The Western Sea:
Atlantic History before Columbus

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The New World was a sudden and startling discovery for Christopher Columbus and his immediate successors, but its portal was not unfamiliar to the mariners of late medieval Europe. The process by which the mysterious and murky "Realm of Ocean" at the western edge of European civilization was transformed into the "western sea" of the late middle ages, and ultimately the Atlantic Ocean of Mercator, was gradual and an important but neglected chapter in the developing field of Atlantic history. This process was both less dramatic and less straightforward than the development of the Atlantic system after Columbus, yet it also involved exploration, encounter and exchange, as well as the interplay of geographic perceptions and reality.

Most studies of the "Atlantic World" begin with the era of Columbus, thus presenting his expeditions as the initiation, rather than the continuation or even culmination, of a much longer process.[1] This is understandable, given the field's emphasis on the flow and exchange of commodities, people, institutions and ideas between the Old and New Worlds on either side of the Atlantic, but such a perspective slights the role of the late medieval era in European and world history. Atlantic history emphasizes linkages, but before the Atlantic Ocean linked the eastern and western hemispheres, it connected southern and northern Europe, and their respective Mediterranean and North Atlantic maritime "worlds." This connection was both crucial to and representative of what Felipe Fernândez-Armesto has called the "discovery of Atlantic space," a process which involved not only discovery but also definition and diffusion.[2] From the thirteenth through the fifteenth centuries, the "European Atlantic" was traversed, explored, charted, and consequently defined; in the process the diffusion of navigational, cartographic, and geographic knowledge created an integrated community of European mariners who formed the core of an emerging Atlantic community.

Columbus was part of this multinational, or European, community, and while his "bardic" role is no longer current, the "ocean of print" published in commemoration of the 1992 quincentenary of his first voyage has reinforced his position as the central figure, and 1492 as the key date, of the "Age of Discovery."[3] This eternal focus on Columbus perpetuates both the Renaissance view of a preceding "dark age" and the nationalist view of European expansion, which emphasizes the roles of state formation and national identity over social, cultural and economic factors. The 1550 map of Pierre Desceliers, with its

division of the North Atlantic into the *Mer Despaigne* and the *Mer de France,* was the first depiction of the latter perspective, but this was a decidedly post-Columbian world view. For medieval Europeans, there was just one "Ocean Sea," though its nature and size were constantly changing in response to the diffusion of cultural traditions and the expansion of geographic knowledge. Like Columbus, medieval mariners ventured onto the sea not only because of a combination of cultural and commercial motivations but also because they were the recipients of narratives, images and perceptions of fishing grounds, mystical and material islands, and an increasingly accessible western sea. The formation of the "European Atlantic" constitutes both the opening chapter of Atlantic history and a necessary precondition of the materialization of the Atlantic world.

Fernand Braudel's Mediterranean world can and has served as a model, or at least an inspiration, for Atlantic historians.[4] Most recently, Paul Butel has produced a comprehensive survey of "the development of a Western civilization that deserves the name 'Atlantic' over the *longue duree.'*[5] Butel offers a sweeping chronology of Atlantic history from the ancient era to the present, with brief discussions of the pre-Columbian North Mediterranean and African Atlantics. His fifteenth-century "New Atlantic" is a busy sea, with intensive "inshore navigation" and outward exploration, yet the role of the almost autonomous sea is emphasized over the maritime culture of the shore, whether in Europe or elsewhere. Butel's perspective allows him to overcome geographical, chronological and historiographical boundaries, but ultimately his New Atlantic is setting the scene for the major act - the post-Columbian colonial system.

It is not sufficient to view the maritime culture and commerce of late medieval Atlantic Europe as merely the prelude to the "golden age" of Atlantic colonization and the opening phase of a much longer history of European expansion and imperialism. This drive to the west was a noteworthy trend by its own nature, and an important phase in *European* History. In the medieval European view, it was not only the physical nature of the Atlantic, its formidable winds and surface currents, which deterred westward progress, but also long-held cultural perceptions. Both the contemporary context and historical perspective are requisites for any understanding of why the European orientation changed in the fourteenth and fifteenth centuries.

The Formation of the "European Atlantic," c. 1277- 1492

The chronology of the "reorientation" of European maritime culture is generally accepted by medieval historians in general and maritime historians in particular.[6] Between the Scandinavian voyages of the early middle ages and Columbus, there are three discernable and overlapping phases of intensive Atlantic navigation and exploration. The first phase begins in 1277, when Genoese ships sailed through the "Pillars of Hercules," marking the entrance to the Straits of Gibraltar, into the Ocean Sea. Faced with diminishing prospects in the eastern Mediterranean and Black Sea due to Venetian competition and the threats of the Ottoman Turks, the Genoese entered the emerging markets of northwestern Europe and in the process brought considerable navigational experience and financial assets into the Atlantic. A generation later, in 1291, a less successful Genoese venture was launched from the Straits when the Vivaldi brothers sailed southwest in search of a sea route to the Indies, never to return.[7] The same year takes on a symbolic cast with the fall of Saint Jean d'Acre, the last European stronghold in the eastern Mediterranean. Existing markets were no longer

sufficient, and Genoese capital and initiative increasingly were invested in both trade and exploration.

