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“Where Has All the Flour Gone? El Niño, Environmental Crisis,
and Cuban Trade Restrictions, 1768-1778.”
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Introduction

In September 1773, merchant William Pollard wrote to his colleague Peter Holme in Liverpool about business conditions in Philadelphia. Pollard wondered why the cost of provisions such as flour, bread, and wheat was so high when demand, especially demand from the British Caribbean, was down. As an afterthought, he remarked that his fellow merchants, Thomas Willing and Robert Morris, partners in the Philadelphia merchant house Willing & Morris, were buying up all the flour they could find. They even chartered six or seven ships that belonged to other merchants and sent them to Quebec and to Maryland in search of more flour since the local suppliers could not meet their demand. Unable to understand why Willing & Morris would want to purchase so much flour, especially since the price was “the highest ever known,” Pollard dismissed their actions as speculation.¹

Pollard had no way of knowing that Willing & Morris were not speculating; instead they were trying to fulfill the stipulations of a new business venture that would prove as lucrative as it was unusual. They were gathering flour for a market that normally was forbidden to them, the

Spanish colony Puerto Rico.² The concession to import flour into Puerto Rico was unprecedented since 1740 when the British South Seas Company lost the privilege to enter Spanish ports with slaves (and anything they could smuggle).³ Spanish policy toward foreign ships had grown even more restrictive since 1763. Why, then, would Spanish officials enter into an arrangement with Willing & Morris when doing so was thoroughly inconsistent with metropolitan policy? And why did such a reversal of policy occur in 1773?

By departing from standard political and economic approaches and by examining the influence of climate and environment on Atlantic world processes, this study will answer Pollard's implied question: "Where has all the flour gone?" It argues that environmental crisis led to commercial connections among cities in the Hispanic Caribbean and Philadelphia. Spain's need for provisions also contributed to her entry into the North American War of Independence in 1779. Existing historiography argues that after the outbreak of war in 1776, Spain promoted commercial connections between Cuba and the representative assembly of the thirteen colonies, the Continental Congress. These connections were created for espionage purposes that would allow her to evaluate British strength, to gauge the likelihood of a British attack, and to determine whether or when to come to the rebellious colonies' aid. Taking an inherently political position, current scholarship universally argues that the desire to purchase foodstuffs was merely an excuse to further imperial goals and to establish espionage networks.⁴

This work will revisit late-eighteenth-century historical processes from an environmental perspective. It incorporates recent discoveries in science, specifically the correlation between El Niño events in the southern hemisphere and increased hurricane activity in the Caribbean (La Niña), and utilizes an interdisciplinary theoretical framework to seek both the causes and the consequences of historic events.⁵ By turning the logic of the political argument around, the study establishes that food shortages were not merely a rationale to engage in espionage--they were real and continuous beginning with drought in 1771, though the deadly hurricane season of 1772, to 1778. By 1772, famine threatened, and from Madrid to the American colonies, Spanish royal officials responded with emergency measures that, for all practical purposes, rescinded

metropolitan restrictions on commerce with foreigners. But while some areas recovered, bad weather and poor harvests continued in Cuba in 1774, 1775, and 1776. Combined with crisis in Havana's traditional provisioning ground, Mexico, and demands placed upon her by other areas under her jurisdiction such as Puerto Rico, the island grew even more dependent upon provisions from the north. By 1778, the Spanish declaration of Free Trade was, in reality, the culmination of more than a decade increasingly more liberal trade relations. With new markets opened in the foreign West Indies, North American merchants ultimately came to realize that they no longer needed Great Britain for their economic survival.

Historiographical Tradition and Theoretical Framework

Beginning in 1766 and continuing through the 1790s, the settlements of the Caribbean basin suffered "spasmodic climatic interludes" ranging from drought to deluge. Eighteenth century inhabitants attributed their misfortunes to Divine displeasure, but modern scholars now recognize that this was a period of severe climatic instability caused by the weather phenomena, El Niño, and its Caribbean counterpart, La Niña.⁶ But this was not an ordinary El Niño; this was a meganiño of such intensity and duration that most climatologists believe it marked the beginning of a warming trend that eventually ended the "Little Ice Age" in the following century.⁷ The existence of these climatic phenomena are not in doubt; instead the task of this paper is to evaluate their significance within the present state of our knowledge. Indeed, as this study will demonstrate, when the importance of environmental crisis is factored into the analysis, it is not surprising that this period was one of the most tumultuous in New World history, often referred to as the "Age of Revolution" or a "Turbulent Time."⁸

The long tradition of scholarship about Atlantic world political and economic history is too extensive to review, so only the most fundamental, most recent, and/or most relevant material will be cited. The first pertinent body of literature demonstrates the connections among cities along the Atlantic seaboard and ports of the Caribbean.⁹ A second tradition establishes the importance of foreign aid to the thirteen colonies, but while France is ascribed the more important role, Spanish efforts are ignored, under appreciated, or misunderstood.¹⁰ One of the

most important conduits of Spanish aid to the patriots was through the exchange of provisions for arms, ammunition, gunpowder, and most important, specie.¹¹ A vital component of the provisions trade was flour.¹² Even before independence became a consideration--never mind a possibility--North American flour made its way into the Spanish colonies through a variety of legal and illegal channels.¹³

This study will build upon this established body of scholarship, but its analysis will be carried out within the context of new conceptual, theoretical, or methodological models from a variety of disciplines.¹⁴ It implicitly accepts the incontrovertible existence of a series of El Niño/La Niña events in the latter decades of the eighteenth century.¹⁵ It demonstrates how the need for flour was caused by ecological crisis that forced Spanish bureaucrats to change their attitude towards commerce with foreigners. It further demonstrates how Philadelphia's flour made its way to the hungry populations in the Hispanic Caribbean. It incorporates a fundamental assumption in disaster research, the domino effect of disaster that establishes how crisis in one area creates a domino or ripple effect in other areas. It makes Cuba the geographic center of analysis because it was the epicenter of Spanish rule in the Caribbean, and it was also the conduit through which the most desirable and convertible money supply, Spanish milled dollars (pesos), made their way into general circulation. Even if the work of climatologists and geographers had not appeared in such a timely fashion, documentary evidence leaves little doubt about the onset of ecological crisis and the gravity of the situation on the island.¹⁶ Events in Cuba are analyzed within the context of modern research into the aftermath of disaster,¹⁷ and the island emerges as an important intersection of forces that shaped historic processes in the Atlantic world.

Harbingers of the Meganiño: The Hurricane Season of 1766

At least six major storms affected the Caribbean basin during the hurricane season of 1766, and every area from the fringes of the Lesser Antilles to the western Gulf of Mexico suffered repeated and severe damage from mid-August onward.¹⁸ The heavily-populated French island colonies were particularly hard hit; some of the worst damage was done in Martinique that endured an intense early storm on August 13. Subsequent storms devastated Montserrat, St.

Domingue, Tortuga, St. Christophers, St. Eustatia, and Jamaica.¹⁹ The disaster for Martinique and the French colonies was compounded because France had lost her agricultural colonies and had her normal supply routes disrupted when she ceded Canada to Great Britain and Louisiana to Spain.²⁰ Even before 1766, metropolitan officials in Paris took steps to liberalize trade restrictions in the remaining French colonies in the New World, but in the storm's aftermath, local officials on Martinique acted of their own accord and allowed foreign flour and biscuit (hardtack) to be imported into the colony.²¹

The Spanish colonies did not escape unscathed when storms hit Puerto Rico and eastern Cuba, but particularly hard hit was the western Gulf of Mexico where two severe storms undermined Spanish efforts to rule its newly-acquired colony, Louisiana.²² The governor, Antonio de Ulloa, was a capable bureaucrat with long experience in Spanish America, but his efforts to bring the former-French residents under control were thwarted by the collateral effects of two hurricanes that drained the limited funds in his treasury.²³ The first storm in early September grazed the northern Gulf of Mexico and finally made landfall on the Texas coast. It missed the populated areas along the Mississippi River, but it delayed construction on fortifications Ulloa planned for the entrance to the river at Balize.²⁴ The second hurricane on October 22, however, did serious damage when five Spanish convoy ships were blown off course and sank at the mouth of Mobile bay.²⁵ With the loss of the royal transports carrying the money to sustain his government, Ulloa was forced to grant economic concessions to the local residents. Among these concessions was permission to purchase flour from British settlements upstream from New Orleans in the Illinois territory.²⁶

Predictably the local governors' actions in Martinique and Louisiana brought a storm of protest from metropolitan merchants who complained that the measures were little more than a subterfuge for contraband, but Martinique's initiative was upheld by the royal government in Paris on March 30, 1767.²⁷ Two weeks later on April 14, 1767, the Spanish metropolitan government followed suit and officially granted discretionary powers to its Caribbean captains-general that allowed them to purchase foodstuffs from foreign sources in times of emergency.²⁸

The decree stands in sharp contrast to previous policy when officials on the island were severely reprimanded when they dared to seek provisions on neighboring islands in times of emergency.²⁹ Nevertheless, although the concession may be seen as a step towards liberalization, it should not be compared to the free port fever that swept other nations' Caribbean colonies in the 1760s.³⁰ While the British, French, and Dutch measures opened their respective ports to other nations' ships, Spain shrank from opening her harbors to foreigners who alone would benefit from the concession. Instead the decree placed the decision in royal governors' hands. They were the ones who could decide when crisis in their area was so severe that Spanish ships could go to the free ports and purchase provisions. Foreign ships were still unwelcome in Spanish harbors.

