

THE ECONOMIC ROOTS OF THE AMERICAN “ZIGZAG”: KNIVES, FORKS, AND BRITISH MERCANTILISM

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Relative prices that prevail at critical times can shape culture in precise ways. Building on the work of the renowned archeologist James Deetz, this essay argues that the difference between Europeans' and Americans' use of knives and forks at the dinner table is an artifact of British mercantilism, which inflated the price of tableware in the American colonies and preserved the table fork as a colonial luxury long after it was an ordinary utensil in England. Pressures of conformity at the table have locked in these manners, which persist as an enduring effect of the British Navigation Acts. (JEL A10, D02, F13, N00)

The castaways on Gilligan's Island encounter an ape-man named “TONGO” and prepare a meal for him. Mr. and Mrs. HOWELL set a proper dinner table and sit him down to teach some basic etiquette.

MRS. HOWELL

Now we'll see where he comes from. If he eats with the fork in his left hand, that indicates a European background. If in his right, he's an American.

TONGO briefly surveys the table settings and food, then grabs the food with his bare hands and shoves it into his mouth.

MR. HOWELL

*Heavens, a Yale man!*¹

I. THE APPETIZER

Over the course of the seventeenth and eighteenth centuries, Britain wove a complex tapestry of mercantilist legislation to ensure that raw materials flowed from colonies to the mother country and that manufactured goods flowed in the opposite direction. Ultimately, 340 different pieces of legislation—known collectively as the Navigation Acts—were enacted to regulate this economic relationship.

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1. “Our Vines Have Tender Apes,” *Gilligan's Island* (1967), Season 3, Episode 20. I thank Willy Gilligan, President of the Gilligan's Island Fan Club, for verifying the accuracy of this quote.

To Adam Smith (1776), these Navigation Acts were “impertinent badges of slavery, imposed . . . by the groundless jealousy of merchants and manufactures” (239). Whether the Navigation Acts were sufficiently burdensome to the colonial economy to have triggered the American Revolution has long been a matter of heated debate among economic historians. They have worked for generations to compile and refine evidence of the actual economic burden these “badges of slavery” imposed on the American colonies (e.g., McClelland 1969, 1973; Nettels 1952; Sawers 1992; Thomas 1965; Walton 1971, 1973). Most now believe that the overall costs imposed by the Navigation Acts were small (Whaples 1995).

In this flurry of evidence and counterevidence of the aggregate effect of the Navigation Acts, we may have missed an admittedly trivial but far more enduring impact of British mercantilism—one that continues to shape the table manners of millions of Americans at every meal of every day: the distinctively American custom of switching the fork from the left to the right hand after cutting meat. In contrast to this “zigzag” eating (Post 1928, 611), Europeans tend to keep their fork in the left hand for both cutting and eating. James Deetz, a founding father of historical archeology and renowned specialist in colonial America, attributed these differences in table manners to the belated arrival of the table fork in America and concluded that this “is one more American idiosyncrasy arising from isolation during that period” (Deetz

and Grey 1996, 170). This essay supplements Deetz' theory by offering an economic explanation for Americans' belated adoption of the fork as a common table utensil.

II. TABLE FORKS ARRIVE IN EUROPE

Deetz and Grey's (1996) explanation hinges on the evolving use and design of the table fork in seventeenth- and eighteenth-century Europe. Petroski (1994) complements this explanation with a description of the evolving "symbiotic relationship" between the table fork and the knife during this time. While forks were familiar cooking tools well before this time and were likely invented shortly after humans began cooking meat over fires, they were previously unfamiliar to most Europeans as table utensils. Prior to the appearance of the table fork, Europeans used a pointed knife to cut, spear, and eat meat. After touching meat with fingers became taboo, they began using a second knife in the passive hand to hold the meat while cutting (Elias 1939). Yet, knives—especially pointed ones—were unsettling table utensils because they looked like weapons and connoted violence.² One could soften this symbolism by producing table knives with rounded tips, which is precisely what Europeans did to the passive knife used to hold meat (Petroski 1994). The cutting knife, in the other hand, had to spear food and so retained its unsettling pointed tip.

The first table fork to appear in Europe seems to have arrived in Italy in the fourteenth century with a princess from Byzantium, where table forks had been used since at least the seventh century (Flandrin, Montanari, and Sonnenfeld 1999; Giblin 1987). During the fifteenth and sixteenth centuries, "use of the fork accompanied the spread of pasta, and in fact seems limited . . . to those areas where pasta was eaten" (Rebora 2001, 16). (Imagine eating pasta with a pointed knife and spoon and then consider the benefit-cost ratio of the table fork.) Englishman Thomas Coryarte described Italians' use of the table fork in 1611 and promoted it in Great Britain, where it soon became fashionable among the elite and nobility (Giblin 1987). By the mid-

seventeenth century, table forks were widely used among European elite and had quickly spread among simpler folk. The stage was set for rapid evolution of the table fork over the next century.