A second phase of late medieval exploration of the Atlantic is characterized by the discovery and assimilation of the major eastern Atlantic Archipelagos: the Canaries or "Fortunate Isles" (between 1312 and 1335), Madeira (between 1339 and 1425), and the Azores (after 1427). In all of these cases, the initiative and financing were Genoese, but the cumulative effort was essentially European, involving Italian, Iberian, French and Flemish mariners. A new community of Atlantic mariners developed in the process, as did an increasingly integrated zone of navigation and commerce, bounded by the Azores to the north, the Canaries to the south, the Iberian and African coasts to the east, and linked by an increasingly familiar wind system and the westward migration of sugar cultivation. This is the "Mediterranean Atlantic" of Fernand Braudel and Pierre Chaunu, part of what contemporaries were beginning to refer to as the "western sea."[8]

The third phase of pre-Columbian exploration, linked to the previous two by commercial and cultural ties, consists of the North Atlantic expeditions of fifteenth-century British mariners. The Norse exploration and colonization of earlier centuries had transformed the North Atlantic into tangible, navigable space, but it was an expanse that had either been forgotten or was largely unknown to southern Europeans until the fifteenth century. As the Scandinavians withdrew, the English advanced: in 1412 the *Icelandic Sagas* reported that "no news came from Norway to Iceland," as well as the first arrival of English fishing "doggers."[9] The "Flanders voyages," launched successively by the Genoese and the Venetians, and the discovery and integration of the Atlantic islands can be seen as an "extension of the western Mediterranean world," but the development of the North Atlantic fisheries was not an isolated "northern" phenomenon.[10] Both North and South were in the process of being assimilated into the greater European Atlantic in the fifteenth century.

The British trade to Iceland, which involved mariners from both the eastern and western coasts of England and the Irish port of Galway, was not merely a two-way exchange of foodstuffs and cloth for fish. It became integrated with the rest of the European Atlantic principally through the intense demand for stockfish in the south and the supply of salt from France and Portugal. While the English tried to defend "their" Icelandic fishery from the encroachments of the Hanseatic League and Basque, Breton, and Portuguese freelancers, they served simultaneously as a conduit between the northern and southern zones of the western sea. The voyages of the Bristol ship *Christopher* between 1479 and 1485 are illustrative of this point. *Christopher* appears to have maintained a steady "triangular trade" between Bristol, Lisbon and Iceland, exchanging English cloth and Icelandic stockfish for Portuguese fruit, wine, oil, salt and sugar."[11] On these frequent visits to Lisbon, the centre of the Atlantic world in the fifteenth century, *Christopher's* captain and crew were in a position to exchange knowledge as well as commodities.

Both traditional and more recent studies of the European Atlantic emphasize the existence of two separate maritime traditions in the medieval era: a "northern" Atlantic/Baltic tradition and a "southern" Atlantic/Mediterranean legacy.[12] These regions were separated by more than space and geographic orientation; they also were divided by the winds and currents of their environments and the skills, experience, and traditions of their mariners. The convergence of these two maritime cultures in the late middle ages created an environment, exemplified by the circuit of *Christopher,* that was both increasingly familiar and increasingly competitive.

From the opening (or reopening) of the Atlantic in the late thirteenth century to Columbus' first transatlantic crossing, Europeans from the Baltic to the Mediterranean shared a common vision of their western boundary. This perspective was part of Europe's cultural inheritance from antiquity, supplemented by Christian teaching, local memory, and regional traditions. It was neither static nor immutable; before the discovery and definition of the Atlantic space in the fourteenth and fifteenth centuries, "the West" was more of an ambiguous direction than a *place.* Medieval Europeans were clearly more preoccupied with the wonders of the East than the mysteries of the West. Their eastward *orientation* is easy to comprehend; located in the East, after all, was their Holy Land, the centre of their world, and their paradise, as well as their sworn enemy and the quasi-imaginary India and Cathay, the sources of all their material desires.

In the West, by contrast, was the more ambiguous Realm of Ocean. Just what lay in this realm depends on locale and period, and it is difficult to reconstruct the mental world of the collective peoples of the European Atlantic than for a single conspicuous individual like Columbus, but there are several established tenets of medieval geography as it envisioned the West.[13] The basis of both schematic "T-O," or tripartite maps, and conceptual *mappae mundi* was the *oecumene,* or known world, a contiguous land mass consisting of Europe, Asia and Africa and encircled by the "river" of *mare oceanus,* or Ocean Sea. These maps were "less geographical descriptions than religious polemics; less maps than a species of morality."[14] As such, they indicate the division of the world according to allotments given to Noah's three sons after the flood (with Shem, the eldest, receiving Asia, roughly equivalent to the size of Europe and Africa combined), locate Jerusalem near or in the centre of the world and the East, representing the beginning and end of man as well as the setting of the Terrestrial Paradise, at the top.

The *mappae mundi* become increasingly detailed as places, people and messages are inserted into the landscape, items that vary according to the point of origin, author, and accompanying text of the document.[15] Not until the fourteenth-century *Catalan Atlas,* however, was there any attempt to "fill in," illustrate or characterize the Realm of Ocean. Its nature is ambiguous and even contradictory. On the one hand, the Ocean is a protective, insulating barrier, and on the other, a desolate expanse of indeterminate size. It is referred to as a "river," implying linkage, yet often portrayed as unnavigable. In his eleventh-century description of the North Atlantic, Adam of Bremen describes the "numbing Ocean's dark mists" as "terrible to look upon and limitless, encircling the whole world."[16]

A prototypal medieval travel writer, Adam of Bremen had never travelled on the North Atlantic, so he relied on information from both contemporaries and classical works, especially the *Aeneid.* In a similar fashion, the Atlantic's nature was shaped by the ancient Atlantis myth of Plato's *Timaeus* and *Critias,* both in circulation in the central middle ages, which held that the subsidence of the "lost continent" rendered its namesake shallow and impassable. This characterization was embellished by the twelfth-century Arab geographer al-Adrisi, who referred to the Western Ocean alternatively as the "sea of perpetual doom" and the "green sea of darkness."[17] With the 1264 publication of Roger Bacon's *Opus Majus,* which summarized and integrated classical and medieval Arabic geographical knowledge, the gloomy Atlantic became ingrained in the medieval mind.[18]