The significance of the crisis of 1766 has gone unnoticed and the liberalization in Caribbean trade has been seriously underestimated. Standard interpretations view these measures as long-overdue steps along a continuum that led to Spain's gradual and unwilling acceptance of Enlightenment economic philosophy. They also ascribe any movement towards liberalization to Spain's inability to control smuggling among her possessions and the British colonies. In Louisiana, in particular, Ulloa's actions are seen as a futile attempt to stem the tide of provisions from a vigorous Yankee economy pushing westward, along with a concomitant belief in the manifest superiority of free trade. Yet another perspective sees the privilege as part of a generalized movement towards reform of Spain's antiquated economic system. Reform began in 1765 and culminated with the *Reglamento para el Comercio Libre* in 1778.³¹ The free trade declaration of 1765 established a system of register ships that brought finished goods and provisions from Spain and Mexico to Cuba.³² Free trade concessions after 1765 did not extend to the mainland because the Mexican economy functioned well and reform met stiff resistance from the consulados (merchant guilds) of Vera Cruz and Mexico City.³³

One casualty that survived the movement toward free trade--albeit with its economic bases seriously eroded--was the Havana monopoly company, the *Real Compañía de Comercio de la Havana*.³⁴ Since its inception in 1740, the Real Compañía, a relic of the ancient mercantilist system, held a stranglehold on the commerce of the island, but with Charles III's

ascension to the Spanish throne in 1759, its power and privileges were curtailed. The first blow to its financial footing was to repeal its prerogative to purchase tobacco. For twenty years (1740-1760) the monopoly acted as a royal factor, all the while controlling the enormous sums of money expended to purchase the crop from Cuban tobacco farmers (vegueros).³⁵ After 1763, Spanish administrators faced two inescapable problems: population increase and food shortages. Their ineffectual attempts to deal with the problems were further undermined by the presence of a handful of British merchants who remained in Havana in spite of Spanish officials' efforts to remove them.³⁶ The "ingleses" were an unwelcome reminder to the authorities and population alike of the alternatives to the stringent Spanish commercial system. The British merchants, thus, posed a challenge not just to metropolitan bureaucrats who sought to implement freer trade on their terms, but also to the monopoly company that sought to reestablish its own dominance over the island. Yet neither the government nor the Real Compañía had a viable solution to the crisis at hand. The policy that went into effect after 1765 was threefold: to allow Spanish ships to go to Jamaica and New York to purchase provisions,³⁷ to issue orders for the English merchants to get out of Havana,³⁸ and to continue to allow the Real Compañía to import slaves and flour from Jamaica. The rationale for maintaining the Real Compañía's privileges combined the desire to eliminate foreign traders from capitalizing on Cuba's enormous purchasing power while still obtaining what only they could supply. Since the Real Compañía retained its connections with merchant houses in Kingston, the Spanish crown had no choice but to rely on it to provide flour and slaves.³⁹ The quantity of flour was directly proportional to the number of slaves, that is, for every slave the Real Compañía brought from Jamaica it was permitted to bring in two barrels of flour. Before and after the decree, however, the proportion was routinely violated.⁴⁰

As a consequence of the disastrous hurricane season of 1766 and the decree of 1767, the Real Compañía's monopoly on the flour trade was further undermined. The measure also marked a fundamental shift in the perception of contraband. From the inception of European rivalry in the Americas, contraband to the Spanish colonies flourished under a multitude of definitions and its curtailment cast a wide net. Illicit commerce involved both an internal and an external trade,

and illicit goods included almost everything that was not provided through legal channels.⁴¹

Thus, the concession of 1767 signalled an important change. Durable goods and slaves remained on the list of enumerated articles that could only be imported in limited quantities by approved carriers, while food, especially flour, became a negotiable item that under certain conditions could be imported into Cuba at the captain general's discretion.

Throughout the Atlantic world, the change in what was now legal in the Hispanic Caribbean came with repercussions for the sources of supply. For some suppliers, the concession was irrelevant or inconsequential. Great Britain produced manufactured goods that remained on the prohibited list, so suppliers of textiles, cutlery, or china still needed to sell their goods to factors in Cádiz or Bilbao, who, in turn, sold them to Spanish companies for shipment to the Americas. For the large transatlantic firms engaged in slave trading, the concession was also irrelevant as the slave trade to Cuba remained in the monopoly's hands. The situation for North American producers was different as they did not produce--indeed, were prohibited from producing--manufactured products. On the other hand their primary products were exactly what the Caribbean needed in times of crisis: provisions such as flour, Indian corn, and rice. Not surprisingly, when the news that both the French and the Spanish markets in the Caribbean were now open--albeit on a limited basis--became public knowledge, the British colonies along the eastern seaboard rejoiced. News of the concessions was announced first in newspapers in Charleston and New York in October 1766, and by January 1767 the notices appeared in Philadelphia.⁴² Up to this time, the most lucrative foreign markets in the Caribbean were the free ports such as St. Eustatia. With direct access to the French cities, North American provisions now could make their way to the Spanish colonies via Martinique, Guadaloupe, or St. Domingue through the reciprocal agreement, or continue to filter in quasi-legally down the Mississippi River to New Orleans. Moreover, North American provisions that sustained Jamaica and the Bahamas (and were smuggled into Cuba), now could become legal in crisis situations. Great Britain, however, did not receive the news with enthusiasm, and the attitude of the mother country to her continental colonies became increasingly more restrictive.

Spain's concession was intended to be a short-term expedient that was temporary and local in scope. In Cuba, it was tacitly understood that invoking the privilege was only to be done in an grave emergency. Spain remained opposed to opening the island to foreign trade, and necessary provisions were supposed to come from Mexico or Spain. Nonetheless, when analyzed as a consequence of an environmental crisis, the concessions of 1767 were not merely one discreet moment of imperial weakness but a rational and astute response to an emergency. It is clear that as early as 1766, royal officials recognized what modern scholars are just learning: in disaster's aftermath a strong correlation exists between an inadequate governmental response and political unrest.⁴³ Charles III's officials recognized that times of crisis were not the time to enact punitive measures; instead the common sense reaction should be to implement a plan to mitigate disaster's impact on the civilian population. The royal order of 1767 removed all of the circum-Caribbean captains general from the restrictions on the trade in foodstuffs, and in doing so, it gave them extraordinary power, albeit in a local context. When disaster threatened, now these men enjoyed unprecedented autonomy in setting aside both metropolitan and local regulations that would hamper recovery efforts. And even though the concessions were to be temporary, subsequent ecological crises during the remainder of the century meant that the emergency measures enacted in 1767 were invoked again and again.

Economic Schizophrenia (1767-1772) and the Hurricane of 1768

Royal pragmatism was put to the test in the aftermath the hard experience of the horrific storm of Santa Teresa that struck western Cuba on October 15, 1768.⁴⁴ This devastating hurricane that came ashore on the south coast near Batabanó and exited via the north coast near Havana ravaged the western half of the island and laid waste to 150 miles in either direction of the path of its center.⁴⁵ In Havana harbor, a fifteen-foot storm surge destroyed all but two of the fifty-five ships that lay at anchor in the bay.⁴⁶ The south side of the island sustained a direct hit, and all of the ships waiting to be loaded with tobacco at the wharf at Batabanó went to the bottom.⁴⁷ The countryside was particularly hard hit, and in the storm's aftermath, reports of the

devastation began pouring into the captain-general's residence from far and wide. If any time was appropriate to invoke emergency measures, this was it.⁴⁸

After the initial search and rescue efforts and caring for the human casualties, the authorities' immediate concern was food. The responsibility fell upon the local constables to evaluate how much of the food crop was destroyed. The most important food of the common people was the plantain, "el pan de los pobres," or the poor man's bread, and all accounts related that the plantain crop was totally destroyed.⁴⁹ In addition, major crops such as yuca, maize, and rice were ruined by flooding in areas that sustained a direct hit. Another important commodity was salt that was vital for food preservation. Most salt pans were located in coastal areas or on adjacent shallow islands, and torrential rains and coastal flooding ruined both the source of supply and the harvested salt that awaited transportation to the cities.⁵⁰

The gravity of the aftermath permitted the captain general to implement emergency measures, but he stopped short of opening the island to foreign trade, at least officially. Instead he ordered areas of Cuba that were not affected to contribute a portion of their normal crop to help the recovery.⁵¹ Compliance was not voluntary, and persons who refused were punished through fines and sentences of forced labor.⁵² Another cause for censure was speculation and/or price gouging.⁵³ Soon provisions and supplies began to arrive from unaffected parts of the Caribbean. Food was sent from the eastern end of the island, salt came from the salt pans of Venezuela, and palm thatch for roofs was provided from hamlets to the west that escaped the brunt of the storm.⁵⁴ Treasury officials diverted provisions intended for the garrison to provide for the slaves on the recently-confiscated Jesuit plantations.⁵⁵ In the neighborhoods surrounding the city, militia members, who usually were prohibited from engaging in commercial activity, were allowed to sell plantains (at pre-storm prices) to the hungry people.⁵⁶

But some areas such as the remote settlements on the south coast of the island were beyond immediate royal control, and it is clear that emergency supplies for these areas arrived through networks created by illicit commerce. For example, after the storm of 1768, a military patrol along Cuba's south coast came across a boatload of Jamaican smugglers providing

“emergency foodstuffs” to the Spanish residents in the settlements along the San Juan river. When questioned, the smugglers admitted that they had come with provisions for the starving victims.⁵⁷ Since no evidence exists to demonstrate that the smugglers were prosecuted for their crime, likely the patrol leader allowed them to return to Jamaica. Another ship that arrived from Jamaica in distress with a cargo of slaves and “other merchandise” (otros géneros) was also allowed to leave unmolested.⁵⁸

After 1768, the immediate crisis passed and life returned to normal. Restrictions were reinstated and provisioning from Jamaica and the Bahamas returned to its illegal status.⁵⁹ Louisiana was another matter, however, and fast on the heels of the crisis in Cuba, disaster of another sort occurred in late October when the French inhabitants of Louisiana revolted against Spanish rule. Ulloa was forced to flee the colony, and the insurrectionists controlled Louisiana for the winter of 1768-1769.⁶⁰ The timing of the revolt is suspicious enough to suggest that it was launched when the conspirators felt that they had the greatest chance for success. Not coincidentally, the rebellion occurred just two weeks after the storm struck Havana. More important, the timing of the rebellion is consistent with a recent trend in post-disaster theory that demonstrates a strong correlation between the destabilizing effect of disaster and the propensity for political unrest.⁶¹ In the aftermath of a disaster such as a hurricane, all state systems are strained, and people who see themselves as oppressed more often than not, take advantage of disarray in government to change their oppressed status. With the onset of the meganiño period, particularly from 1766 to 1768, an epidemic of insurrection swept the Caribbean islands.⁶² The Louisiana conspirators were likely encouraged by similar acts of resistance, and in Cuba slaves, forced laborers, and military deserters took advantage of the post-storm confusion and fled.⁶³

The following spring a military expedition of more than 2,000 soldiers was organized in Havana and brought Louisiana under Spanish dominion.⁶⁴ Spanish reaction to the rebellion is notable for its brutality, yet over the winter of 1769-1770, severe food shortages in New Orleans meant that the leader of the military expedition once again was compelled to grant special permission to merchants to trade outside the province for flour and other provisions.⁶⁵ By late

1769, Louisiana expended 70,000 pesos, nearly half of its 160,000-peso budget, for flour purchased from the “English.”⁶⁶ The floodtide of flour into New Orleans continued unabated, and by the early 1770s, royal officials did not even make an attempt to stem the tide.⁶⁷ Henceforth, Louisiana’s flour trade would be dominated by North Americans.

After 1768, a new sense of responsibility on the part of royal officials in the Hispanic Caribbean was evident, and Cubans faced future crises with a degree of confidence believing that they were better prepared to cope with disaster.⁶⁸ New decrees allowed regulations to be set aside should the need arise, and future captains-general now had the precedent to invoke emergency powers. The example of the flour trade to Louisiana, however detrimental, could be cited as a precedent in case famine should strike again. Cuba also knew that she could depend on contraband traders from neighboring islands to provide sufficient provisions if needed.

