by then [Ibid, p. 85]. Moreover, the cheapest black variety, Bohea, constituted about two-thirds of total consumption around mid-century [Smith 1996, p. 192]. It was also the variety of tea most likely to have been smuggled into the country, thereby evading both the exorbitant excise tax, as well as enumeration in the official trade statistics cited above [Mui and Mui 1968, p. 52]. Tea smuggling was a veritable growth industry in eighteenth century England, enjoying high profits, promoting the development of new organizational structures and technological advances, and accounting for up to three times the volume of the legal tea trade at moments of particularly high taxation [Ashworth 2003, pp. 176-8]. Smuggling, by its very nature as a relatively small scale activity dependent on remote stretches of unwatched coastline, also served to introduce the tea-drinking habit to consumers who would otherwise have been too distant (either socially or geographically) from the main entrepot port of London for easy access to what was after all, a totally new commodity.

A similar story, albeit with less emphasis on the contribution of smugglers, can be told for the Dutch Republic, the other leading European participant in the eighteenth century colonial groceries trade. Introduced first into western Europe in the second decade of the seventeenth century by Dutch sailors, neither tea nor coffee nevertheless caught on at first as beverages. Rather they were seen as drugs to be sold on the apothecary's shelf. Thus, the first public auction of coffee by the *Vereenige Oostindische Compagnie* (VOC) in Amsterdam did not take place until 1661/62, and then in only very limited

quantities. Only in the 1690s did sales of coffee become truly regular. Public sales of tea became regularized more quickly, but even combined, the two commodities accounted for a scant 0.03% of total VOC sales at Amsterdam in the late 1660's and still only 4.1% of sales at the end of the seventeenth century [Glamann 1958, p. 13]. Yet by the end of the decade of the 1730s, tea and coffee accounted for nearly a quarter of all VOC sales in Amsterdam (24.92 %), second only to the category of silk and cotton textiles (28.27 %) [Ibid, p. 14]. This increase in share is all the more impressive when we consider that total VOC sales in Amsterdam had increased during this same period by 158 percent. Thus, the actual revenues of colonial beverage sales at Amsterdam were an impressive 1,312 times greater in 1740 than they had been in 1669. Given the contemporaneous (more-or-less consistently) downward trend in the unit price of both leaves and beans between the close of the seventeenth century and the middle of the eighteenth, the quantity of tea and coffee actually being imported into the Dutch Republic must have increased in staggering proportions.

Furthermore, England and the Dutch Republic were by no means the only European powers engaged in this kind of trade, although they were clearly the most important. Portugal, which had been the earliest European entrant into Asian waters and had enjoyed a dominant position in the sixteenth century pepper and spice trades from the southeast Asian archipelago before being eclipsed by the Dutch around 1600, continued to import Asian colonial products although with a decreasing number of voyages over time. France also joined the fray in earnest by the middle of the seventeenth century and grew in relative strength until the revolutionary period. Denmark, Sweden and the Oostende Company had limited activity in Asian waters as well, especially during the middle decades of the eighteenth century. Indeed, these smaller European companies were critical in part as suppliers of the illegal coastal tea trade to England, while their own populations were developing relatively strong preferences for coffee. To consider just the case of tea for the moment, all of which had to be purchased from the single source of Canton, and is thus easier to aggregate reliably, the established European companies together increased their imports of tea by 6.65 percent per annum between 1719-25 and 1749-55, followed by annual growth

rates of 1.92 percent until the 1780s, by which time tea imports into Europe had reached the staggering volume of 9.4 million kg. [de Vries, 2003, p. 66]. Coffee did not likewise suffer (if that is the right word for such a successful increase in trade?) from the single-source problem. Rather, its production spread rapidly from its original source location in Arabia following the successful Dutch transplantation of a coffee tree to Java in the first decade of the eighteenth century. Within another twenty years coffee was being widely grown across the tropics, with large volumes newly available (and moreover totally under European control) from the West Indies and ultimately central America as well. While the total volume of coffee available for European import is harder to calculate, it too grew to staggering proportions over the course of the eighteenth century.