There was one aspect of the Western Ocean that endowed it with a more accommo-dating image: the presence of *les îles fantastiques,* a multitude, perhaps as many as "thrice fifty isles in the Ocean to the west," according to ancient sources. Adam of Bremen,

acknowledging the Norse discoveries, imparted that in addition to Iceland, "in the Ocean there are very many other islands of which not the least is Greenland, situated far out in the Ocean opposite the mountains of Sweden and the Rhiphaean range."[19] Like the Ocean in general, perceptions of these islands were derived from oft-intermingled classical, Christian, and local traditions. An enduring aspect of the Atlantis legend was the remote possibility that the continent had adjacent islands which might still be out there in the Western Sea, along with St. Brendan's Isle, Brasil, Antillia, and countless others. Pope Clement VI, whose geographical perceptions appear to have been based on both Plato and Pliny's *Natural History,* confuses all the Atlantic islands in his 1344 bull, *Sicut exhibitae,* in which he granted the Canary Islands to Luis de la Cerda, the *infante* of Castile.[20]

Islands were endlessly fascinating for Europeans, whether they lived on the shores of the familiar Mediterranean or the more foreboding Atlantic. The marvellous Utopias and "new worlds" of the medieval imagination, islands figure prominently in medieval chivalric romances, particular those featuring Arthur and Alexander. The fourteenth-century *Roman de Perceforest,* for example, features not only the "Isle of Life" but also Chile, "separated from all other islands by its great distance, and [is] placed towards the north wind in the midst of the sea, which island is barely known by few people." Located "beyond the most distant of the British isles," Chile might have been the legendary "Thule," or *ultima Thule* of Seneca, generally regarded as Iceland by the medieval world, or one of the Orkney or Shetland Islands.[21] Most legendary islands of the Atlantic have rather clouded locations and are "barely known;" scribal error or variant could also "create" a medieval island. Another medieval literary genre, the *isolarii,* was devoted exclusively to the "fantasy islands" of the eastern Mediterranean. These Italian "island books" are emblematic examples of exotic travel literature, conveying mythical, historical, and geographical information about the islands with both text, images and maps based on the *portolani.*

In Western Europe, islands played central roles in the discovery and definition of Atlantic space, whether they were ever-elusive symbols of "the west," like Antillia, or tangible territories, like the Canary Islands. The perceived accessibility of medieval islands, and possibly their reality, may have shifted from the thirteenth century, when the Hereford *mappa mundi* depicted the eastern Terrestrial Paradise as an island, to the fourteenth and fifteenth centuries, when the discovery of a succession of Atlantic archipelagos seemed to confirm their existence as "stepping stones" to Asia. Like the legendary Castle of the Adamant, which drew ships to its rocky shores by magnetic attraction, Atlantic islands, both real and legendary, lured even practical mariners into the Western Sea. This appears to have been the case with the Bristol expeditions in search of the legendary island of Brasil in 1480-1481. Tradition held that Brasil's location was relatively near, "on the western part of Ireland," but there was confusion, desperation, and a possibility that the elusive island lay far west and south, in the more tropical and advantageous vicinity of Madeira. With plentiful supplies of salt on board their ships and a master reputed to be "the most scientific mariner in all England," Bristol's merchants might have been seeking new fishing grounds, but obviously the search for the long-sought Brasil gave their expeditions legitimacy or pretext in the eyes of the port authorities.[22]

The rediscovery of the Canaries marked the first tangible demarcation of the European Atlantic. The process by which the Canaries entered European consciousness at this time is usually referred to as one of rediscovery, as the "Fortunate Isles" were known to the Classical world but largely forgotten during the middle ages. The more accurate

designation, however, is "conquest." As the Canaries were the only inhabited islands of the Mediterranean Atlantic, their inclusion into this developing world involved a long process of conquest, colonization and exploitation that would provide a preview for what was to come after Columbus. In every sense of encounter and impact, the Canaries were the first "New World."[23] Their conquest took more than a century and involved many voyages and large numbers of men from both the Mediterranean and Atlantic regions of Europe. The regular traffic to the islands resulted in the discovery and settlement of the two other Atlantic archipelagos, the Madeiras and the Azores, further expanding and defining the increasingly tangible "Western Sea." There was a marked change of perception from the beginning of this process in the middle of the fourteenth century, when Petrarch referred to the Canaries as a *"dominium* situated outside the world," to the next century, when they were clearly viewed as part of the European Atlantic.[24]

There seems to have been little or no distinction made between the real and "fabulous" islands of the Atlantic in both the conceptual *mappae mundi* and the more practical *portolan* charts of the late middle ages. Cartography was in an expansive, though transitional, mode at this time; the cartographer was bound as much by myth and tradition as by a desire to produce maps which reflected the latest discoveries. Consequently, the islands of the Atlantic archipelagos appear side by side with the traditional island clusters of Antillia and/or the Isle of Seven Cities, St. Brendan's Isle and Brasil. Like the discovery of the Atlantic archipelagos, the depiction of the legendary isles must have served as an impetus for more exploration, to which the extant expedition licenses from both Britain and the Iberian peninsula attest.

Antillia, the "island opposite" which Columbus sought on his way to Cathay, often converges with the Isle of Seven Cities in both fifteenth-century maps and texts. The tradition of the island derives from the culture of the early *reconquista* and an exile narrative relating the flight of Roderick, the last Visigothic king of Spain, and seven Christian bishops from the invading Moors to an Atlantic island where, presumably, their descendants still lived. As discoveries of real islands progressed and Antillia failed to materialize, its name appears to have retained currency as a synonym for a place that can be perceived but not attained, or simply for "the west." It is possible that the multiple references to Antillia in late medieval maps and texts derive from distant sightings of the Azores before their outright discovery after 1427, as after that date the charted island moves much farther to the west. There is a similar occurrence earlier in the middle ages with *ultima Thule,* and at times "Brasil" also appears to have become a catch-all designation for the indeterminate "west." These are all lands which lie just beyond the horizon, and which migrate ever-westward on fifteenth- and sixteenth-century maps. Occasionally "reputed" islands can be glimpsed or even approached by accident, but they can never be found.