The Onset of the Meganiño : 1771-1773

By the early 1770s, royal officials had experience, legislation, and precedent at their disposal to face future catastrophes, but no one could have foreseen the extraordinary and destructive period that began in 1771 and ran through hurricane season of 1772 when nine major storms made landfall throughout the Caribbean. The summer of 1772 marked a turning point when metropolitan and local officials were forced to enact emergency measures that would prove to be a permanent arrangement. The winter prior to the disaster brought the first suggestion of the environmental crisis to come. In February, an uncharacteristic winter hurricane struck the western Caribbean, and the packetboat belonging to the monopoly that carried the new captain general to Cuba was forced to return to La Guaira (present-day Venezuela) to wait out the storm.⁶⁹ In Cuba, both ends of the island complained of an unusually dry winter--another characteristic of a La Niña--but drought was not the primary concern of royal officials.⁷⁰

Far more important issues demanded the attention of local authorities because royal policy toward contraband had returned to normal, and they concentrated their efforts in cracking down on rampant smuggling from adjacent islands that seemed to have gotten even worse in the past few years. The epicenter of the contraband trade was the province of Puerto Príncipe

(present-day Camagüey) that from the earliest days of settlement provided a haven for illicit traders. During the winter of 1771-1772, the correspondence between the lieutenant governor of Puerto Príncipe and the captain general dealt with little else but the contraband trade. Official policy always generated resentment and widespread evasion among local residents, and that winter even more so since they suffered from the effects of the drought. In late 1771, a commissioned coast guard cutter intercepted a sloop belonging to a local captain, Don Manuel Manresa, with a cargo of flour and salt on its way to a rendezvous somewhere on the north coast. In the ensuing battle, Manresa was mortally wounded, and his crew was arrested and taken to jail, but they did not remain in detention for long.⁷¹ A well-placed bribe of 400 pesos to a cooperative jailer allowed Manresa's second-in-command and his supercargo to escape and melt into the countryside.⁷²

In spite of the threat from coast guard cutters, the traffic between Puerto Príncipe and the Bahamas and Jamaica continued unabated.⁷³ In March 1772, English sloops unloaded flour at Sabana on the south coast and Viana on the north in return for hides.⁷⁴ In May, the English were back again, once again with flour and now also with salt.⁷⁵ For the most part, these transactions were friendly and conducted with the cooperation of local residents, but a disturbing incident that occurred just a week before the onslaught of months of bad weather, suggests that the traffic was not merely business as usual. In late August, the lieutenant governor of Puerto Príncipe reported that the hacienda Vertientes belonging to Lieutenant Francisco de Agramonte was attacked by an armed party of English raiders who stole several head of cattle and took two of the hacienda's tenant farmers hostage. Even more disturbing was the reason for the raid. The interlopers claimed that they had come in retaliation for being cheated in a previous transaction. The raiders mistook the hacienda of Agramonte for that of their collaborator on the island, but when they realized their mistake, they set the captives free and fled with the cattle.⁷⁶

On previous occasions, the raid would prompt the captain general to send out a party of mounted dragoons to patrol the coast and capture the guilty parties, but Havana's response was overshadowed by the ecological crisis that was developing throughout the Caribbean.⁷⁷ The

problems began in the Lesser Antilles in mid July, and on August 4 and 5, Santiago de Cuba and Bayamo suffered a storm of moderate intensity.⁷⁸ Later that month, Havana was hit by a slow-moving storm that began in the outer islands, bypassed Puerto Rico, glanced off Hispaniola, but then wobbled on a west-southwest track. Over water it gained strength and slammed into western Cuba on August 30, before continuing on its destructive journey to Mexico, where it made landfall on September 5.⁷⁹ Simultaneously, the outer islands of the Caribbean became the victims of a large and powerful hurricane that caused catastrophic damage in the Virgin Islands, St. Eustatia, Dominica, and Antigua.⁸⁰ A captain of the Spanish fleet on his way from La Coruña to Puerto Rico reported that as he sailed through the passage between Virgin Gorda and Anguilla he came across fragments of houses, beams, fences, broken masts from ships, and other vestiges of what once had been a settlement on St. Eustatia.⁸¹ Alexander Hamilton lived through the “horror and destruction” on St. Croix, and he described cowering in his house as the storm raged outside.⁸² The St. Croix storm also devastated Puerto Rico [the event that compelled Spain to purchase flour from Philadelphia] and compounded its destruction by striking Santiago de Cuba and Bayamo on September 4 and 5, both still struggling to recover from the bad weather just days before.⁸³ By September the situation facing Spanish officials in the Caribbean was critical, and in Cuba, two-thirds of the island was under water.⁸⁴ Near-catastrophe threatened.

Under normal circumstances, a series of procedures would be put into action to begin to cope with the crisis, but the hurricane season of 1772 was not a normal summer. The first line of defense was to call upon other areas of the Spanish empire to aid the stricken communities, but no part of the Hispanic Caribbean was in a position to help. No help was forthcoming from the mainland either as Mexico struggled with its own environmental crisis borne of El Niño, drought in grain-producing areas that destroyed the wheat that was destined for the Caribbean.⁸⁵ Louisiana was unable to feed its own inhabitants, never mind contributing to Cuba; Puerto Rico’s food supplies were totally destroyed; and the French islands, with whom Cuba shared trade reciprocity, were in even greater need. Even the last line of defense against starvation, English smugglers from neighboring islands, could provide no relief as the y, too, struggled to

repair their own losses. By late August all Caribbean colonies shared the misery of their neighbors, and no island could spare its food supplies in order to help another.

Once the extent of the damage became apparent, Spanish officials took unprecedented steps--with a decisiveness and rapidity that rival modern disaster responses--to alleviate the suffering in their colonies. Relying upon the concession of 1767, just six days after the hurricane struck, local officials invoked the emergency measures allowing Spanish captains to sail to foreign ports in search of food.⁸⁶ Cuban ships fanned out from the island's cities to neighboring colonies of the Caribbean basin, and within weeks cargoes of wheat, salted meat, and rice began to arrive in Havana.⁸⁷ The most dramatic departure from official policy, however, was to go outside the Spanish imperial system and establish contact with Willing & Morris. How the connection was made is still unclear, but the outcome is not in doubt.⁸⁸ From 1771 to 1773, nine ships belonging to their commercial house or under contract to them left Philadelphia bound for Puerto Rico.⁸⁹ Willing & Morris's entry into the Spanish commercial system would have direct and immediate repercussions that affected both the merchants and the market in Philadelphia (discussed in detail later in this work).

For the stricken residents of the Hispanic Caribbean, the remedial measures undertaken by their government must have been very welcome. By November 1772, there was enough food in western Cuba that ships could be loaded and sent to Santiago that was still struggling to recover from both storms.⁹⁰ Nonetheless, as late as February 1773, local officials there and in Bayamo still complained of shortages of flour and rice.⁹¹ Provisions continued to flow from Philadelphia to Puerto Rico throughout the winter of 1772-1773, and, thus, it is likely that some of Philadelphia's flour made its way to Cuba.⁹² Furthermore, while comestibles were brought in legally, it is also reasonable to assume that provisions also arrived from Jamaica and the Bahamas via contraband networks to remote landings just as they had two months previously. After August 1772, local officials' missives to Havana grew silent regarding contraband activity; all else paled in comparison to the impending famine. Clearly, the island-wide emergency transformed activities that were illegal in July into legal commerce in September.⁹³

The unprecedented crisis once again highlighted the problems inherent in the Spanish commercial system, especially the inability of the Real Compañía to provision Cuba. In 1772, the monopoly came under the scrutiny of the Spanish governing body for the American colonies, the Council of the Indies. Forced to defend themselves in front of the most powerful group of men in the empire, the primary directors of the company, Francisco de Aguirre and José de Aristegui, produced a long lament on how the inhabitants of Cuba had gotten rich while the poor company had suffered.⁹⁴ Clearly referring to Willing & Morris (although never mentioning them by name), the monopoly complained about the privileges granted to the individuals who now provisioned Puerto Rico, especially the concession that freed them from the obligation to import slaves.⁹⁵ As a last resort, Aguirre and Aristegui asked to be released from their contract if the Council would not grant them comparable consideration.⁹⁶

Indeed, among the company's most vociferous complaints was the perverse illogic of the regulation that tied the amount of flour that could be imported to the requirement to bring in a corresponding number of slaves. The company was forced to bring in what Cuba did not need--more mouths to feed--while time and again it was prevented from providing sufficient quantities of what the residents did need. When the company could not sell the slaves it brought to the island, humanitarian concerns forced the government to take possession and to sell the slaves to whomever would buy them at discount prices and on credit. Incidents occurred as early as the 1750s when the governor of Santiago de Cuba discovered a cargo from Jamaica that clearly violated the established flour-to-slave ratio. Unsure of what to do, he sequestered both the slaves and the flour. Clearly, this was an unacceptable solution because not only was the flour withheld from public consumption where it spoiled in government warehouses, but the government was forced to feed, clothe, and house the slaves while officials argued over what course to pursue.⁹⁷ A decade later in 1765, during the confusion surrounding the first wave of reform, the Company brought another shipment into Havana. The flour was sold immediately, but the Treasury had to absorb the cost of the slaves since no buyers came forward. The slaves ultimately were distributed to the tobacco growers in the western hamlets at bargain prices.⁹⁸ In another instance,

several female slaves were parcelled out to homes in Havana to be instructed in domestic arts.⁹⁹ Finally, after the crisis of 1772, the royal tobacco factor bluntly informed the governor of Santiago de Cuba that if the monopoly continued to bring in more slaves than the island's market could absorb, "[his office] would no longer buy [the slaves] to distribute to the tobacco farmers."¹⁰⁰

The Council of the Indies was also unsympathetic to the Real Compañía's ostensible plight. That body appointed two men to evaluate the benefits of retaining the monopoly as well as to investigate the reasons for the chronic food shortages in the Caribbean, Tomás Ortíz de Landaluzi, the treasurer for the American colonies, and the Council's general counsel, Manuel Lanz de Casafonda. The report they submitted in summer 1772 was scathing. To begin, they concluded that the company was absolutely inept, and they termed it "an embarrassment to itself and to the Spanish nation." One important impediment was the animosity among the current directors, Aguirre and Aristegui, their partisans, and José María de Enrile, the most competent member, who also had the most experience in commercial matters. Ortíz and Lanz concluded: "[this organization] cannot continue as it has up to now."¹⁰¹ Shortly thereafter, the Council of the Indies acted to remedy the situation. The Real Compañía was reorganized with Enrile at its head, and his son, Gerónimo, was named as their factor at Havana. A lengthy new set of regulations accompanied the reorganization that Enrile and his partners agreed to observe.¹⁰²

At the same time, however, the Council of the Indies recognized the validity in some of the complaints voiced by the old directors, and they concluded that the quantities of flour and slaves should be uncoupled. Ortíz and Lanz further reported that an obligation to maintain 2,000 barrels of flour on hand was a bad idea because flour spoiled quickly in the tropics. It was not possible to maintain it for more than four to six months, and in four months the inhabitants could not consume more than a third of the 2,000 barrels. When the monopoly demanded that the bakers' guild to buy the rancid flour anyway, the enraged citizens dumped the barrels into the harbor.¹⁰³