Who was drinking all of this tea and coffee? Surely not just wealthy elites, as the volumes are too high to even entertain the possibility of limited social access to hot caffeinated beverages. Some of the import volume was 'lost' to re-exports, but the ultimate consumers of these re-exports were of course, just other Europeans (or their colonial counterparts). Eighteenth century commentators of all national stripes did not hesitate to ascribe consumption of these caffeinated luxuries, usually with complaint, to the teeming masses of their social inferiors. Certainly the probate inventory evidence which has been accumulating over the past several decades on the question of social diffusion of the artifacts associated with this consumption suggests that it was indeed widespread across the social landscape.

Just as Shammaas has identified the decades of the 1730s and 40s as the critical ones for the mass consumption of tea in England, Dutch inventory studies suggest a similar timing of diffusion. Hans van Koolbergen's study of the small industrial city of Weesp (15 km. northwest of Amsterdam with approximately 2,500 inhabitants working primarily as beer brewers, gin distillers and linen weavers, and as farmers in the immediate hinterland) finds no tea or coffee wares to speak of before 1700, but by the close of the 1730s, nearly 100% of the inventories include at least one item relating to the preparation or consumption of these goods [van Koolbergen 1997, p. 145]. A similar picture emerges from Hester Dibbits' comparative study of material culture in the South Holland coastal fishing village of Maassluis,

and in the inland Hanseatic fortress town of Doesburg, situated at the juncture of the Oude IJssel and the IJssel rivers in a part of Gelderland known as the Achterhoek. While a place like Maassluis fits clearly into the larger picture historians have developed about the maritime economic vibrancy of the Dutch Golden Age, Doesburg, on the other hand, had reached its commercial zenith in the Middle Ages. By the time of the Republic, Doesburg served primarily as a border garrison town and a regional distribution center for specialized craftsmen and retailers. It looked eastward towards the continent at least as much as it did westward towards the feverish activity of the Holland ports. Yet, Dibbits finds no particular difference in the speed of assimilation of the material artifacts of coffee and tea consumption between the two locations. She concludes of both places that by '1750 coffee and tea wares were altogether commonplace' [Dibbits 2001, pp. 160 and 321-26]. Likewise for Thera Wijsenbeek-Olthuis' now classic study of eighteenth century Delft. Despite the powerful negative trends of de-population and de-industrialization, the evidence for tea and coffee consumption rises markedly between the first and second quarters of the eighteenth century [Wijsenbeek-Olthuis 1987, pp. 453-454]. Finally, Blonde and van Damme's study of Antwerp, another city in considerable decline in the eighteenth century, finds the same pattern repeated. After finding no inventories dating from the seventeenth century, regardless of social class, with equipment for making tea or coffee, they document that by 1730 this picture had changed radically. Almost 60% of even the poorest one-room households could make tea at home, rising to 100% of the most spaciouly accommodated (that is those with ten or more rooms). Coffee equipment did not advance quite as far by 1730, but by 1780 both tea and coffee equipment were ubiquitous [Blonde and van Damme 2005, p. 12]. Not surprisingly, their study also documents an accelerating increase in the number of new purveyors of tea, coffee, and chocolate up through the decade of the 1740s, followed thereafter by more gradual increases in the number of new establishments. Over the course of the eighteenth century, tea and coffee retailers accounted for between five and ten percent of all new entrants into the Antwerp mercers guild [Ibid, pp. 5 and 12].

My own study of over 900 eighteenth century *post mortem* inventories collected by the

Amsterdam Municipal Orphanage confirms the full extent of the social diffusion suggested by the studies mentioned above. For the households affiliated with the Orphanage were truly poor to a much greater extent than is the case for the poorest subjects of inventory studies which rely on notarial records. The Orphanage affiliates were drawn primarily from the bottom three deciles of the wealth distribution of the citizenry, with the overwhelming majority of them living in one room or a cellar [McCants 2005a; McCants 2005b]. Yet as the data reported in Table 1 show, by the middle decades of the eighteenth century, sixty percent of the inventories contain evidence that coffee and/or tea was being consumed at home. This percentage drops slightly in the (roughly) third quarter of the century, concomitant with other evidence that the population affiliated with the Orphanage was increasingly impoverished. What we cannot know of course, is whether those households which could not afford to prepare their caffeine drinks at home nevertheless found petty retailers who could supply them with these beverages ready-made? We do know that there was an active trade in used tea leaves and coffee grounds, suggesting that even the lowest end of the market could be supplied.