The North Atlantic counterparts of Antillia and the Isle of Seven Cities were St. Brendan's Isle and Brasil. Brendan of Clonfert probably travelled as far north as the Hebrides, and possibly even as far as Shetland and the Faeroes, in a quest of ascetic exile in the mid-sixth century, and tales of his miraculous westerly and northerly voyages were written down in the tenth century and thus preserved as the *Navigatio Sancti Brendani Abbatis.* The *Navigatio* was in relatively wide circulation throughout the middle ages, and even before the coming of print it was translated into several vernacular languages, consequently attaining an audience beyond the North Atlantic.[25] Clearly it was an extremely popular and influential text, perhaps even the "western" counterpart of *The Book of Ser*

Marco Polo and *The Travels of Sir John Mandeville*. Like these travel texts, the *Navigatio*'s popularity was likely due to the wonders encountered by Brendan on his pilgrimage to the "Promised Land of the Saints," including the famous story of his "beaching" on an island-like whale.[26] The Promised Land, or Island of Paradise, was charted as St. Brendan's Isle on several late medieval *mappae mundi*. It was literally all over the map, its location shifting from the Canaries to Iceland to the deep Atlantic, just off the coast of Cathay on Martin Behaim's 1492 globe. In the sixteenth century, St. Brendan's Isle retreats into the realm of myth and memory, no longer taking up tangible space in the Atlantic. Its relatively abrupt disappearance implies that, like other islands in the Western Sea, it symbolized "the west" in general and the collective maritime experiences of early medieval Irish mariners in particular.

Another legendary island with a British heritage was the aforementioned Brasil. There were actually *two* Brasils in the culture and consciousness of British mariners: the stationary "Hy-Brasil" of Celtic tradition and the "floating" Brasil of Mediterranean and Iberian origin. Celtic Brasil, often linked to and occasionally converging with St. Brendan's Isle as the "Isle of the Blessed," retained its steadfast position and conspicuous circular shape on maps from the thirteenth through the sixteenth centuries. The latter Brasil, which the Bristol expeditions of the early 1480s were presumably seeking, was located somewhere in the Mediterranean Atlantic, adjacent to other islands both real and imaginary. The *Catalan Atlas* of 1375, in a very early attempt to represent the Azores, features the *Insula de Brasil* as part of an abstract archipelago, and both Brasils are clearly indicated in successive leaves of the 1467 atlas of Grazes Benincasa. After the unsuccessful Bristol search expeditions, Brasil still appears on late fifteenth-century maps, indicating the continued importance of tradition in medieval cartography. Brasil and Isles of the Seven Cities are both designated on the "Christopher Columbus chart" of *circa* 1492; these and other supposed islands of the Western Sea lingered even after its transformation into the Atlantic Ocean.[27]

The collective perception of the Atlantic islands, both real and reputed, represented an assimilation of North Atlantic and Mediterranean Atlantic maritime traditions. The available evidence, including place names, expedition licenses, maps, and the immense popularity and multiple translations of Saint Brendan's *Navigatio,* indicates that the Iberians were just as interested in the "northern" Atlantic islands of Brasil and St. Brendan's Isle as the English were in the "southern" islands of Mediterranean and Iberian tradition. The convergence and coexistence of the two Brasil legends in Bristol is a case in point: information of all kinds was diffusing along the Atlantic littoral and was defining the Atlantic space, as well as creating an atmosphere of competition that would propel Europe into the fifteenth-century "space race" across the Atlantic.[28] By the end of the century, Europeans still believed in the existence of islands "without number" in the Western Sea, but their allocated location was no longer at the "end of the west," but at the "end of the east."

In addition to island lore, exotic travel literature, like the *Navigatio Sancti Brendani Abbatis* and the *Travels of Sir John Mandeville,* and the beliefs and traditions of the mariners themselves, the other cultural link between the northern and southern maritime traditions was the late medieval "revolution" in geography and cartography. In the long history of cartography, this period has been classified most recently as "transitional" because of three major influences: the detailed and empirical *portolani;* the reappearance of Ptolemy's *Geographia* in the first decade of the fifteenth century; and the exploration of the Atlantic islands and western coast of Africa. An additional feature of this revolution was the

development of a European-wide community of scholars, map makers, mariners, and sundry "Renaissance men" who studied, commented upon, and supplemented successive editions of the *Geographia* after its first appearance in Latin in 1409. An entire industry emerged, as throughout the fifteenth century successive manuscript editions of the text were published, first with supplementary regional maps, then with world maps; ultimately, the first *printed* Ptolemaic atlas with twenty-six maps appeared in 1477.

Ptolemy invited commentary and revision as well as exploration. His *oecumene* had no fixed geographical boundaries; consequently the *portolani* and the Atlantic discoveries could be reconciled within it easily. By the time of the *Geographia*'s rediscovery and translation, it was already a geographical anachronism. Its importance lies in its methodology, definition, and ordered space, so appealing to the Renaissance mentality. It could easily be proven inaccurate, as the Portuguese expeditions down the African coast were in the process of doing, but it served as a model for coping with the flood of new facts from the south and west.[29]

The "best-selling cosmological encyclopedia" of the fifteenth century, the *Imago Mundi* of Cardinal Pierre d'Ailly (c. 1350-1420), was another important link between the southern and northern maritime cultures of late medieval Europe both because of its popularity and its stands on three of the most pressing geographical problems of the fifteenth century: the actual circumference of the earth, the extent of the *orbis terrarum,* and the width of the ocean between the far western and far eastern extremities of the latter.[30]

In the tradition of Ptolemy and Roger Bacon, d'Ailly underestimated the circumference of the earth by approximately one-third; overestimated the extent of Eurasia by a considerable distance; and consequently crafted (and *publicized)* the concept of the "narrow Atlantic." The vast Realm of Ocean was now bounded and reduced to an exploitable and navigable space, made more so by the presence of the legion of island stepping-stones to Cathay. This Atlantic space was bordered by an elongated Eurasian landmass and imbued with countless islands and channel-like proportions for, according to d'Ailly, "the sea is small between the western extremity of Spain and the eastern part of India."[31] In several centuries, the European perception of the expanse of water that constituted their western boundary had been transformed from one of a "limitless" Realm of Ocean to a "small" Western Sea.