The hard lessons of coping with environmental crisis that stretched from Mexico to Puerto Rico forced an obvious change in attitude among the King and his counselors. To begin, in September 1772, the requirement linking flour and slaves was rescinded.¹⁰⁴ At the same time, the quantity of flour that needed to be warehoused at any given time was reduced from 2,000 barrels to 600. The counselors also addressed the issue of how to deal with the extraordinary demand that occurred in a disaster's aftermath. The present expedient, to allow one single shipment that brought in a large quantity of flour, was an unsatisfactory solution because the flour spoiled before it could be consumed. Spanish officials recognized the need for dependable supplies of the "vital and indispensable commodity," and furthermore, that they would have no choice but to authorize regular but smaller shipments into Caribbean cities.¹⁰⁵

Yet because of the propensity to engage in contraband, royal advisors harbored a strong aversion to permitting foreign suppliers into Spanish American ports. This reluctance to allow her islands direct commerce with foreigners resulted in a unique--albeit convoluted--solution. After 1772, foreign ships, particularly those from Philadelphia, were permitted to sell their provisions in certain Spanish peninsular cities, and from there flour was transshipped to the Caribbean in Spanish ships.¹⁰⁶ Most flour entered through the port of Cádiz, but northern cities such as Bilbao, Ferrol, and La Coruña also received lesser quantities in fewer shipments.¹⁰⁷ The change exacerbated a rivalry within the Spanish imperial system among peninsular port cities as groups in each area fought tenaciously to retain their existing prerogatives.¹⁰⁸

Thus, it seems clear that the crisis generated by drought followed by catastrophic hurricanes from 1771 to 1772 (a meganiño and meganiña) marked a turning point when Spanish royal officials were obliged to foreign provisions through emergency channels. The concessions came none too soon for the brief interlude in 1773 proved to be far too short. In 1774, once again the Caribbean struggled with environmental crisis, this time with a different outcome. In late October the western end of Cuba received the brunt of a storm of medium intensity, and predictably, in the villages surrounding Havana, all of the major food crops were destroyed.¹⁰⁹ By then, however, because the new regulations were in place that disengaged flour

from slaves, a regular commerce had developed between the two islands.¹¹⁰ Even before the hurricane season of 1774, Jamaican merchant Peter Barral was in contact with factor Gerónimo Enrile suggesting that Enrile let him know in advance how many barrels of flour the monopoly would need for the coming months so he could order them from Philadelphia or New York¹¹¹ The following summer, the monopoly's ship *Industry* was already on its return journey to Havana laden with flour and only eight slaves when the hurricane hit. Her cargo was quickly unloaded, and the sloop departed immediately on its return trip to Kingston in search of more provisions.¹¹²

”Will they not go where a famine price is to be had?”

One of the paradoxes inherent in disaster studies is that while some areas will suffer, other areas will reap the benefits of markets driven by need and scarcity. Thus, while the meganiño of the 1770s brought disaster and famine to the Caribbean, it offered unparalleled opportunity to the provisioners in the thirteen colonies. Several studies have demonstrated how the provisions trade from Philadelphia to the West Indies and southern European cities grew dramatically in the early 1770s; contemporaries certainly were aware that demand in Cádiz was pushing commodities' prices upward.¹¹³ The Customs House records for the port of Philadelphia further demonstrate this trend. From 1766 to December 1770, before the onset of the meganiño, approximately fifty-two ships left Philadelphia for destinations in Spain. Afterward, from January 1771 through July 1775, when the records end, ninety ships cleared the harbor for Spanish ports. The majority of these vessels (75) were bound for Cádiz, but the northern cities Ferrol and La Coruña received five and ten ships respectively.¹¹⁴ These basic figures demonstrate that in terms of the number of vessels the trade nearly doubled, but a word of caution is in order. At no time during the period under study did the traffic to Spanish peninsular cities represent anything more than a small fraction of the total commerce of the port, which, of course, raises the question of the trade's relative significance beyond a small, unrepresentative sample. Nevertheless, what the figures do demonstrate is a willingness on the part of Spanish bureaucrats to accept provisions from theretofore prohibited sources.

These sources included virtually all of Philadelphia's most prosperous merchant houses who, from 1771 through 1775 and beyond, sent vessels laden with produce to Spain. The list of owners whose ships cleared for the peninsula reads like a who's who of the city's mercantile elite.¹¹⁵ Leading the list were the ubiquitous Thomas Willing and Robert Morris, the city's richest and second richest men, respectively.¹¹⁶ At any given time, their firm had several ships en route to and from multiple destinations outside the British empire such as Lisbon, Cádiz, Ferrol, New Orleans, Puerto Rico, and Guadaloupe. Willing & Morris shared the Spanish market with many other distinguished merchants such as John Wilcocks (third richest man), Reese Meredith (fifth richest man), Joseph Wharton, Jr. (sixth richest man), Josiah Fisher, Richard Waln, and the partners in the firms Conyngham & Nesbitt, Hodge, Bayard & Hodge, and Purviance & Son.¹¹⁷

As was customary, the trade was conducted by factors who were well placed to receive the cargoes and to sell them at the most advantageous price. Willing & Morris dealt with several different men who were long established in their respective European cities.¹¹⁸ In Cádiz they used the services of Duff & Welsh, and on occasion those of the firm Noble & Harris.¹¹⁹ A long-time contact and staunch supporter of the American cause was Etienne Cathalan of Marseilles who transhipped Willing & Morris's provisions into Barcelona.¹²⁰ In northern Spain, the Philadelphians dealt with José de Gardoqui of the firm Gardoqui & Son of Bilbao.¹²¹ These transactions were not always without complications, and there appears to have been no small amount of resentment against the Americans by the entrenched Spanish firms. To begin, the Philadelphians were entering a fiercely competitive system characterized by personal and regional rivalries between and among family networks in northern Spain, southern Spain, the Mediterranean coast, and Madrid.¹²² Among them were the representatives of the Havana Company, who shared the jealousies inherent in trying to protect their privileged markets in Cuba. As a consequence, their reception of the Philadelphia merchantmen was less cordial than that of their government or of their fellow citizens in the Caribbean. In 1776, for example, Willing & Morris had difficulty in marketing one of their cargoes when the merchant guild in

Cádiz refused to accept the shipment. It appeared the ship would be turned away, but at the last minute, Willing & Morris's agents, Duff & Welsh, succeeded in convincing a Spanish factor to take the responsibility for the flour on board.¹²³

Philadelphia's established merchants were in a position to capitalize on the newly-opened markets, but not all of the residents benefitted from the unexpected windfall. By turning to the market in Philadelphia, Spanish officials created a demand that set into motion a domino or ripple effect that did not always have positive results. When Willing & Morris began to buy up all the available flour in the city and in its hinterland, prices for all manner of provisions began to rise, and they remained inordinately high for nearly three years.¹²⁴ Contemporaries never failed to remark about how the high prices adversely affected their opportunity to launch successful "adventures," most notably to the British Caribbean islands.¹²⁵ William Pollard's letter to his Liverpool colleague was but one of many that he wrote over the course of a year.¹²⁶ Pollard's complaints were echoed by fellow merchant James Drinker who described the "excessive(ly) high price of provisions . . . this season."¹²⁷ The increase in Philadelphia's prices meant that consumers in the British and French Caribbean islands were forced to pay more for the provisions they received.¹²⁸ In and around Philadelphia, more land was brought under cultivation as farmers sought to capitalize on the demand,¹²⁹ but by 1775, the uncertainties of an impending war meant that the same farmers now endured a precipitate drop in the prices their crops could command.¹³⁰

Upon its inception, it is unlikely that Philadelphia's merchants viewed trade with Spanish cities as anything but a one-time stroke of good fortune. When, then, did the perception of the trade change for both sets of participants? The precise moment when Philadelphia's mercantile community began to view foreign markets as an alternative to Great Britain's economic system is impossible to ascertain. Equally difficult is gauging the importance of the Spanish trade in the minds of the delegates to the Continental Congress, but they could hardly have ignored the numerous ships bound for Cádiz, La Coruña, and other ports outside the British empire that were loading at the wharves along the Schuylkill River just blocks from where they were meeting.

From July 1774 to July 1775, the period that coincided with their first and second meetings, the *Pennsylvania Gazette* announced the departure of at least twenty-six such ships, while at the same time Philadelphia's provisioners faced an uncertain domestic market.¹³¹

By the time the delegates met for the first time in fall of 1774 to discuss their economic and political future within the British empire, the opportunities offered by the foreign market were beyond doubt. The winter of 1774-1775 was a critical juncture in the relationship between the thirteen colonies and London. One of the proposals facing the Congress was whether and/or when to implement an embargo on imports and exports to Britain and the West Indies. These prudent and cautious men knew that their survival depended upon their ability to market their produce. Without trade, the nation could not survive. The Congress needed arms, ammunition, and gunpowder; they also needed money; and Congress's good credit had to be maintained. Without trade they could not get intelligence about British troop movements. The delegate from Georgia summarized the situation: "If we must trade we must trade with somebody and with somebody that will trade with us, either foreigners or Great Britain. If [we must trade] with foreigners, we must either go to them or they must come to us."¹³²

On one hand, the Continental Congress was dealing from a position of strength. The colonies produced more than 120,000 pounds worth of provisions more than was necessary for their own consumption.¹³³ The food and other products such as naval stores, flax, livestock, and iron were absolutely essential to Britain's economy. Their threatened embargo would "come upon [Britain] like a thunderclap.... Great Britain is much more in our power than I expected," voiced another delegate from Connecticut.¹³⁴ The West Indies were particularly vulnerable; they could not exist without provisions from North America for six months.¹³⁵

The delegates were also aware of their vulnerability especially once reconciliation with Great Britain was no longer possible. Congress knew that their only alternative was to trade with foreign powers and to apply to them for protection.¹³⁶ Even though thirteen independent colonies might pose a threat to France and Spain, on the other hand Britain's rivals would be glad if North America were an independent state.¹³⁷ The delegates recognized the need to invite

as much foreign trade as possible, and the ideal situation was that North American ships would seek out the best markets.¹³⁸ Past experiences worked in their favor. The delegate from Georgia favored trade with the French West Indies, basing his conclusion on the experiences in the last war when New England's merchants went to Cap Français (St. Domingue). He warned against relying upon trade with the Spanish colonies: "The Spaniards are too lazy to come to us."¹³⁹ But Maryland's delegate was more optimistic: "We have letters from Guadaloupe, Martinique and the Havanna [assuring us] that they will supply us with Powder for Tobacco."¹⁴⁰ John Adams, one of the most fervent patriots, worried whether contraband traders would undermine the embargo they hoped to impose on the British islands, and he wrote to a colleague: "Will they not go to the place where a famine price is to be had?"¹⁴¹

In October 1775, the Continental Congress enacted a resolution that authorized exports to foreign ports in exchange for arms, ammunition, gunpowder, and cash.¹⁴² Their actions changed the trade patterns throughout the Atlantic world as they fought to carve out their own economic niche. In seeking to punish Britain and the West Indies, Congress cut out the middlemen in Jamaica and the Bahamas, and within weeks American merchantmen were authorized to sail to any port that would welcome them.¹⁴³