Sugar, which by all accounts was the dominant accompaniment of these hot beverages is less visible in the inventory data. Only eight percent of the households indicate the presence of a bowl or tin specifically for storing or serving sugar. [See Table 2, which includes information on a wide variety of goods in addition to table wares for purposes of comparison.] But we should be careful not to conclude from this evidence alone that so few actually used sugar, at least not from time to time. The data on items associated with the storage of salt and pepper can offer some guidance here. It seems certain that the usage of salt was universal, and pepper must have been not far behind, having long since ceased to be the exotic import it had been up through the sixteenth century. Yet only one-fifth to one-fourth of the inventories indicate a special item for the storage or use of these condiments. Presumably a wide variety of more generic dishes, boxes or tins could have been used to store salt and pepper, and must have been in fact. The possibility that the same was true for sugar seems not to be far fetched, especially for those households where only very small quantities were used at a time. It is also worth noting, that the not-so-

humble fork is even less in evidence. Only 5.3 percent of all households owned this utensil which had its origins in Europe during the Renaissance. Despite our presentist inclination to view colonial groceries (and their service items) as luxuries in the eighteenth century, and not so the fork, the rank ordering depicted in Table 3 of median household assets with households grouped by the presence of specific items, suggests that the fork was actually one of the most luxurious items to be found among the population of Orphanage affiliates.

Given the less specific nature of the tablewares associated with the use of sugar than with the making and serving of hot caffeinated beverages, the case to be made for sugar consumption from inventory evidence is less persuasive than is the case for tea and coffee. Here we really need some indication of how much sugar was available for consumption, and what fraction of household budgets (food budgets in particular) was devoted to its purchase. Even better would be to have direct evidence of the price and income elasticities associated with actual sugar purchases. Fortunately, we do have information of all these types, although it remains less comprehensive than we might desire.

The colorful social history of the spectacular rise of European sugar consumption between the late Middle Ages and the present has already been ably told by Sidney Mintz. Yet his presentation is of only limited quantitative usefulness [Mintz 1985]. Shamma, on the other hand, has devised a schema for assessing the moment at which sugar can be said to have become a product of mass consumption from a quantitative point of view. Her criteria for this designation is the moment when enough sugar was imported (into England in this case) to allow approximately one-quarter of the population to regularly sweeten their food or drink, an amount she estimates to be on the order of 24 lbs. per year for each consumer [Shamma p. 81]. At the end of the seventeenth century, when England was importing approximately 4 lbs per capita annually, the highly unequal distribution of sugar across the whole population would have permitted approximately one-quarter of English consumers to have reached her threshold amount. By the close of the eighteenth century, England imported enough sugar for every inhabitant to regularly sweeten their daily diet [Shamma p. 82]. That these high quantities of sugar were

indeed being widely distributed is confirmed by the evidence we have from workhouse and hospital diets over the course of the eighteenth century. All of the institutional budget data so far collected for English poor relief facilities after 1700 allude to sugar purchases, even when the amounts were too small to merit a specific financial record. In similar sixteenth century workhouse budget data sugar is not to be found. For the majority of cases of the eighteenth century cases which did record exact expenditures, the typical English workhouse devoted between two and three percent of their total dietary expenditure for sugar [Shammas pp. 142-3].