European History, Atlantic History, World History

Perspectives shape perception, both in the past and the present. The "discovery of Atlantic space" can and should be viewed from different and expanding historical perspectives: those of European, Atlantic, and world histories. From a European perspective, the development of an integrated maritime culture and economy along the Atlantic littoral after 1300 came about both because of internal and external forces. The eastern orientation of medieval Europeans, as well as their experiences during the *Pax Mongolica,* drew them toward the dependable, overland route to Asia, but this course became increasingly impassable with the advance of the Ottoman Turks. Before the disruption of this Asian commerce, however, it created a flourishing re-export trade between Italy and the rest of Europe. This re-export business, combined with significant population growth after 1100, the rise of the Hansa, and the emergence of Bruges as one of the centres of an increasingly bipolar European economy, fostered increasing commercial contacts between southern and northern Europe. At first,

these connections were made through overland trade and the Champagne Fairs, but after the commencement of the regular Flanders voyages by the Genoese in the late thirteenth century, the Atlantic increasingly linked northern and southern Europe and Europeans.[32]

Of course, the Flanders voyages exchanged more than commodities; they invoked a diffusion of navigational and shipbuilding techniques and skills, expanded geographic knowledge, influenced cartography, and led toward the creation of a cohesive European maritime economy based on both the Mediterranean and the Atlantic. Nearly two centuries after their inception, the continued importance of Bruges as a western crossroads was illustrated by the elaborate festivities accompanying the 1468 wedding of Charles the Bold of Burgundy and Margaret of York, when the "nations of foreign merchants" promenaded before their newly-crowned "Duke of the West."[33]

Commercial trends are consequential, but the movement toward the west and into the Atlantic has to be viewed as part of a larger, longer process of cultural diffusion and assimilation. The origins of the process can be found in the central middle ages, when there was considerable migration not only eastward and outside "Europe," through the Crusades and the German expansion into the eastern Baltic region, but also westward and within Europe. Two examples of the latter migration, the settlement of Anglo-Normans in Ireland and Castilians in Andalusia, have a direct bearing on Atlantic exploration, as the English assimilated Celtic, and the Castilian, Andalusian, maritime traditions. These "settlements" involved conquest and colonization and therefore are relevant to the wider question of the colonizing nature of Europeans. As Robert Bartlett has observed, "the European Christians who sailed to the coasts of the Americas, Asia and Africa in the fifteenth and sixteenth century came from a society that was already a colonizing society. Europe, the initiator of one of the world's major processes of conquest, colonization and cultural transformation, was also the product of one."[34] The movement of Europeans into the Baltic and North Atlantic regions, and on to the Mediterranean and Atlantic islands, can be seen as precedents of their later colonization of the New World, and large areas of Atlantic Europe, notably Iberia and Ireland, as medieval "frontier societies."[35]

Population growth and movements were curtailed severely by the various demographic crises of the fourteenth century, including the famine of 1315-1322, perhaps the greatest sustained period of starvation in European history, and the "Great Pestilence" or Black Death of 1347-1352, as well as by the *chevauchée* tactics of the Hundred Years' War (1337-1452). But how did the late medieval crisis affect the increasing commercial and cultural contacts between northern and southern Europe and the exploration and delineation of the Atlantic?

The traditional characterization of the late medieval European economy is one of dislocation and depression, but in recent years this interpretation has been subject to change, due to studies which have emphasized the innovative ways in which this economy responded to adversity.[36] The gradual evolution of medieval shipbuilding technology provides several examples of both factor substitution in response to the post-plague labour shortage and technological transfers between the Mediterranean and Atlantic maritime communities, as well as multiple and varied processes of adaption, assimilation and specialization. Mediterranean shipbuilders adapted their traditional design to create the larger and more seaworthy "great" galley, designed primarily for sailing rather than rowing, in order to maintain the luxury trade from the Levant to northern Europe. For larger cargoes, southern shipbuilders adapted the "imported" design of the North Atlantic cog, and over the course

of the fourteenth and fifteenth centuries this clinker-built, single-masted, square-rigged vessel evolved into the carvel-built, three-masted, full-rigged ship, the "great invention" of pre-modern European shipbuilding.[37] This "invention" represents an assimilation of northern and southern shipbuilding technologies and techniques and "perhaps the first *European* vessel, ending a major division in the Continent's maritime technology that had persisted since the early Middle Ages."[38]

Another European vessel which evolved in the late middle ages through processes of adaption and assimilation was the caravel, the very emblem of the era of discovery. Originally a small, skeleton- or carvel-built coasting and fishing vessel of the Iberian Atlantic, the caravel was gradually enlarged and enhanced with full-rigging and multiple masts in response to the increasing importance of long-distance trade between west Africa, the Atlantic Islands, and Iberia. It offered mariners a smaller, faster and more maneuverable alternative to the modified cog or carrack, especially in the open sea. With the caravel, carvel-building spread to Britain and the North Atlantic, paving the way for the eventual production of much larger ships than was possible with the traditional clinker-planking process.[39] As numerous vernacular variants of its name attest, its design disseminated throughout western and northern Europe fairly rapidly in the mid-fifteenth century, yet another indication of the cohesion and competition of the Atlantic maritime landscape.