Congress's need for arms and ammunition also added a new dimension to the exchange. Whether legal or illegal, the trade no longer involved an occasional boatload of North Americans arriving at remote landings in Cuba expecting to trade for a shipment of tobacco or hides. Now the traders desired what no individual anywhere in the Spanish empire could provide: munitions and large sums of cash. Charles III and his ministers had no choice but to intervene and to institutionalize the exchange. Trade between the Spanish empire and North America now involved restricted goods and large sums of money, and such a trade could only be conducted by men who enjoyed the absolute confidence of royal officials. Spain's first response was to rescind the captain general's ability to issue individual licenses for foreign ports, but unlike previous occasions, the action was not taken to end the trade but to regulate it.¹⁴⁴

Spain did not support the political ideals of the North American Revolution, but she had good reason to maintain good economic relations with the thirteen colonies since the ecological crisis in the Caribbean continued without respite.¹⁴⁵ From 1775 through 1778, Cuba suffered at least one major hurricane every year interspersed with drought, and the need for provisions did not diminish.¹⁴⁶ By 1776, Willing & Morris were sending regular shipments of provisions to their factors in Cádiz, and at least some of that flour was transshipped on to Havana.¹⁴⁷ But the exigencies of war intervened, and British patrols made the North Atlantic more and more perilous for American ships. In early 1776, Willing & Morris installed commercial agents in Caribbean cities such as Mole San Nicholas and Cap Français both on Hispaniola, and in St. Pierre on Martinique, and they in turn secured necessary items from sympathizers in Marseilles, Nantes, and Bilbao. In so doing, they effected a complete realignment in Atlantic trading patterns.¹⁴⁸ In spite of the dour prediction that Spain would not seek out North American provisions, in early 1776, the first three emissaries went out from Havana to make contact with the representatives of the Continental Congress. In 1776, on the verge of declaring war on Portugal, Spain chose not to deal openly with North America, but the desire for secrecy did not alter the continued need for flour.¹⁴⁹ The new minister of the Indies, José de Gálvez in consultation with the captain general of Cuba, chose a man who had served the Spanish monarch in various capacities since the 1760s, French-born Colonel Antonio Raffelín, to act as purchasing agent for the royal monopoly in Cap Français.¹⁵⁰ Willing and Morris's agents Stephen Ceronio in Cap Français, John Dupuy in Mole San Nicholas, and William Bingham in St. Pierre transshipped goods and messages between and among the parties.¹⁵¹ Over a period of three years, from June 1776 through 1778, Spain transferred almost a million pesos to North American representatives in Paris.¹⁵² In 1778, after severe food shortages limited the quantity of flour that was available for export from Philadelphia, Havana merchant and royal emissary Juan de Miralles travelled to Philadelphia seeking to buy the indispensable commodity. There, as was befitting his status, he moved in the highest circles among the leaders of the newly-independent nation.¹⁵³ Finally (observed one historian): "As for the North Americans, it would not be

pressing too far to suggest that their war for Independence was fought to liberate trade as much as their polity; it was for them a legitimization of the illegitimate.”¹⁵⁴

Conclusion

The final four decades of the eighteenth century are one of the most studied periods in history, justifiably so since it was a time of significant change. Characterized by political, economic and social upheavals, this “age of revolution” has been investigated from innumerable scholarly perspectives. In an age of *laissez-faire* and free trade, Spanish economic policies are routinely characterized as backward. When studying the Hispanic Caribbean, the analysis must also take into consideration the predominance of the Real Compañía de la Havana, the proximity of the British colonies, the presence of British merchants, the prevalence of contraband, and changing world politics. When local authorities and residents acted autonomously and/or in concert with British subjects, their actions are usually seen as complicity in the contraband trade. Recent findings by climatologists and geographers that establish the existence of the El Niño/La Niña phenomenon offer an alternative explanatory framework to approach the issues of the late eighteenth-century Atlantic world. Recent trends in disaster studies provide innovative theoretical and methodological frameworks, and evidence gathered from primary sources in a variety of archives verifies that the Caribbean basin suffered from nearly four decades of climatic instability ranging from hurricanes to drought.

This combination of evidence and theory provides a more satisfying explanation for a series of events that coalesce around key dates in the 1760s and the early 1770s. One of the most perplexing questions involves establishing the significance of the period from 1771 through 1773, when both Spanish and North American sources demonstrate a noticeable change in trade patterns and metropolitan attitude. Why did Spain choose to go outside the Spanish empire to seek foodstuffs precisely at this moment? What motivated the Spanish government to violate its

own regulations and then continue to move toward free trade rather than to retreat into protectionism once the crisis had passed? Concepts rooted in disaster studies lead to the conclusion that environmental crisis demanded that metropolitan ministers and captains general work together to mitigate the effects of disaster on the people of the Hispanic Caribbean. The repeated instances of catastrophic hurricanes alternating with drought, characteristics of the El Niño/La Niña sequence, meant that in spite of the wishful thinking on the part of Spanish officials, they were left with no choice but to purchase provisions outside the Spanish imperial system. This policy of disaster mitigation began as early as 1765. It was intended to be local and temporary, but Mother Nature failed to cooperate with royal officials. Perhaps the most unexpected finding was that direct trade was initiated between Philadelphia and Puerto Rico in 1772 and 1773, a trade that must have had the approval of Spanish authorities at the highest levels. The same authorities forced the reorganization of the Havana monopoly company and redefined its function within the empire. These reforms came with a concomitant opening of peninsular ports to ships from Philadelphia. For the city's wealthy merchants, for the shipbuilding and the shipping industry, and for farmers in the hinterland, the new markets meant increased wealth, but for other sectors in the British economic system, it led to increased prices and economic uncertainty.

The findings of this research may also be related to larger processes in both regions. For the Spanish imperial system, it is clear that the much-heralded declaration of Free Trade in 1778 was the culmination of more than a decade of movement towards liberalization. It further suggests that necessity and pragmatism were as responsible for the declaration as politics or ideology. Even more provocative questions may be asked for United States history, specifically whether and/or to what extent the newly-opened Spanish markets influenced the decisions of the delegates to the Continental Congress. By the time the delegates met in May 1775, the need to market their products outside the British economic system was obvious. The fact that they debated the desirability of securing foreign markets presumes beforehand the availability of such markets. Put another way, the delegates must have known that their ships would be welcomed in

the ports of France and Spain. And while the trade with French ports likely was substantial, their potential paled in comparison to the possibility of trading legally and openly with the cities of Spain and the Spanish Caribbean. Thus, while the availability of the Spanish market after 1772 might not have been a primary cause for the movement for independence, it certainly was an issue that captured the attention of the delegates in Philadelphia on numerous occasions. For modern researchers is it an explanation that merits consideration and deserves further study.

Acknowledgments

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Endnotes to "Where Has All the Flour Gone?"

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 2. José de Gálvez to Juan Ignacio de Urriza, Intendent of Havana, Aranjuez, 20 April 1781, legajo 3, Asuntos Políticos, Archivo Nacional de Cuba (hereafter ANC), Havana, Cuba. Although dealing with the best way to obtain provisions in 1781, Gálvez told Urriza that "the honorable Robert Morris" had always come to the aid of the Spanish colonies in time of need (referring to the crisis in the 1770s).
 3. Vera Lee Brown, "The South Sea Company and Contraband Trade," American Historical Review, 31 (July 1926), 662-678. Electronic copy from JSTOR.
 4. Juan Fernando Yela Utrilla, España ante la independencia de los Estados Unidos 2d ed., 2 vol. (Lérida, 1925); Kathryn Abbey Hanna, "Efforts of Spain to Maintain Sources of Information in the British Colonies Before 1779," The Mississippi Valley Historical Review 15 (1928), 56-68; Mark F. Boyd and José Navarro Latorre, "Spanish Interest in British Florida and in the Progress of the American Revolution," Florida Historical Quarterly 32 (1953), 95-121; Light Townsend Cummins Spanish Observers and the American Revolution, 1775-1783 (Baton Rouge: Louisiana State University Press, 1991).

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5. César N. Caviedes, El Niño in History: Storming Through the Ages (Gainesville: University Press of Florida, 2001), 146-50.
 6. Caviedes, El Niño in History, 167-68, 206; “Five Hundred Years of Hurricanes in the Caribbean: Their Relationship with Global Climate Variations,” Geojournal 23 (April 1991), 301-10. Reports about the hurricane of 1768 provide numerous examples invoking Divine mercy. “Relación que [illeg] lo acesido en la Ciudad de la Havana, su Puerto, extramuros, Jurisdicción y Partidos el dia 15 de Octubre del corriente año...,” Archivo General de Indias (hereafter AGI), Papeles Procedentes de Cuba (hereafter PC), Legajo 1097, 24 October 1768.
 7. Caviedes, El Niño in History, 201. Geographers and climatologists date the little Ice Age as lasting from c. 1450 through c. 1850; César N. Caviedes, Personal communication to author, October 24, 2000.

I have employed the term “meganiño” for the purpose of distinguishing four decades of alternating periods of drought and deluge from 1760 through 1800. This paper is part of a larger study that investigates the significance of these phenomena, Mercantilism Meets Mother Nature: El Niño’s Atlantic World Repercussions in the Age of Revolution. During the course of this research, I have discovered evidence of severe weather worldwide all coalescing around the years 1770-1772. My thoughts have benefitted from the advice of Professor Caviedes, above, and from the generosity of Professor Robert H. Claxton, who, upon learning of my study, graciously shared some of his many publications with me. See Robert H. Claxton, “The Record of Drought and Its Impact in Colonial Spanish America,” in Themes in Rural History of the Western World, Richard Herr, ed., (Ames, Iowa: Iowa State University Press, 1993), 194-226, “Climatic and Human History in Europe and Latin America: An Opportunity for Comparative Study,” Climatic Change 1 (1978), 195-203, “Climate and History: From Speculation to Systematic Study,” The Historian 45 (February 1983), 220-36. I am very grateful to both scholars for their advice and thoughtfulness.