My own study of the diet provided for the orphan inmates of the Amsterdam Municipal Orphanage confirms this pattern with even more robust evidence. The financial records of the institution have been preserved in almost complete detail over the period from 1639 to 1812, including an itemized expenditure for every category of foodstuffs. These financial accounts almost always record the quantity purchased of particular food items in local units and the purchase price as well. While it seems that the children enjoyed refined sugar only very occasionally, treacle (a syrupy brown sugar) was an increasingly regular part of their diet, as exhibited both by changes in the standard menus over time and in the purchase of actual commodities. The middle quintiles of the seventeenth century (1639-1679) were characterized by both meager caloric provision (with per capita daily kcals averaging between 2,100 - 2,300) and a very low contribution to that total from sugar (averaging between 0.5 and 0.6 percent of all calories). After the turn of the eighteenth century, the average caloric provision increased substantially to average between 2,600 and 3,000 kcals daily. This figure only fell again after 1790 when the Orphanage was confronted by soaring food prices and plummeting revenues, and even then to a level still slightly higher than had been the case in the seventeenth century. More importantly for the argument being developed here, sugar consumption as a contribution to the increased number of calories rose consistently and dramatically, first to 0.9 percent of calories at the close of the seventeenth century, then to 2.1, 3.4, 3.9 and 4.3 percent of calories for 1720-39, 1740-59, 1760-79 and 1780-89 respectively. As with total calories, the contribution of sugar fell after 1790 to 2.7 percent, a level still substantially higher than had

been the case in the seventeenth century.<sup>3</sup> It seems that even in the face of the severe financial hardships which characterized the late eighteenth century experience of the Dutch Republic, sugar had become so much a necessary part of the ordinary diet that even destitute orphans could continue to make claims on the public purse for its purchase.

The dramatic rise and then lingering persistence of sugar purchases is made even more significant by the fact that it is not simply a response to falling relative prices for sugar. Indeed, if anything relative sugar prices were on average rising slightly in the second half of the eighteenth century, although the evidence is somewhat mixed [Williamson and O'Rourke 2002a, pp. 449-50]. However, in the case of the Orphanage expenditures we need not rely on the general price trend alone. Because we have complete information on the total expenditures for the diet, as well as unit prices for the foodstuffs in that diet, we can estimate income and price elasticities of the major commodity groups using a simultaneous demand equation system operating under the specifications of the Rotterdam Model. [This model is presented in detail in McCants 1995.] What we find is that the price and income elasticities on sugar display unusual characteristics throughout the entire period of study. Purchases of sugar in the seventeenth century increase significantly at a time when the unit price of sugar was also increasing relative to the other goods in the diet, resulting in a total price elasticity of 3.18 [Ibid, p. 203]. It is noteworthy that this is the only positive price elasticity among all of the foodstuffs purchased. After 1700, the price elasticity of sugar reverts to a more normal negative number, but the relative price of sugar is falling anyway by this point. What is particularly interesting about the eighteenth century data is the income elasticity, which I have calculated at -0.11 and -0.59 for the periods 1704-58 and 1761-1812 respectively. Even as the resources available to spend on foodstuffs were being constrained (especially after mid-century), sugar continued to be bought in mostly increasing amounts. The secular trend toward the greater use of sweeteners completely overwhelmed the sensitivity of sugar purchases, at first, to increases in price, and then later to

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<sup>3</sup>The foregoing discussion is all based on work detailed in McCants 1992. See Tables 3 and 5 in particular.

declines in income. This can only be indicative of the increasing cultural importance attached to the consumption of sugar by the Dutch middling and working classes over the early modern period.

Furthermore, this cultural importance yielded quantifiable change in people's behavior.

If sugar had become an item of mass consumption by the turn of the eighteenth century, tobacco had done so even earlier. Shamma estimates that the English tobacco consumption threshold had been reached by the mid-seventeenth century, based on legal import statistics combined with estimates of smuggled tobacco. The quantity of tobacco imported from the Chesapeake (not to mention that which was grown, illegally, in England itself until the close of the seventeenth century) by 1670 would have allowed fifty percent of the total population a ration of one pipeful per day. While she estimates that there were fewer regular smokers than half of the nation, nonetheless "there was too much tobacco around in 1670 for it to have been all consumed by an elite group" [Shamma 1990, p. 79]. The Dutch were also a nation of regular pipe smokers, as can be visually comprehended by even a cursory examination of seventeenth century genre paintings. Roughly one-third of the eighteenth century Orphanage inventories record evidence of tobacco use, a percentage which rises substantially to almost a half if we consider only those households headed by a married male. (This is hardly to imply that Dutch women were not smokers, as they notoriously were. But their consumption was still presumably much less than that of their male counterparts.)