As familiarity with forks grew, Europeans faced a classic twofold adoption decision: whether and how to use a fork at the dinner table. For those who could afford a fork or already owned one, there were both practical and (increasingly) social reasons to use the fork. Adopters still faced two key questions about how to use their new utensil, for example, to eat meat. Their collective response to these questions, reinforced by social conformity, ultimately standardized European use of the fork. First, "Should I hold the fork with my right or left hand?" Most folks continued cutting with the same hand they had always used, likely their right hand given the dominance of right-handedness. The less dexterous left hand was the natural choice for the less technical maneuver of pinning meat to the plate while cutting (Petroski 1994).

Second, "Should I use the fork or the knife to put morsels of meat in my mouth after cutting them?" Petroski (1994) describes the collective European response to this question and how it shaped the design of both the fork and the knife. Prior to the arrival of forks, most folks speared and ate with the same pointed knife they had used to cut the piece, which they held in the more nimble right hand. Wielding a fork instead of a blunted knife in the left hand changed things. While one could still spear and eat the morsel with the pointed knife in the right hand, depending on where you placed your fork, this could require first sliding the morsel off the fork. In this case, there was a clear incentive to keep the morsel on the fork and eat it using the fork in the left hand, a relatively simple motion even for a right-handed person. This method had the added benefit of rendering obsolete the unsettling pointed tip on the cutting knife. With the fork in hand, a rounded tip no longer jeopardized its functionality. Apparently recognizing this fact, King Louis XIV banned all pointed knives in 1669 (Petroski 1994). Soon most table knives were designed with rounded tips. Fork designs changed too. Table fork tines were soon curved, so that it was easier to see where one was cutting while still piercing the meat squarely and easier to lift the morsel to the mouth (provided one holds the fork

2. More generally, Visser (1991) argues that etiquette and norms at the dinner table—especially regarding proper use of utensils—emerged as a means to mitigate the violence inherent in preparing and serving meals.

so the tines curve downward or “upside down” in American thinking), providing further evidence that the fork ultimately became the utensil of choice for conveying meat to the mouth.

Thus, by the mid-eighteenth century, the European use of the knife and fork had been standardized and has changed little since (Elias 1939). To describe these dramatic changes, one Frenchman writing in 1765 noted that “if people who died in 1700 could come back to life, they would not recognize Paris as far as its table manners are concerned” (Giblin 1987, 54). Nearly 160 years later, etiquette guru Emily Post would describe this same “expert way of eating” in her inaugural etiquette manual.

The knife is held in his right hand exactly as the fork is held in his left, firmly and at the end of the handle, with the index finger pointing down the back of the blade. ... Having cut off a mouthful, he thrusts the fork through it, with prongs pointed downward and conveys it to his mouth with his left hand. (Post 1922)

III. MEANWHILE, IN THE COLONIES

During the century that it took Europeans to adopt and refine their use of the fork, the American colonies boomed. Birthrates were higher and death rates were lower in the colonies than they were in England. The colonial economy had grown almost a hundredfold, and per capita income was among the highest in the world (Atack and Passell 1994). Abundant land and agriculture, especially tobacco, fueled this booming economy and sparked the development of integrated regional markets and capital markets.

The American colonists may have ultimately become at least as well off as their English counterparts, but colonial production and consumption were also directly hampered by British mercantilism. These policies grew from a single law passed in 1651 into a regulatory behemoth known collectively as the Navigation Acts. These Acts ensured that colonists shipped their raw commodities to the mother country and provided a captive market for manufactures from the mother country. They prevented the colonists from producing their own manufactures, including finished metal products such as table utensils, and required that all imports into the colonies first pass through Great Britain. The Acts thereby forced the colonists to pay the freight

charges on imported manufactured goods that could have been—and otherwise likely would have been—produced in the colonies. Based on international freight charges during the seventeenth and eighteenth centuries, this created a price premium of at least 20% on high value-to-weight goods from Great Britain such as tea and pepper (Thomas 1965). The effective price premium on lower value-to-weight goods such as tableware was surely much higher. Requiring that manufactured imports from other countries first be routed through the mother country added an estimated 40% in additional freight, handling, and customs charges to the price of tobacco (McClelland 1969). Again, this additional price premium was likely higher for manufactured goods. While the precise magnitude of the overall mercantilist price premium on tableware is unknown, these lower bounds suggest that it was at least nontrivial and probably substantial. With such a premium, it was more difficult for luxury goods to become ordinary in the colonies than in the mother country.