The long-term impact of the cumulative crises of the fourteenth century is subject to continuing interpretation and discussion, but it is clear that the overland trade routes between Italy and the Low Countries were disrupted more severely than the sea routes, and thus long-distance trade was redirected increasingly into the Atlantic. The discovery of the Atlantic archipelagos, as we have seen, was a fourteenth-century development, though their ultimate conquest, colonization and incorporation into the emerging European Atlantic would not come until the next century. One of the most important "local" Atlantic connections, the Bordeaux wine trade between Bristol and Gascony, was disrupted dramatically in the mid-fifteenth century by the English defeat in the Hundred Years' War. With their steady trade with Iceland increasingly under attack by northern competitors, the fortunes of Bristol's merchants and mariners plummeted in the third quarter of the century, only to revive in the last quarter as Bristol turned to the more dynamic, and increasingly familiar, Mediterranean Atlantic.[40] This is the context of the search for the "southern" Brasil in 1480-1481; faced with reduced prospects in their traditional markets, Bristol's mariners looked southward and outward. An era of recovery and reorientation, the fifteenth century was also the formative period in the development of the Dutch and English fishing industries, which lured mariners even further and deeper into the Western Sea.

The drive to the west was not merely material; in addition to commerce and colonization, a third lure to the western frontier for medieval Europeans was the impetus of pilgrimage to two sacred western sites. The ultimate medieval pilgrimage shrines, which attracted pilgrims from across Europe, were the Holy Sepulchre in Jerusalem and the shrine of Saint Peter in Rome, but the shrine of Saint James at Santiago de Compostela, located near the western boundary of Christendom, also attracted a large European congregation. Even at the height of its steady trade to Gascony, Bristol's ships maintained a coasting trade transporting pilgrims to Galicia. As its namesake text circulated in both Latin and vernacular languages between the late twelfth and fifteenth centuries, the shrine of St. Patrick's Purgatory in Ireland also drew pilgrims from across Europe, despite its location at the extreme edge of the inhabited world.[41]

As Europeans moved toward and along the western coast in the central and late middle ages, they became more familiar with its tides, currents, winds, and nature. But it was not until they ventured substantially into the Realm of Ocean that it became defined as the Western Sea. This, as we have seen, was a long and gradual process, spurred by various motivations. With the discovery, conquest, colonization and cultivation of the Canary Islands, internal and external forces coalesced, and European, Atlantic and world histories converged.

The encompassing of the eastern Atlantic archipelagos into a European Atlantic should certainly be viewed in the historical context of medieval European expansion, but it was also the means by which Europe began to shape, and to be shaped by, *global* forces. The Canaries were the gateway to the west, but also to the south, the east, and the world. The "Canary current" along the Sahara coast of Africa had allowed Mediterranean mariners to sail southward as far as Cape Bojadar but forestalled an easy return voyage. This current, combined with geographical theories of the uninhabitable "Torrid Zone" at the equator, discouraged southern exploration until the fifteenth century, when Portuguese mariners used sea routes leading back through the safe havens of the Canaries, Madeira, and the Azores to return home after increasingly southerly voyages. With the Canaries as its base, the "African wing" of European expansion led the Portuguese into the Indian Ocean and eventually to Asia, proving Ptolemy's enclosed "Indian Sea" false.[42]

Given his accumulated knowledge of the European Atlantic, it was no accident that Columbus launched his first voyages from the Canaries.[43] The Canaries represent more than a safe haven or a launching pad, however; they were Europe's first "external" colony and Europeans' first "encounter" with an unexpected people, the native Guanches, or "red-skinned people" of the *Le Canarien,* the French chronicle of the conquest. After this encounter, the imaginary Antipodean "monsters" of the outer world would no longer suffice for informed Europeans, as the geography of both places *and* people became increasingly tangible.

The fact that the Guanches and their islands were conquered is of immense importance in this phase of Atlantic history. Because the conquest was so long (dating approximately from 1402 to 1483) and expensive, the Norman captains under contract to Castile in its initial "feudal" phase needed to extract value from the islands in order to repay the creditors who had financed their expeditions. Castilian law allowed for the enslavement of adversaries in a "just war," so Guanche resistors were enslaved to finance the continuing conquest of their islands.

The origins of the Atlantic slave trade can be found here, but like other aspects of the emerging Atlantic economy, it should be set in medieval perspective. The Guanches had perceived value in the eyes of their European conquerors and captors because of the pre-existing Mediterranean sugar industry and attendant slave trade, as well as the post-plague labour shortage. In the course of the fifteenth century, due largely to the initiatives of the ubiquitous Genoese, the sugar "plantation complex" migrated westward. Thus, the Atlantic islands "came to be an intermediate step between the colonial institutions of the medieval Mediterranean and those of the Americas."[44]

The plantation complex in general, and sugar plantations in particular, are the best examples of colonial "Europeanization" - the transplant of Old World plants and animals to a colonial environment where they were likely to flourish and produce great profits in the home market. With European people, plants and animals, however, came European diseases,

and in previously-isolated areas, such as the Canaries and the Americas, these "virgin-soil epidemics" devastated the indigenous populations.[45] As the native populations of these new worlds fell prey to disease, Europeans turned to another source of labour for their sugar plantations: Africa, where a long-standing trans-Saharan slave trade already existed. It was in Madeira, uninhabited but with optimal conditions for sugar cane cultivation if a sufficient labour force could be secured, that the connection between the two "Old Worlds" through sugar and slaves was cemented, even before either encountered the New World.