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### **Conclusions:**

The consumption of tea, coffee, sugar, tobacco, porcelain, and silk and cotton textiles, increased dramatically in western Europe beginning as early as the closing decades of the seventeenth century, only to accelerate through much of the eighteenth century. The consumer setbacks associated with the period of the French Revolution and a continent at war, especially as triggered by the Napoleonic blockades, should properly be seen as a severe interruption to the trend which would otherwise have extended rather

more seamlessly from the early modern trade system to the ‘transport revolution’ of the nineteenth century. Use of the new commodities brought by this trade spread rapidly, both in geographical and social space. Naturally, we find them first and most prominently in the urban maritime communities which facilitated their arrival, but their diffusion into rural and interior locales was often remarkably rapid. Even more surprisingly, the presence of many of these so-called luxury goods is well documented even among the ranks of the working poor by the middle of the eighteenth century. There can be little doubt then, that European demand was fueled not only by the rich with their growing ‘surplus incomes’ but by the much more numerous lower and middling classes of Europe’s multitude of urban centers. Furthermore, data on the price and income elasticities of demand suggest strongly that European import demand was not merely shifting along a fixed demand curve in response to growing incomes and/or falling prices, although these forces may well have been at work too. More importantly, however, was the outward shift in the demand curve itself in a remarkable re-orientation of people’s tastes away from products of local agriculture and industry, towards products imported from overseas. Indeed, for products like tea and coffee, which carried only minimal caloric loads (from their accompaniment sugar) while acting as stimulants, the potential scope for increasing demand was not so quickly limited by satiation as for most other foodstuffs. Finally, European productive processes did respond to these demand shifts, most prominently in the efforts made to reproduce Asian ceramics and textiles, the latter first in Delft, and subsequently in England and elsewhere on the continent.

What then about the larger arguments regarding the pace and timing of globalization? If O’Rourke and Williamson “begin with the premise that the vast majority of the “exotic” imports from Asia and the Americas were out of the reach of any but the rich,” they are almost certainly wrong to do so [O’Rourke and Williamson 2002a, p. 434]. Many of the commodities of the colonial trades, particularly the primary goods which figure exclusively in their price calculations, were indeed consumed by a wide spectrum of individuals. Moreover, this was without a doubt the case in England and the Dutch Republic which are the two most important sources of their price data in the first place. Therefore, perhaps (and it

is still a big perhaps), changing living standards of workers *did* have more than “a trivial impact on European import demand” [Ibid]. If so, their decomposition of the sources of the post-Columbian intercontinental trade boom may be poorly specified, particularly in regards to underestimates of the role played by European demand.

Unfortunately, this demand remains hard to quantify explicitly. Given this uncertainty, it is easy to understand their reluctance to make judgements on the relative importance of the various commodities which figure among their price data. Nonetheless we do possess more information than their simple model gives credit for. To illustrate the point we need only consider the most obvious example, that of the early price data for pepper and ginger in the period 1450-1500. As their estimate now stands, both commodities have been given equal weight in determining the relative price trend for Asian commodities in the latter fifteenth century [Ibid, footnote 37, p. 431]. Yet the social histories of diet and trade are both rich enough to allow us to say without any hesitation that pepper was a vastly more important trade commodity than ginger; and that the rising relative price of pepper across most of the late Medieval period (1350-1500) is almost certainly a reflection of the continued strong demand by a wide swath of the European populace in the face of constricted supply following the collapse of the Mediterranean-centered trade networks of the high Middle Ages. Thus, even though we cannot quantify this demand explicitly, we should utilize the information we possess which indicates that pepper prices are much more significant than ginger prices for the development of European trade. As Amartya Sen has argued so cogently in another context, which is confronted by equally difficult measurement problems: surely it is preferable to be “vaguely right” than to be “precisely wrong” [Sen 1987, p. 34].