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 12. John H. Coatsworth, "American Trade with European Colonies in the Caribbean and South America, 1790-1812," *William and Mary Quarterly*, 3d. ser., 24 (April 1967), 243-66; Doerflinger, *Vigorous Spirit*; James A. Lewis, "Nueva España y los esfuerzos para abastecer la Habana, 1779-1783," *Anuario de estudios americanos* 33 (1977), 501-26; Linda K. Salvucci, "Anglo American Merchants and Strategems for Success in Spanish Imperial Markets, 1783-1807," *The North American Role in the Spanish Imperial Economy, 1764-1819*, Jacques A. Barbier and Allan J. Kuethe, eds., (Manchester: Manchester University Press, 1984), 127-33, and "Supply, Demand, and the Making of a Market: Philadelphia and Havana at the Beginning of the Nineteenth Century," *Atlantic Port Cities: Economy, Culture, and Society in the Atlantic World, 1650-1850*, Franklin W. Knight and Peggy Liss, eds. (Knoxville: University of Tennessee Press, 1991), 40-57; Cummins, *Spanish Observers*, 115-27; Rodríguez Vicente, "El comercio Cubano," 69, 94-101.
 13. The legal (and preferable) way from the Spanish crown's point of view was via Cádiz. The second legal route was via the royal monopoly that purchased the product in Jamaica, and a third way was to send Spanish ships to neighboring free ports such as St. Eustatia. North American flour also entered through Louisiana where difficulties in maintaining an adequate supply set a precedent that was invoked when crisis threatened elsewhere. The final way that Spaniards obtained British flour was through the oldest (and perhaps most advantageous and efficacious) method, smuggling from the neighboring islands in the Bahamas and Jamaica.
 14. Stuart B. Schwartz, "The Hurricane of San Ciriaco: Disaster, Politics, and Society in Puerto Rico, 1899-1901," *Hispanic American Historical Review* (August 1992), 303-34; Louis A. Pérez, Jr., *Winds of Change: Hurricanes and the Transformation of Nineteenth-Century Cuba* (Chapel Hill: University of North Carolina Press, 2001); Ted Steinberg, *Acts of God: The Unnatural History of Natural Disasters in America* (Oxford: Oxford University Press, 2000); Sherry Johnson, "The Rise and Fall of Creole Participation in the Cuban Slave Trade, 1789-1796," *Cuban Studies/Estudios Cubanos* 30 (1999), 54-75; José Hernández Partagás, "Poey, Viñes y Millás: Contribuyentes de Cuba al conocimiento básico de la meteorología," MSS copy, Otto G. Richter Library Special Collections, University of Miami, Miami, FL.
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 16. Archival materials in Seville, Spain, in the Archivo General de Indias, Papeles de Cuba, Indiferente General, and the Audiencia de Santo Domingo and in the Archivo Nacional de Cuba in Havana, Cuba, were the primary sources of evidence for the Hispanic Caribbean. For the British colonies, the author relied upon the archival collections in the Library Company of Philadelphia and the Historical Society of Pennsylvania, both in Philadelphia.

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 18. José Carlos Millás, Hurricanes of the Caribbean and Adjacent Regions (Miami: Academy of Arts and Sciences of the Americas, 1968), 219-25; David M. Ludlum, Early American Hurricanes, 1492-1870 (Boston: American Meteorological Society, 1963), 62.
 19. Millás, Hurricanes of the Caribbean, 219-220.
 20. John Robert McNeill, Atlantic Empires of France and Spain: Louisbourg and Havana, 1700-1763 (Chapel Hill: University of North Carolina Press, 1985).
 21. Dorothy Burne Goebel, "The 'New England Trade' and the French West Indies: A Study in Trade Policies," William and Mary Quarterly 3d. ser. 20 (January 1963), 352, n. 57. The trade liberalization in the French colonies was consonant with similar concessions in the British colonies. See Dorothy Burne Goebel, "British Trade to the Spanish Colonies, 1796-1823," American Historical Review 43 (January 1938), 289-91 Electronic copy from JSTOR.
 22. Bartolomé de Morales to Governor of Cuba, 12 October 1766, Santiago del Prado, Expediente 62, Legajo 24, Correspondencia de los Capitanes Generales (hereafter CCG), Archivo Nacional de Cuba (hereafter ANC), Havana, Cuba; Millás, Hurricanes of the Caribbean, 219-220. Admiral George B. Rodney sarcastically described Louisiana as "another desert for her [Spain's] empire." Quoted in Robert R. Rea, "A Distant Thunder: Anglo Spanish Conflict and the American in the Eighteenth Century," Cardenales de dos independencias (Mexico City: Fomento Cultural Banamex, 1978), 178
 23. Robert S. Weddle, Changing Tides: Twilight and Dawn in the Spanish Sea, 1763-1803 (College Station, TX: Texas A & M University Press, 1995), 10-23; Francisco de Solano Pérez-Lila, La pasión de reformar: Antonio de Ulloa, marino y científico, 1716-1795 (Seville, 1999), 220; Antonio Acosta, "Las bases económicas de los primeros años de la Luisiana española (1763-1778)," Antonio Acosta and Juan Marchena Fernández, eds. La influencia de España en el Caribe, la Florida, y la Luisiana, 1500-1800 (Madrid: Instituto de Cooperación Iberoamericana, 1983), 331-75; John Preston Moore, "Antonio de Ulloa: A Profile of the First Spanish Governor of Louisiana," Louisiana History 8 (Summer 1967), 189-218, "Revolt in Louisiana: A Threat to Franco-Spanish Amistad," Ernest F. Dibble and Earle W. Newton, eds., Spain and her Rivals on the Gulf Coast (Pensacola, 1971), 40-55; Gilbert C. Din, Francisco Boulogny: A Bourbon Soldier in Spanish Louisiana (Baton Rouge, 1993), 31-35; Jack D. L. Holmes, "Some Economic Problems of Spanish

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- Governors in Louisiana,” Hispanic American Historical Review 42 (November 1962), 521-24. While Spanish rule in Louisiana is routinely characterized as tenuous, an alternate interpretation is offered by Gwendolyn Midlo Hall, Africans in Colonial Louisiana: The Development of Afro-Creole Culture in the Eighteenth Century (Baton Rouge: Louisiana State University Press, 1992), 276, who argues that: “Spain actually ruled Louisiana between 1769 and 1803, a little over three decades. Spanish rule was a vast improvement over French rule.”
24. Ludlum, Early American Hurricanes, 62; Weddle, Changing Tides, 10-23.
 25. Ludlum, Early American Hurricanes, 62-63.
 26. Weddle, Changing Tides, 10-23.
 27. Goebel, “New England Trade,” 352.
 28. Roy F. Nichols, “Trade Relations and the Establishment of the United States Consulates in Spanish America,” Hispanic American Historical Review 13 (August 1933), 293.
 29. Governor of Santiago de Cuba to Captain General of Cuba, 1 April 1751, Santiago de Cuba, expediente 39, legajo 5, CCG, ANC; Governor of Santiago de Cuba to Martín Estéban de Aróstegui (lieutenant governor of Puerto Príncipe), 8 April 1755, Santiago de Cuba, expediente 284, legajo 7, *ibid.*
 30. Burne Goebel, “British Trade,” 290-91. See also, Pennsylvania Gazette, 29 January 1767, 15 September 1768, and 12 October 1769, LCP, for notices of the opening of Caribbean free ports.
 31. Antonio García-Baquero González, Cádiz y el atlántico (1717-1778): (El comercio colonial español bajo el monopolio gaditano) (Seville: Escuela de Estudios Hispano-Americanos, 1976), 210-15.
 32. García-Baquero González, Cádiz y el atlántico, 208-10.
 33. Javier Ortiz de la Tabla Ducasse, Comercio exterior de Veracruz, 1778-1821: Crisis de dependencia (Seville: Escuela de Estudios Hispano-Americanos, 1978); Geoffrey J. Walker, Spanish Politics and Imperial Trade, 1700-1789 (Bloomington: Indiana University Press, 1979); John R. Fisher, “Imperial ‘Free Trade’ and the Hispanic Economy.” Journal of Latin American Studies 13 (May 1981); David Ringrose, Spain, Europe, and the “Spanish Miracle,” 1700-1900 (Cambridge: Cambridge University Press, 1996).
 34. McNeill, Atlantic Empires, 197-201; Montserrat Gárate Ojanguren, Comercio ultramarino e ilustración: La Real Compañía de la Habana vol. 6, Colección Ilustración Vasca (San Sebastián: Departamento de Cultura del Gobierno Vasco, 1993), 170-72, concludes that “In 1765, the Real Compañía de La Habana had ceased to be a privileged company.”
 35. Charlotte A. Cosner, “Black, White, Slave, and Free: A Social History of Cuba’s Vegueros (Tobacco Farmers), 1763-1817,” Ph.D. dissertation, Florida International University, in progress; José Rivero Muñíz, Tabaco: su historia en Cuba 2 vol. (La Habana: Instituto de Historia, Academia de Ciencias de la República de Cuba, 1964-1965).

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36. “Lista de los negociantes yngleses a quienes escrivi de orden del Exmo Sr Cdr para entregarme ynventarios de los géneros existentes en su poder: Sres. Hodey y Fanning, Sres. Jaffay y Wimot; Sres. Sims y Talbot, Sres. Bell y Fogo, Don Cornelio Coppinger, Don Alexandro Munro; Don Alexandro Macculloch; Don Pedro Ritchie); Sres. Stalker y Pyott; Sr. Kern,” Havana, 1765, legajo 1212, Audiencia de Santo Domingo (hereafter SD), AGI
 37. Miguel de Altarriba, 7 March 1765, Conde de Ricla, 7 March 1765, Havana, legajo 1212, SD, AGI, both granting permission to a packetboat, *La María*, with a French captain, Francisco Salvator, and French registry to go to New York to get food. See also Intendent of Havana (Altarriba), Havana, 25 May 1764, 25 May, 30 May 1765, *ibid.*, and 21 March 1765, legajo 1213, SD, AGI.
 38. Royal Orders, (1765) *ibid.*
 39. José Osorio to George Paplay (in Jamaica) Havana, July 1764 to February 1765, legajo 1212, SD, AGI.
 40. Governor of Santiago de Cuba to the Captain General of Cuba, 30 August? 1751, Santiago de Cuba, expediente 197, legajo 5, CCG, ANC.
 41. Documentary evidence about the changing nature of contraband abounds in AGI, Audiencia de Santo Domingo (hereafter SD), legajo 1134, 10 September 1764, 22 May, 6 September, 6 December 1765; legajo 1135, 5 February, 19 April, 5 June, 6 June 1766, and in Cuban archives in legajo 5, expediente 1, 11 September 1747, expediente 44, 22 November 1750; the ongoing case begun in legajo 6, expediente 53, 7 April 1753; and legajo 7, expediente 26, 27 September 1757, all CCP, ANC, among many others.
 42. Pennsylvania Gazette, January 29, 1767, Pennsylvania Gazette on line, Accessible Archives, Library Company of Philadelphia (hereafter LCP) Philadelphia; Goebel, “New England Trade,” 352.
 43. Olson, “Towards a Politics of Disaster,” 283.
 44. AGI, Correos, Legajo 257-A, 30 March 1774. When royal officials spoke of the storm six years later, they reported that it “still made people tremble.”
 45. Estado que comprehende las desgracias que causó el huracán el día 15 de octubre en la ciudad de la Havana (Cádiz: Imprenta Real de Marina, 1768), and Estado que comprehende las desgracias que causó el huracán el día 15 de octubre en la ciudad de la Havana (Madrid: Imprenta de Francisco Xavier García, 1769), both AGI, SD, Legajo 1594. The accounts differ only in the number of houses that were destroyed in Guanabacoa. Historically, the storms that have caused the most damage from wind and storm surge (1794, 1844, 1846, 1926, 1944, and most recently, Michelle 2001) have followed the same trajectory, i.e. entering along the south coast and exiting toward the north.
 46. AGI, Correos, Legajo 256-B, 28 October 1768. The loss of fifty-three ships also hampered recovery efforts, especially the ability to go in search of provisions from unaffected areas.
 47. AGI, PC, Legajo 1093, 9 November, 12 November 1768.