The connections between the eastern Atlantic archipelagos and the New World are clear; the Canaries, Madeira, and the Azores "were the laboratories, the pilot programs for the new European imperialism, and the lessons learned there would crucially influence world history for centuries to come."[46] The value and importance of the Atlantic islands should be seen not only in light of their *historical* role as prototypes of what was to come but also in their *contemporary* role in the formation and definition of the European Atlantic. Their location was just as strategic in the early fifteenth century as it was in 1492; it allowed the Portuguese to venture southward in search of gold, spices, and a sea route to Asia and then return to Europe via an increasingly predictable route. A colonial system of mass production would not have been established on these islands if an integrated market for its products had not existed in Europe in the late middle ages. The Atlantic islands established the southwestern boundary of the European Atlantic at the same time as its northwestern boundary, Iceland, was being reunited with Europe through its adjacent fisheries. Into this newly-defined European Atlantic sailed Mediterranean vessels, just as they had a century before, and though their role of re-exporting goods from the Middle East and Italy to the northwest remained constant, everything else had changed. Their larger holds were filled with a greater variety of goods going in both directions; there were new tools and new maps on board; and they were encountering much more company and competition. The foundation had been laid for the emergence of a larger Atlantic world.

NOTES

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1.   Notable exceptions include Alfred W. Crosby, *Ecological Imperialism. The Biological Expansion of Europe 900-1900* (Cambridge, 1986); Philip D. Curtin, *The Rise and Fall of the Plantation Complex: Essays in Atlantic History* (Cambridge, 1990); and John Thornton, *Africa and Africans in the Making of the Atlantic World, 1400-1680* (Cambridge, 1992).

2.   Felipe Fernandez-Armesto, *Before Columbus: Exploration and Colonization from the Mediterranean to the Atlantic, 1229-1492* (Philadelphia, 1987), 252; and Fernândez-Armesto,"Atlantic

Exploration before Columbus: The Evidence of Maps," *Renaissance and Modern Studies,* X X X (1986), 12-34.

3.   Alfred W. Crosby, "The Columbian Voyages, The Columbian Exchange, and Their Historians," in Michael Adas (ed.), *Islamic and European Expansion: The Forging of a Global Order* (Philadelphia, 1993), 141-164. The database, "Columbus and the Age of Discovery," maintained at Millersville University, includes David Block's useful historiographical essay, "Quincentennial Publishing: An Ocean of Print." The URL for this is http://www.millersv.edu/~columbus.

4.   Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II* (2 vols., New York, 1972-1973), I, 224-226. Braudel's first successors were Pierre and Hugette Chaunu, *Seville et l'Atlantique. 1504-1650* (9 vols.,

Paris, 1955-1960); and Frédéric Mauro, _Portugal et VAtlantique. 1570-1670_ (Paris, 1960).

5.   Paul Butel, _The Atlantic_ (London, 1999), 4. Another attempt at European maritime history as _histoire totale_ is Michel Mollat du Jourdin, _Europe and the Sea_ (Oxford, 1993).

6.   Fernândez-Armesto, _Before Columbus;_ Pierre Chaunu, _European Expansion in the Later Middle Ages_ (Oxford, 1979); and J.R.S. Phillips, _The Medieval Expansion of Europe_ (Oxford, 1988), are the most authoritative studies.

7.   Charles de la Roncière, _La découverte de l'Afrique au moyen âge. Cartographes et explorateurs_ (3 vols., Cairo, 1925-1926), I, 50-51.

8.   Braudel, _Mediterranean,_ I, 224-266; and Chaunu, _European Expansion,_ 92-93.

9.   G.J. Marcus, _The Conquest of the North Atlantic (New_ York, 1981), 126-128.

10.   Fernândez-Armesto, _Before Columbus,_ 169.

11.   David Beers Quinn, _England and the Discovery of America. 1481-1620_ (London, 1974), 52-53.

12.   This is certainly the approach of Samuel Eliot Morison, who divides his _European Discovery of America_ into two volumes, _The Northern Voyages, A.D. 500-1600 (New_ York, 1971) and _The Southern Voyages. A.D. 1492-1616 (New_ York, 1974), as well as J.H. Parry, _77;e Age of Reconnaissance_ (New York, 1963) and _77;e Discoveiy of the Sea_ (New York, 1974). More recently, Thornton, _Africa and Africans,_ chap. 1, distinguishes between Atlantic and African "wings" of European expansion.

13.   Columbus' mental world is reconstructed by Valerie Flint, _The Imaginative Landscape of Christopher Columbus_ (Princeton, 1992). For more general and collective views, see Seymour Phillips, "The Outer World of the European Middle Ages," in Stuart B. Schwartz (ed.), _Implicit Understandings. Observing. Reporting and Reflecting on the Encounters between Europeans and Other Peoples in the Early Modern Era_ (Cambridge, 1994), 23-63; and Jacques Le Goff, _The Medieval Imagination_ (Chicago, 1988).

14.   Flint, _Imaginative Landscape, 1._

15.   See analysis, sources and illustrations in J.B.

Harley and David Woodward (eds.), _The History of Cartography: Cartography in Prehistoric. Ancient, and Medieval Europe and the Mediterranean_ (Chicago, 1987); and John B. Friedman, "Cultural Conflicts in Medieval World Maps," in Schwartz (ed.), _Implicit Understandings,_ 64-95.

16.   Adam of Bremen, _History of the Archbishops of Hamburg-Bremen_ (reprint, New York, 1959), 215 and 220.

17.   James S. Romm, _The Edges of the Earth in Ancient Thought: Geography. Exploration and Fiction_ (Princeton, 1992), 124-127.

18.   Roger Bacon, _The Opus Mains of Roger Bacon_ (Philadelphia, 1928).

19.   Adam of Bremen, _History,_ 218.

20.   Elias Serra Râfols, "Sermon de Clement VI acerca de la otorgacion del Reino de Canarias a Luis de Espana, 1344," _Revista de Historia Canada,_ XXIX (1963-1964), 88-111.