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**TABLE 1**

**Frequency of Possession and Number of Colonial Beverage Goods**  
in two time periods

Amsterdam -- BWH Inventories						
1740-1759						
	N of inventories	%	Mean	Med	Goods per inventory Max	% out of inventories w/ enumerated goods
Coffee wares	263	53.9	6.4	2	199	61.2
Tea wares	204	41.8	3.5	2	36	47.4
Teapots/infusers	245	50.2	3.2	2	23	57.0
Coffee and tea (comb.)	296	60.7	8.1	3	206	68.8
Sugar bowls etc.	35	7.2	2.5	1	10	8.1
Chocolate wares	12	2.5	6.3	4	33	2.8
Delftware 274	56.1	2.8	2	45	63.7	
China	190	38.9	32.2	12	350	44.2
1760-1782						
	N of inventories	%	Mean	Med	Goods per inventory Max	% out of inventories w/ enumerated goods
Coffee wares	219	51.6	8.6	3	87	62.7
Tea wares 156	36.8	5.8	2	94	44.7	
Teapots/infusers	176	41.5	2.7	2	22	50.4
Coffee and tea (comb.)	232	54.7	12.0	4	120	66.5
Sugarbowls etc.	38	9.0	2.7	2	10	10.9
Chocolate ware	13	3.1	5.2	5	12	3.7
Delftware 218	51.4	5.8	2	73	62.5	
China	149	35.1	25.4	11	412	42.7

**TABLE 2**

**Frequency of Possession and Number of Selected Goods**

Burgerweeshuis and selected comparison data

	Amsterdam -- BWH Inventories 1740-1782			England Amsterdam			
	N of inventories	%	Mean	Med	Max	(1725) %	(1701-10) %
Total inventory entries	805	88.2	61.2	52	293		
Total individual goods			218.5	134	8,129		
Beds (all kinds)	652	71.5	1.8	1	14		
Cupboards/Wardrobes	575	60.3	1.7	1	10		
Chests	273	29.9	1.4	1	5		
Chests of Drawers	97	10.6	1.1	1	2		
Cabinet	68	7.5	1.0	1	2		
Hanging cupboard	144	15.8	1.1	1	3		
Baskets/Hampers	191	20.9	3.2	1	206		
Walnut furniture (all)	79	8.6	1.3	1	12		
Chairs	622	68.2	7.6	6	94		
Tables	577	63.3	2.2	2	15	91	
Tea tables <sup>66</sup>	7.2	1.2	1	2			
Spoons	452	49.6	6.8	6	40		
Forks	48	5.3	4.6	4	15	10	
Delftware <sup>492</sup>	53.9	4.1	2	73	<sup>1</sup> 57		
Pewter wares	475	52.1	15.1	12	82	91	
Pewter plates	132	14.5	6.8	6	26	55	
China (porcelain)	341	37.4	29.0	11	412	9	84.7
Japanese porcelain	15	1.6	11.3	5	68		
Coffee wares	482	52.8	7.4	2	199		
Tea wares	360	39.5	4.5	2	94		
Teapots/infusers	422	46.3	3.0	2	23		
Coffee and tea (comb.) <sup>3</sup>	533	58.4	9.8	3	206	<sup>2</sup> 15	
Sugar bowls etc.	74	8.1	2.6	2	10		
Chocolate wares	25	2.7	5.7	5	33		
Pepper wares	189	20.8	1.1	1	7		
Salt boxes/cellars	215	23.6	1.9	2	11		
Mustard pots etc.	68	7.5	1.1	1	3		
Tobacco wares	317	34.8	2.0	1	17		

**TABLE 2 (cont.)**

	Amsterdam -- BWH Inventories 1740-1782			England Amsterdam (1725)(1701-10)			
	N of inventories	%	Mean	Med	Max	%	%
Bibles	181	19.8	1.4	1	6		
Other books	197	21.6	4.1	2	60	22	85.7
Paintings 224	24.6	3.8	2	61	<sup>4</sup> 21	96.1	
Prints	261	28.6	4.1	3	29		
Mirrors	529	58.0	1.5	1	10	40	
Tea trays <sup>5</sup> 344	37.7	3.0	3	18			
Scientific Instruments	30	3.3	1.2	1	3		
Timepieces	171	18.8	1.1	1	3	34	
Gold (all items)	133	14.6	2.8	2	9	<sup>6</sup> 21	
Silver (all items)	258	28.3	8.7	3	118		<sup>7</sup> 77.3
Japons	120	13.1	1.9	1	8		
Chintz goods	133	14.6	2.5	2	9		
Silk goods	206	22.6	2.5	2	10		