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48. AGI, PC, Legajo 1093, 12 November 1768, from Batabanó, and 31 October 1768 from Guadalupe. The official governmental dossier on the storm is in Legajo 1097. See also Estado que comprehende, AGI, SD, Legajo 1594.
 49. AGI, PC, Legajo 1097, 16 October 1768
 50. AGI, PC, Legajo 1077, 20 December 1768.
 51. AGI, PC, Legajo 1077, 20 December 1768; Legajo 1093, 12 November 1768.
 52. AGI, PC, Legajo 1071, 4 February 1769.
 53. Ibid.
 54. AGI, PC, Legajo 1077, 28 October, 20 December 1768, 22 April, 9 May 1769; Legajo 1093, 12 November 1768;
 55. AGI, PC, Legajo 1071, 26 October, 31 October 1768; Legajo 1097, 18 October 1768; Mercedes García Rodríguez, "Presencia Jesuita en la economía de Cuba: Siglo XVIII" (Ph.D. diss., University of Havana, 1999).
 56. AGI, PC, Legajo 1093, 31 October 1768.
 57. AGI, PC, Legajo 1093, 14 November 1768.
 58. AGI, PC, Legajo 1077, 12 November 1768
 59. AGI, PC, Legajo 1168, 6 June 1772. The Royal Order of 14 January 1772 was straightforward: "...no permite comercio y no se permite la entrada en ningún puerto de S.M. a buques extranjeros y sean de guerra o de comercio.... (...commerce is prohibited and no foreign boats, whether warships or merchantmen, will be permitted to enter any of His Majesty's ports....)
 60. Moore, "Antonio de Ulloa," 189-218, and "Revolt in Louisiana," 40-55; Din, Francisco Bouligny, 31-35.
 61. Olson, "Towards a Politics of Disaster," 283.
 62. Pennsylvania Gazette, 27 November 1766 in Jamaica; 26 February 1767 in Grenada; 26 May 1768 in Montserrat; 20 April 1769 in Jamaica; and 16 May 1769 in Curaçao. Sherry Johnson, "Climate, Crisis, and Insurrection in the Caribbean, 1763-1800," paper to be presented at the Allen Morris Biannual Conference, Tallahassee, Florida, February 2004.
 63. AGI, PC Legajo 1071, 31 December 1768 to the Conde de Aranda about the slaves that fled from the Jesuit plantations; Legajo 1093, 14 November 1768 from Jagua about the number of "negros y guachinangos fugitivos," and that four military deserters escaped to Jamaica aboard an English ship.

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64. Bibiano Torres-Ramírez, Alejandro O'Reilly en las Indias (Seville: Escuela de Estudios Hispano-Americanos, 1969); Weddle, Changing Tides, 15-22, describes how weather and navigational difficulty plagued the O'Reilly expedition.
 65. Acosta, "Las bases económicas," 364, 349.
 66. Athanase de Mézières to Luis de Unzaga y Amézaga, 1 February 1770, Legajo 110, PC, AGI, Herbert Eugene Bolton, ed., Athanase de Mézières and the Louisiana-Texas Frontier, 1768-1780 (New York, 1914), 147. The correspondent, Athanase de Mézières, reported that the wheat crop failed because of the extremely rainy season.
 67. Acosta, "Las bases económicas," 363.
 68. AGI, Correos, Legajo 257-A, 17 October 1773, 30 March 1774. The mail system was in the vanguard in scientific observation after 1763. For an appraisal of the performance of the captain general see Juan Alvarez de Miranda, "Poética relación Christiana y Moral..." AGI, PC, Legajo 1097, 1768. Manuel Casado Arbonés, "Bajo el signo de la militarización: las primeras expediciones científicas ilustradas a América (1735-1761)," La ciencia española en Ultramar: Actas de las I Jornadas sobre "España y las expediciones científicas en América y Filipinas, Alejandro R. Díez Torre, Tomás Malló, Daniel Pacheco Fernández, y Angeles Alonzo Flecha, coords. (Madrid: Doce Calles, 1991), 19-47; Manuel Lucena Salmoral, "Las expediciones científicas en la época de Carlos III (1759-1788)," ibid., 49-63; Weddle, Changing Tides, 10-25, provide background.
 69. AGI, Correos, Legajo 257-A, 7 February 1771.
 70. AGI, PC, Legajo 1141, 2 May 1772.
 71. AGI, PC, Legajo 1168, 13 December 1771.
 72. AGI, PC, Legajo 1168, 11 December 1768. The case is similar to proceedings brought against four residents of Trinidad on the southern coast of Cuba on Cabo Cruz. The four, respected members of society (with the honorific "Don") were arrested in possession of bales and bundles of contraband from Jamaica, and their personal wealth was confiscated. After being found guilty, they were sentenced to exile in Apalachee in Florida, but before they could be deported they escaped. Circular letter, Captain General of Cuba, Havana, 7 September 1752, expediente 199, legajo 6, CCG, ANC. Similarly, when two men were sentenced to six years' hard labor in Apalachee, but before the two convicts could be put on the boat, they escaped. José de las Cuevas, alcalde de Santiago de Cuba to CG of Cuba, Santiago de Cuba, 8 March 1753, expediente 159, legajo 6, CCG, ANC.
 73. AGI, PC, Legajo 1168, 6 June 1772.
 74. AGI, PC, Legajo 1168, 6 March 1772.
 75. AGI, PC, Legajo 1168, 6 June 1772.

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76. AGI, PC, Legajo 1168, 24 August, 5 October 1772. An earlier incident occurred in Bayamo in 1766, AGI, SD, Legajo 1135, 2 May 1766.
 77. Millás, Hurricanes of the Caribbean, 229-39; Caviedes, "Five Hundred Years of Hurricanes," 304.
 78. AGI, PC, Legajo 1178, 22 August 1772.
 79. AGI, Correos, Legajo 257-A, 31 August, 19 October 1772.
 80. Millás, Hurricanes of the Caribbean, 235-37, describes this "severe storm of 1772" as an event unprecedented in meteorological history. See also Pennsylvania Gazette, 23 September, 14 October 1772, LCP.
 81. AGI, Correos, Legajo 257-A, Report of José de Armona, 30 March 1774.
 82. The letter is reprinted in Millás, Hurricanes, 238.
 83. AGI, PC, Legajo 1141, 4 September 1772.
 84. AGI, Correos, Legajo 258-A, Report of José de Armona, 30 March 1774.
 85. Caviedes, El Niño in History, 104-05; Claxton, "Record of Drought," 216-22; Enrique Florescano, Precios de maíz y crisis agrícola en México (1708-1810) (Mexico City: El Colegio de México, 1969).
 86. AGI, PC, Legajo 1151, 22 October 1772.
 87. AGI, PC, Legajo 1141, 12 November, 16 November, 4 December, 8 December 1772.
 88. One channel through which the contact could have been established was through New Orleans. Robert Morris maintained a correspondence with Francois DuPlessis who was acquainted with the major figures in the city. Francois DuPlessis to Robert Morris, New Orleans 16 August 1776, Folder January-August 1776, Robert Morris Papers, Levis Collection, HSP. In 1772, the governor of New Orleans dispatched a merchant to New York and Philadelphia whose mission is, as yet, unclear. Yela Utrilla, España ante la independencia, I: 68, n. 1; Cummins, Spanish Observers, 22-24. It is also possible that the contact was established via Cádiz.
 89. A variety of sources were used to reach this conclusion. Philadelphia Customs House Records, Philadelphia Gazette, 25 April 1771, 9 May 1771, 15 August 1771, 5 March 1772, 21 May 1772, 21 July 1773, 15 September 1773, 29 September 1773, 29 December 1773, all LCP. Prior to 1770, two ships arrived from Puerto Rico but there is no evidence that any Philadelphia ships left for the island. In 1770, three Philadelphia ships cleared for Puerto Rico, two of which, the Santa Maria and Tiger, were owned by Willing & Morris. In addition, John J. McCusker's "The Pennsylvania Shipping Industry in the Eighteenth Century (1973)" unpublished study by John J. McCusker, and his companion data set, "Ships Registered at the Port of Philadelphia before 1776: A Computerized Listing," both HSP provided the fundamental information to identify ship owners. These were combined with the Philadelphia Custom House Books, 1766-1775, 3 vols. Cadwalader Collection,

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- Series III: Thomas Cadwalader Papers. Miscellaneous Volumes also HSP. Of course, none of these sources would have come to light without Doerflinger's, Vigorous Spirit, 108-113, and especially his excellent discussion of his source material.
90. AGI, PC, Legajo 1143, 2 December, 16 December 1772; Legajo 1151, 2 November 1772, 11 February 1773.
 91. AGI, PC, Legajo 1151. 11 February 1773.
 92. Philadelphia continued to send ships to Puerto Rico over the summer of 1773. Philadelphia Gazette, 21 July, 29 September, 29 December 1773. Two of the voyages, both by the Brig Repeal, were financed by Willing & Morris, McCusker, "Ships Registered," Registration 2324, HSP.
 93. AGI, PC, Legajo 1168, 13 December 1771, 6 March, 6 June, 24 August, 12 November 1772.
 94. Aguirre and Aristegui & Company to the Council of the Indies, Cádiz, 25 August 1772, legajo 2820A, Indiferente General (hereafter IG). From 23 September 1765 through 25 August 1772 the company lost 928,916 pesos, and they claimed they were still owed 596,326 pesos for slaves and flour they had imported into Cuba.
 95. Aguirre & Aristegui to Council of the Indies, Cádiz, 13 November 1772, legajo 2820A, IG, AGI.
 96. *Ibid.*, 28 June 1772.
 97. Governor of Santiago de Cuba to the Captain General of Cuba, 30 August? 1751, Santiago de Cuba, expediente 197, legajo 5, CCG, ANC.
 98. "Nota de las cavesas de negros..." 21 March 1764, Havana, legajo 1212, SD, AGI. The slaves sold for approximately 50 pesos each, less than half the normal price.
 99. "Lista de las negras bozales..." 21 March 1765, Havana, legajo 1212, SD, AGI.
 100. Chief Tobacco Factor to Miguel de Musquiz, governor of Santiago de Cuba, Santiago de Cuba, 2 October 1773, legajo 1227, PC. AGI.
 101. Tomás Ortíz de Landaluzi and Manuel Lanz de Casafonda to Julián de Arriaga, Madrid, 13 November 1772, legajo 2820A, IG, AGI. For a different view of the Real Compañía see Pablo Tornero Tinajero, Crecimiento económico y transformaciones sociales: esclavos, hacendados y comerciantes en la Cuba colonial (1760-1840) (Madrid: Ministerio de Trabajo y Seguridad Social, 1996), 34-44.
 102. "Instrucción para el nuevo Giro y Gobierno que desde ahora ha de tener la continuación de Asiento de Negros concedidas . . . por SM," San Lorenzo, 13 November 1772, legajo 2820A, IG, AGI.
 103. Ortíz de Landaluzi and Lanz de Casafonda to Julián de Arriaga, Madrid, 13 July 1772, legajo 2820A, IG, AGI.