21.   Jane H.M. Taylor (éd.), _Le Roman de Perceforest_ (Geneva, 1979), 62.

22.   E.M. Carus-Wilson (éd.). _The Overseas Trade of Bristol in the Late Middle Ages_ (2nd ed., London, 1967): 157 and 161-165. Two recent studies of _les îles fantastiques_ are Robert H. Fuson, _Legendary Islands of the Ocean Sea_ (Sarasota, FL, 1995); and Donald S. Johnson, _Phantom Islands of the Atlantic_ (New York, 1994). See also Phillips, _Medieval Expansion,_ 241-245; and David Beers Quinn, "Atlantic Islands" in J. de Courcy Ireland and D. Sheehy (eds.), _Atlantic Visions_ (Dun Laoghaire, Ireland, 1989). For a comprehensive Atlantic history of Bristol, see David Harris Sacks, _The Widening Gate: Bristol and the Atlantic Economy. 1450-1700_ (Berkeley, 1991).

23.   Eduardo Aznar Vallejo, "The Conquests of the Canary Islands," in Schwartz (ed.), _Implicit Understandings,_ 134-156; and Fernândez-Armesto, _Before Columbus,_ 169-222.

24.   Petrarch, _7k? Life of Solitude_ (Urbana, IL, 1924), 267.

25.   _The Voyage of St. Brendan: Journey to the Promised Land (Navigatio Sancti Brendani Abbatis)_ (Dublin, 1978).

26.   See the Brendanesque depiction of a North

Atlantic cog, complete with a bishop on board and a whale below, as well as the Atlantic orientation, of the 1413 *portolano* of Mecia de Viladestes in Michel Mollat du Jourdin, *et al., Sea Charts of the Early Explorers, 13th to 17th Century* (London, 1984), plate 12.

27. *Ibid.,* plates 8 *(Catalan Atlas);* 18-19 (Benincasa); and 21 ("Columbis Chart"). The name "Brasil" derives from the Gaelic word for "blessed," *breas-ail.* Another source of confusion and convergence is the Latin phrase for the "Isles of the Blest" (Lucian, *True Histories), "Insulae Fortunatae,"* which the medievals knew, of course, as the Canary Islands.

28. The phrase is from Fernândez-Armesto, *Before Columbus,* 153.

29. Harley and Woodward (eds.), *History of Cartography,* 295.

30. The quote is from Flint, *Imaginative Landscape,* 48. The Massachusetts Historical Society has a facsimile of the 1480-1483 incunabulum of the *Imago Mundi* with Columbus' annotations: *Imago Mundi by Petrus de Aiaco with Annotations by Christopher Columbus* (Boston, 1927). The Latin text is included with other materials in Edmund J. Buron (ed.), *Ymago Mundi de Pierre d'Ailly (3* vols., Paris, 1930-1931).

31. Buron (ed.), *Ymago Mundi de Pierre d'Ailly,* I, 207-215.

32. Herman van der Wee, "Structural Changes in European Long-distance Trade, and Particularly in the Re-export Trade from South to North, 1350-1750," in James D. Tracy (ed.), *The Rise of Merchant Empires. Long-Distance Trade in the Early Modern World. 1350-1750* (Cambridge, 1990), 14-33; and Fernand Braudel, *Civilization and Capitalism, Fifteenth to Eighteenth Centuries* (3 vols., New York, 1981-1986), III, 92-174.

33. Olivier de La Marche, *Mémoires (2* vols., Paris, 1883-1884), 11,219.

34. Robert Bartlett, *77;e Making of Europe. Conquest, Colonization and Cultural Change, 950-1350* (Princeton, 1993), 314. Medieval migration is discussed in Seymour Phillips, "The Medieval

Background," in Nicholas Canny (ed.), *Europeans on the Move: Studies on European Migration. 1500-1800* (Oxford, 1994), 9-25.

35. For a truly transatlantic discussion of the Turner thesis and its applicability to medieval Europe, see Robert I. Burns, "The Significance of the Frontier in the Middle Ages," in Robert Bartlett and Angus MacKay (eds.), *Medieval Frontier Societies* (Oxford, 1989), 307-330.

36. John Munro, "Patterns of Trade, Money and Credit," in Thomas A. Brady, Jr., Heiko A. Oberman and James D. Tracy (eds.), *Handbook of European History. 1400-/600. Late Middle Ages. Renaissance, and Reformation: Structures and Associations* (Leiden, 1994), 147-196.

37. Richard W. Unger, *The Ship in the Medieval Economy, 600-1600* (London, 1980), chapter 5; and John H. Pryor, *Geography, Technology, and War. Studies in the Maritime History of the Mediterranean, 649-1571* (Cambridge, 1988), 39-43.

38. Ian Friel, *The Good Ship: Ships, Shipbuilding and Technology in England, 1200-1520* (Baltimore, 1995), 169.

39. Gillian Hutchinson, *Medieval Ships and Shipping* (Cranbury, NJ, 1994), 44-45.

40. Sacks, *Widening Gate,* 20-24.

41. Carus-Wilson (ed.), *Overseas Trade,* 60-63; and Michael Haren and Yolande de Pontfarcy (eds.), *The Medieval Pilgrimage to St. Patrick's Purgatory. Lough Derg and the European Tradition* (Enniskillen, Ireland, 1988).

42. Thornton, *Africa and Africans,* 13-42.

43. William D. Phillips, Jr., and Carla Rahn Phillips, *The Worlds of Christopher Columbus* (Cambridge, 1992), 145-147.

44. Curtin, *Rise and Fall, 22.*

45. Crosby, *Ecological Imperialism,* 70-103.

46. *Ibid.,* 100.