In pre-Industrial Revolution Europe, utensils were expensive enough that only the wealthiest households and the best inns would provide tableware for guests; the rest expected them to bring their own (Giblin 1987). The price premium imposed by the Navigation Acts may have reduced the colonists’ demand for knives and spoons, but these were considered necessary utensils for which demand was relatively inelastic. While the colonists may have tried to stretch the useful life of their knives and spoons, homemade versions were an affront to the aspirations of most colonial households (Carson 1994), so they ultimately replaced them with expensive imports.

Table forks, on the other hand, were considered a rare luxury on both sides of the Atlantic when the Navigation Acts were enacted in the mid-seventeenth century. While forks had become ordinary utensils among even “simpler folk in England” a few decades later (Deetz and Grey 1996, 168), the mercantilist price premium ensured that table forks remained luxury utensils 100 years longer in the colonies (Bedell 2000, 241). Whereas demand for spoons and knives remained inelastic in both the colonies and the mother country, the timing of this price premium effectively drove a demand elasticity wedge between the two table fork markets: demand

grew inelastic in England but remained quite elastic in the colonies. It is no wonder, then, that after Governor Winthrop of the Massachusetts Bay Colony brought what appears to be the first table fork to the colonies in 1630, it would take nearly 100 years before forks began to appear in colonial probate inventories (Carr and Walsh 1988; Deetz and Grey 1996; Main and Main 1988). While probate inventories imply that many households owned at least one table fork by 1775 (Carr and Walsh 1988; Main and Main 1988), historical evidence suggests that the fork was still an uncommon table utensil: in colonial America, "knives, spoons, and fingers, with plenty of napery, met the demands of table manners" (Dow 1935, 34).³ Although colonists were familiar with table forks on the eve of the Revolution, most considered them to be superfluous utensils. Americans had to wait for the fork to become ordinary before they could establish norms for fork usage.

With fewer table forks than their British contemporaries, the colonists may have been content to continue using pointed knives and spoons at the table,⁴ but the Navigation Acts put them at the mercy of evolving knife designs in Europe where the adoption of the fork led manufacturers to produce knives with rounded tips. As the colonists replaced their worn pointed knives with these imported knives with rounded tips, they had to modify their manners to make do without forks and pointed knives.⁵ "The only intermediate utensil available was the spoon; one could cut food and transfer it to the spoon bowl" (Deetz and Grey 1996, 169). Petroski (1994) paraphrases Deetz' explanation thus:

3. As mentioned earlier, Rebera (2001) argues that the table fork and pasta spread together through Italy in the fifteenth and sixteenth centuries. Note that pasta was less familiar to most American colonists than the table fork. While Thomas Jefferson brought the first pasta (macaroni) maker to the United States in 1789, it would take most Americans another 80 years to learn about pasta as a food item. Not until the waves of Italian immigration in the early twentieth century did pasta begin to make inroads into the American diet.

4. Using a "spike and spoon" to keep hands clean while eating may be the source of the term "spic and span" (Petroski 1994, 17).

5. While grinding a round tip on a knife into a point would have been easy, few colonists seem to have taken this route. Most colonial households were very keen to signal social status through consumption (Carson 1994). After-market modification of table knives may have simply been considered lowbrow, while round tipped knives may have been considered fashionable.

... the colonists took to holding the spoon in the left hand, bowl down, and pressing a piece of meat against the plate so that they could cut off a bite with the knife in the right hand. Then the knife was laid down and the spoon transferred from the left to the generally preferred hand, being turned over in the process, to scoop up the morsel and transfer it to the mouth (the rounded back of a spoon being ill suited to pile food upon). (Petroski 1994, 17)

Based on probate inventories alone, table fork ownership in America peaked around the Revolutionary War then declined through the 1790s (Bedell 2000). This decline turns out to be an aberration. Newly independent Americans did not abandon the table fork. Rather, the fork lost its luxury status and probate appraisers quickly stopped reporting them as distinct assets (Bedell 2000, 241). That the fork became ordinary at precisely the time that American consumers were free from the 20% to 60% price premium imposed by British mercantilism may be coincidence, but the fact that the fork became ordinary in America nearly a century later than it did in England is surely due in part to these Navigation Acts. Thus, norms regarding use of the table fork, which could only emerge broadly across society after it became an ordinary table utensil, appeared much later in America than in England—and only after rounded table knives had forced Americans to modify their table manners. Within a few decades of independence, factories had spread throughout the United States (Sawers 1992), and Americans began manufacturing their own utensils at steadily falling production costs (Carson, Kym, and Octagon 1990). Cheaper forks soon joined knives and spoons at the everyday place setting on the dinner table of the common American.⁶ And only then could Americans collectively converge on table fork manners.