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104. Chief Tobacco Factor to Mariano de Musquiz, Havana, 2 October 1773, legajo 1227, PC; Royal Order, 1 September 1772, Madrid, legajo 2820A, IG, both AGI.
 105. Ortíz de Landaluzi and Lanz de Casafonda to Julián de Arriaga, Madrid, 13 July, 13 November 1772, legajo 2820A, IG, AGI.
 106. J. Duff, Duff & Welsh to Willing & Morris, Cádiz, 17 July 1776, Folder July-August 1776 Willing & Morris Correspondence, Levis Collection, HSP.
 107. Philadelphia Customs House Records, Philadelphia Gazette, LCP; McCusker "Pennsylvania Shipping Industry," and "Ships Registered;" Philadelphia Custom House Books, Vol C, 1772-1775, HSP
 108. The rivalry among Spanish port cities after the 1760s is well studied in Ringrose, Spain, Europe, and the "Spanish Miracle," 88-91, 109-19. A contemporary account is Observations on the Commerce of Spain with her Colonies in Time of War by a Spaniard in Philadelphia, Translated from the original manuscript by another Spaniard (Philadelphia: James Carey, 1800). Although anonymous, the author is believed to be the Marqués de Casa Yrujo, the Spanish consul in Philadelphia, who wrote: "eight or ten commercial houses of Cádiz were, in reality, masters of the trade of Spain from Florida to California and the shipments in Spain, sales in America, and returns home only displayed a ruinous chain of the scandalous monopoly," 11-12, LCP.
 109. AGI, PC, Legajo 1165, 2 November 1774; Legajo 1167, 12 November 1774; Legajo 1192, 14 November 1774; Legajo 1195, 17 November, 19 November 1774.
 110. AGI, PC, Legajo 1142, 12 December, 15 December 1775, 9 April 1776.
 111. Pedro Barral to Gerónimo Enrile, 11 September 1773, Kingston, legajo 2820A, IG, AGI.
 112. AGI, PC, Legajo 1142, 15 November 1774.
 113. William Pollard to Sericols & Jackson, Philadelphia, 18 December 1772, William Pollard Letterbook, HSP; Anne Bezanson, Robert D. Gray, and Miriam Hussey, Prices in Colonial Pennsylvania (Philadelphia : University of Pennsylvania Press, 1935), 45-49; Doerflinger, Vigorous Spirit, 113.
 114. Philadelphia Customs House Records, Pennsylvania Gazette, 1766-1775, LCP. The criteria for inclusion in this analysis are only ships that were outbound or cleared for Cádiz, Ferrol, and La Coruña from 1766 through 1775. Other destinations (e.g. Tierra Vieja and Puerto Rico) were not included, nor were ships that arrived from the three primary ports. It is also evident that Philadelphia provisions went first to English ports such as London and Liverpool and were transshipped into Spain, but such a detailed examination is beyond the scope of this limited study. Davis & Strachan to Willing & Morris, London, 11 June 1776, Folder June-July 1776, Willing & Morris Correspondence, Robert Morris Papers, Levis Collection, HSP. Finally, ships bound for Lisbon should not be included in this analysis since, although Portugal and Spain share the Iberian peninsular, they were far from being friends. Portugal was, in fact, a long-time ally of Great Britain, and in 1775, Spain was on the verge of declaring war on Portugal over territorial rivalries between Brazil and the Río de la Plata (present-day Uruguay and Argentina). After hostilities began between the thirteen colonies and Great Britain, Portugal expelled all United States ships from its ports.

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- J.W. Duff to Robert Morris, Cádiz, 18 July, 23 July 1776, Folder June-July 1776, Robert Morris Papers, Levis Collection, HSP.
115. Philadelphia Customs House Records, Pennsylvania Gazette, 1766-1775, LCP; McCusker, "Ships Registered" and "Pennsylvania Shipping Industry," 236-62.
116. McCusker, "Pennsylvania Shipping Industry," 236-40.
117. Philadelphia Customs House Records, Pennsylvania Gazette, 1766-1775, LCP; McCusker, "Ships Registered" and "Pennsylvania Shipping Industry," 236-62.
118. These men such as Duff & Welsh were British merchant houses already established in Cádiz who normally received finished goods from Britain for sale to Spanish firms. Their receipt of flour from Philadelphia involved little additional effort on their part except to market the product quickly to avoid spoilage.
119. Duff & Welsh to Willing & Morris, Cádiz, 17 July 1776, Folder June-July 1776, Willing & Morris Correspondence; Noble & Harris to Willing & Morris, Cádiz, 16 March 1776, Folder Willing & Morris Business Accounts, 1775, Robert Morris Papers, Levis Collection, HSP.
120. Etienne Cathalan to Willing & Morris, Marseilles 7 January 1776, Folder January-May 1776, Willing & Morris Correspondence; Etienne Cathalan to Willing & Morris, Marseilles, 18 October 1774, Willing & Morris Business Accounts, Folder 1771-1774, Robert Morris Papers, Levis Collection, HSP.
121. Robert Morris to John Bradford, Philadelphia, 23 January 1777, Correspondence 1776, reel 12, Papers of Robert Morris, microfilm in the Library of Congress, Washington, DC.
122. Ringrose, Spain, America, and the "Spanish Miracle," 107-110; A Spaniard, Observations on the Trade.
123. Duff & Welsh to Willing & Morris, Cádiz, 17 July 1776, Folder June-July 1776. Willing & Morris Correspondence, Robert Morris Papers, Levis Collection, HSP.
124. Bezanson, et. al, Prices in Colonial Pennsylvania, 45-47. The authors identify the peak in prices beginning in late 1771 and running through spring 1773, dates that coincide with the environmental crisis in the Caribbean.
125. J. Drinker to Henry Rawsthorn, Philadelphia, 12 September 1772, James & Drinker Foreign Letterbook, Henry Drinker Collection, HSP.
126. William Pollard to Lewis Isaac Judah, Philadelphia, 25 June 1772; Pollard to Captain I.(?) Hanson, Philadelphia, 20 August 1772; Pollard to Sericols & Jackson, Philadelphia, 18 December 1772; Pollard to Thomas Earle, Philadelphia, 6 May 1773; Pollard to William Plummer, Philadelphia 1 July 1773, William Pollard Letterbook, HSP.
127. J. Drinker to Captain Oswell Eve, Philadelphia, 9 September 1772, James & Drinker Foreign Letterbook, Henry Drinker Collection, HSP.

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128. J. Drinker to Chabanel, Uhthof & Co., Philadelphia, 2 March 1773, James & Drinker Foreign Letterbook, Henry Drinker Collection, HSP.
 129. William Pollard to I. Crabtree, Philadelphia, 15 December 1772, William Pollard Letterbook, HSP; John Hollingsworth to Levi Hollingsworth, Head of Elk, 27 July 1772, Levi Hollingsworth Collection, HSP.
 130. Bezanson, et al., Prices in Colonial Pennsylvania, 49-51.
 131. Pennsylvania Gazette, July 1774-July 1775, LCP; Bezanson, et al., Prices in Colonial Pennsylvania, 49-51.
 132. John Joachim Zubly, John Adams' Notes of Debates, October 12, 1775, in Smith, ed., Letters, II: 165-66.
 133. ----- Lee. John Adams' Notes of Debates, October 20, 1775, in Smith, ed., Letters, II: 215. Adams did not specify whether the delegate speaking was Francis Lightfoot Lee or Richard Henry Lee.
 134. Eliphalet Dyer in John Adams' Notes on Debates, September 26-27? 1774, in Smith, ed., Letters, I: 103-05.
 135. John Adams to James Warren, October 19, 1775, in Smith, ed., Letters, II: 206-07.
 136. Samuel Chase, John Adams' Notes of Debates, October 20, 1775, in Smith, ed., Letters, II: 214.
 137. Christopher Gadsden, John Adams' Notes of Debates, October 20, 1775, in Smith, ed., Letters, II: 212.
 138. Thomas Johnson Jr. to Samuel Purviance, Jr. June 13, 1775, in Smith, ed., Letters, I: 483.
 139. John Joachim Zubly, John Adams' Notes of Debates, October 12, 1775 in Smith, ed., Letters, II: 165-66.
 140. John Adams' Notes of Debates, October 20, 1775, in Smith, ed., Letters, II: 211-12.
 141. John Adams to James Warren, 28 October, 1775, in Smith, ed., Letters, II: 273.
 142. Chronology of Congress, September-December 1775, in Smith, ed., Letters, II: xiii-xv.
 143. Secret Committee Minutes of Proceedings, September 27, 1775, in Smith, ed., Letters, II: 75-76.
 144. Royal Cédula (decree), 6 November 1775, San Lorenzo, legajo 1142, PC. AGI.
 145. Thomas Stone to James Hollyday?, May 20, 1776, in Smith, ed., Letters, IV: 52, relates that Spain refused to trade with the colonies while John Adams to Isaac Smith, June 1, 1776, ibid., 113, states "there will be little difficulty in trading with France and Spain."
 146. AGI, PC, Legajo 1142, 21 September 1775, with notification of the storm of August 28 and 29; Legajo 1144, 5 October 1776; Legajo 1254, 7 December 1777 relating notice of storm

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- on October 29 and 30 in Bayamo; Legajo 1259, 22 October 1777; Legajo 1247, 2 August, 24 September 1778.
147. Duff & Welsh to Willing & Morris, (day omitted) November 1776, Cádiz, Folder November-December 1776, Robert Morris Correspondence, Levis Collection, HSP. Duff wrote that 78 barrels of superfine flour were sent to Havana and payment for them was still pending.
 148. Robert Morris Papers, Manuscript Division, Library of Congress
 149. AGI, PC, Legajo 1227, 26 July 1776-18 November 1776, in Yela Utrilla, España ante la independencia, I: 68; Abbey, "Efforts of Spain," 56-68; Cummins, Spanish Observers, 48-49, 69-72, 39-45, 105-67.
 150. AGI, PC, Legajo 1227, 26 July 1776-18 November 1776, in Yela Utrilla, España ante la independencia, I: 68; Abbey, "Efforts of Spain," 56-68; Cummins, Spanish Observers, 48-49, 69-72, 39-45, 105-67.
 151. Robert C. Albert, The Golden Voyage: The Life and Times of William Bingham, 1752-1804 (Boston: Houghton, Mifflin, & Co, 1969), 25-73.
 152. Diego de Gardoqui to Duque de Alcudia, 26 October 1794, in Yela Utrilla, España ante la independencia, II: 373-74. The official sum of money was 7,944,906 reales and 16 maravedis, in addition to 30,000 blankets provided from 1776-1778.
 153. AGI, SD, Legajo 1281, 24 October 1778. Typescript and translation in Aileen Moore Topping Collection, Special Collections, University of Florida, Gainesville, FL; "Historical Data on Don Juan de Miralles," Bertha McGeehan Collection, HSP.
 154. Rea, "A Distant Thunder," 181-82.