**Notes:** Delftware cannot be accurately counted because so many of the inventories enumerated this item with the terms 'small amount' or 'some.' The number of books found in the inventories may also be suspect on account of this problem although it was not as prevalent as for delftware. Those entries which were given imprecisely were numbered at '2' for purposes of the calculation here.

<sup>1</sup> Includes all earthen wares, not just Delftware.

<sup>2</sup> Goods for making all hot beverages are combined.

<sup>3</sup> Many serving items were used interchangeably, as is confirmed by the 55 cases of coffee wares and 3 cases of tea wares specifically described as for both coffee and tea. Trekpots are not included here.

<sup>4</sup> Paintings and prints have been combined.

<sup>5</sup> These appear to have been wall decorations as well as serving trays as we might expect.

<sup>6</sup> Includes gold and silver items combined.

<sup>7</sup> Only silverware included here. 84.2% of the inventories recorded jewelry of some sort.

**Sources:** English data based on 390 probate inventories drawn up in 1725 and analyzed by Lorna Weatherill in her Consumer Behaviour & Material Culture in Britain, 1660-1760, Routledge, 1996. p. 26. The Amsterdam data from (1701-1710) is based on 203 probate inventories of individuals in the lowest burial tax class sampled from the city Notarial Archives by J.A. Faber. See his, "Inhabitants of Amsterdam and their Possessions," in Probate Inventories: A new source for the historical study of wealth, material culture and agricultural development. eds. Ad van der Woude and Anton Schuurman. Hes Publishers: Utrecht. 1980. p. 153.

**TABLE 3**

**Quartile Distribution of Household Assets in Guilders**  
(by possession of selected goods and rank ordered by median values)

Households grouped by items owned	Household Assets in Guilders							
	N		Q1	Med.	Q3			
Owns no bed	260		0.0	0.5	29.3			
Owns at least one bed	650		31.5	81.3	248.3			
cupboard/wardrobe	571		35.0	87.0	255.0			
delftware	492		42.8	98.9	257.7			
mirror	527		44.0	103.6	276.6			
coffee/tea wares -all	533		50.9	114.0	319.6			
pewter wares	476		55.0	119.8	307.0			
teapot/ <i>trekpot</i>	421		58.5	138.8	318.6			
china (porcelain)	341	62.5		147.0	345.1			
painting	225	53.3		150.0	335.2			
tea wares (not including <i>trekpotten</i> )	360		66.5	165.5	366.1			
hanging cupboard	142		62.0	170.0	362.1			
book (all types)	196		79.1	174.1	364.1			
Bible	180		99.5	186.0	437.0			
chest of drawers	97	75.0		194.0	451.4			
tobacco wares	222		91.2	194.0	399.1			
cabinet	66		67.0	203.4	388.0			
silk goods	218		98.3	209.8	451.4			
chintz goods	154		107.5	220.2	476.7			
desk	103		89.0	222.5	591.5			
silver item	226		110.5	223.5	528.8			
tea table	64		63.5	230.8	520.6			
timepiece	170		101.0	236.5	565.1			
floor mat/carpet	61		131.2	247.2	470.7			
sugar bowl	74		140.0	268.5	651.1			
fork	48		140.5	272.0	508.6			
gold item	112		163.0	283.5	533.7			
chocolate wares	25		150.0	297.6	591.5			
scientific instrument	30		173.5	329.7	807.0			
ink-well	44		239.7	359.1	953.6			
Asset profile of all households	N	10%	Q1	Med.	Q3	90%	95%	Max.
	910	0.0	13.0	52.8	183.3	494.7	863.5	8,127.3