Having explored the mercantilist roots of the delayed arrival of the table fork in America, we pick up Deetz' explanation where we left off. According to Deetz' theory, Americans

6. As described by Veblen (1899), high prices often protect luxury goods from becoming ordinary and luxury manners from becoming common. Veblen disparages the use of silver utensils as conspicuous consumption. If he had written his essay in eighteenth-century colonial America, he may have justly pointed to table forks as a similar manifestation. For a related perspective on the evolution of consumption goods from luxury to ordinary in seventeenth- and eighteenth-century France, see Roche (2000).

adopted the fork by simply substituting it for the spoon they had learned to use when cutting and eating meat during the colonial days. He cites as supporting evidence the fact that the four tined fork was often called a “split spoon” when it first appeared in America (Hooker 1981, 97). With the fork in place of the spoon, the zigzag was complete.

IV. CONFORMITY AT THE DINNER TABLE

Social norms constrain behavior in profound and important ways. Perhaps no setting can compare to the dinner table as a venue for relentlessly exhibiting and reinforcing the ability of these norms to induce conformity. Most anyone who has broken bread in a culture foreign to their own can attest to this. So it is that “conformity with [consumption norms such as table manners] can be vitally important to people, in spite of the fact that nothing of substance seems to be at stake” (Elster 1989, 100). Elias (1939) eloquently described these table norms:

Nothing in table manners is self-evident or the product . . . of a ‘natural’ feeling of delicacy. The spoon, fork and napkin are not invented by individuals as technical implements with obvious purposes and clear directions for use. Over centuries, in direct social intercourse and use, their functions are gradually defined, their forms sought and consolidated. (Elias 1939, 107)

. . . the conduct and instinctual life of the child are forced even without words into the same mold and in the same direction by the fact that a particular use of knife and fork, for example, is completely established in the adult world—that is, by the example of the environment. Since the pressure or coercion of individual adults is allied to the pressure and example of the whole surrounding world, most children, as they grow up, forget or repress relatively early the fact that their feelings of shame and embarrassment, of pleasure and displeasure, are molded into conformity with a certain standard by external pressure and compulsion. All this appears to them as highly personal, something “inward,” implanted in them by nature. (128)

Such a mechanism seems to have locked in the zigzag method of eating meat with a fork and knife that the early Americans adopted within decades of independence. Many Americans—perhaps even most—still zigzag two centuries later. Regardless of the explanation for the emergence of the zigzag that Americans persist in this allegedly complicated manner of eating is evidence of the powerful inertia of consumption norms (Elster 1989; Guiso, Sapienza, and Zingales 2006).

The inertia behind these path-dependent table manners proved too much for America’s etiquette guru Emily Post to handle. In 1928, she claimed that “to ‘zigzag’ the fork from left hand to right hand at nearly every mouthful is a ridiculous practice of the would-be elegant that is never seen in best society” (611). Although she was widely syndicated in radio and newspaper,⁷ her ridicule of the zigzag failed to change American table manners. Perhaps she eventually realized how deeply rooted these norms can be. In the edition of her etiquette manual that appeared shortly after her death, she softened her position on the practice: “. . . ‘zigzag’ eating . . . is not incorrect, but it is unnecessarily complicated . . . and does not have as pleasing an appearance as the simpler method of leaving the fork in your left hand” (Post and Post 1969, 543). Her great-granddaughter has since softened the position further and calls the zigzag “perfectly correct”—albeit still “unnecessarily complicated” (Post and Post 1997).

V. THE DOGGY BAG

What can we take home from this foray into the economics of fork manners?

First, meal time in the United States often perpetuates an effect of the “badges of slavery” that Great Britain imposed upon the colonists through the Navigation Acts, which ensured that the table fork maintained its luxury status in the colonies long after it had become ordinary in the mother country. The American zigzag may be an enduring impact of these mercantilist regulations.

Second, relative prices that prevail at a critical time can specifically shape culture. Relative factor scarcity—whether naturally or legally imposed—can induce technical changes that may subsequently be absorbed into local culture. In the case of techniques for cutting and eating meat, legally imposed factor scarcity and resulting price effects seem to have created a relatively sudden shift in table manners.

Third, we perpetuate established norms even when they may be “unnecessarily complicated” because they carry enormous inertia and are self-reinforcing. Once accepted as part

7. President Franklin D. Roosevelt claimed that the greatest compliment he received when he started his fire-side chats was “You’re as good as Emily Post!”

of a culture or society, norms can therefore be remarkably robust. The "unnecessarily complicated" American zigzag (Post 1928) has survived for more than 150 years despite scathing (but softening) attacks from etiquette guru Emily Post. The zigzag has endured even though the mercantilist wrinkle in relative prices responsible for its emergence faded centuries ago.

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