DIVIDING THE OCEAN SEA*

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ABSTRACT. The conventional view of global hydrography, which maps three or four oceans (Pacific, Atlantic, Indian, and, sometimes, Arctic) did not emerge until the late nineteenth and early twentieth centuries. Previously, markedly different conceptions of sea space prevailed, conceptions that changed not only to reflect new discoveries but also in accordance with changing intellectual fashions. By examining the history of global hydrography and by entertaining novel schemes of oceanic division, one can see the world afresh and perhaps discover connections that are obscured by conventional geographical divisions. *Keywords: cartography, history of geographical thought, oceans.*

Global geography operates under a widespread assumption of naturalism. The continents and oceans that constitute the most basic divisions of the world are generally regarded—to the extent that they are considered at all—as nonproblematic features of the natural world, features that have been discovered rather than delimited by convention. A quick glance at a globe, however, reveals that the continental distinction between Asia and Europe is not discernable by physical criteria; closer investigation reveals that the differentiation of North and South America, the insistence that Australia forms a continent and not an island, and even, to some extent, the separation of Asia and North America are as much intellectual constructs as they are given features of the natural world (Lewis and Wigen 1997).

The conventional nature of oceanic divisions is perhaps more obvious than that of continents, for the simple reason that all of the world's oceans, unlike all of the continents, are interconnected by broad passageways. Yet atlases, almanacs, encyclopedias, and other standard sources of geographical information invariably present an assuringly exact depiction of each ocean's areal extent. In *Goode's World Atlas,* for example, we are informed that the Pacific covers 63,800,000 square miles, as if it were an unambiguously bounded body that one could simply measure (Goode 1990, 250). Where the Pacific ends and the Indian or Atlantic Ocean begins—a far from obvious matter—is rarely addressed in such sources. Yet different geographical reference works evidently employ different boundaries, for they disagree profoundly about how large the Pacific actually is. The *World Almanac*'s Pacific, at a precise-sounding 64,186,300 square miles (Famighetti 1997, 593), is almost 400,000 square miles larger than that of *Goode's,* and that of the *Encyclopaedia Britannica,* with marginal seas included, is more than 5 million square miles larger still (Mero 1989, 25: 125).

At one level, such ambiguity is of little account. Adding or subtracting a few million square miles from or to the Pacific is hardly a pressing matter. Most geographers

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would probably contend that such numbers are merely vague approximations anyway, reflecting somewhat arbitrary divisions of the boundless sea. And despite the discrepancy regarding the size of the Pacific, global agreement on maritime divisions is actually striking. The same oceans and seas, given the same names (albeit often in translation) and bounded, more or less, at the same places, are recognized across most of the globe. Political considerations occasionally intrude at the level of nomenclature: Koreans insist that the body of water to their east is the "Eastern Sea" and not the Sea of Japan, and Indonesians sometimes refer to the body of water to their west as the "Indonesian Ocean" rather than the Indian Ocean. Such disputes, however, are rare; in general, local names have yielded to global conventions. The resulting global concord in geographical naming and bounding is tremendously useful, for it facilitates the exchange of information and aids the nascent movement to provide some form of international governance for the marine world.

But although it is useful to divide the seas into relatively well demarcated and internationally recognized units, such a maneuver is problematic to the extent that it disguises the conventional nature of their construction. The maritime realm can be, and has been, divided in different ways, yielding units that are nonetheless just as logically constituted—and just as faithful to the underlying patterns of the physical world—as those presently on our maps. Entertaining alternative views of the ocean and its subdivisions allows us to see the world afresh, revealing patterns and connections that may be obscured in our standard worldview. The current taken-for-granted system of maritime spatial classification did not, in fact, emerge in broad outlines until the 1800s and did not assume its full-blown form until the twentieth century. In earlier times, especially during the eighteenth-century Enlightenment, radically different notions of sea space prevailed. By examining changes in the Western oceanic imagination, I seek to show not only that alternative views are possible but that such alternative visions can conceivably shed light on certain geographical patterns and processes that are obscured by our constricted and naturalistic assumptions about maritime space.

Three major variations in the conceptualization of sea space can be seen over the centuries. First is the manner in which the oceanic realm as a whole has been divided into its major constituent units, now called "oceans." Second is the changing way in which the hierarchy of oceanic divisions and subdivisions has been arrayed: Seas, for example, are now considered constituent units of the larger oceans, but this has not always been the case. Third is the matter of nomenclature, the changing names assigned to the (more or less) same bodies of water. Although naming is seemingly the least complex issue at hand, it can have significant political and ideological ramifications; the demise of the "Ethiopian Ocean" in the nineteenth century, for example, perhaps reflects the denigration of Africa that occurred with the rise of racist pseudoscience (Bernal 1987).

The conventional present-day schema of global geography, encompassing continental and oceanic constructs alike, is rooted in a specifically European worldview. During the colonial era, Western ideas about the division of the globe were forced

on, and often eagerly borrowed by, other societies the world over, thereby largely extinguishing competing geographies. To examine the history of imagining the ocean, one must therefore begin with ancient Greek geography, even though Greek ideas on this score may ultimately have been rooted in Babylonian, Egyptian, and Phoenician concepts that are now largely lost. Tracing out this story involves examining the cartographic evidence; certainly other modes of division are imaginable and possible, but it is the cartographic imagination that most directly informs our division of the Ocean Sea.

The Classical Tradition

The ancient Greek view of maritime geography was focused, not surprisingly, on the Mediterranean system—on Thalassa, the sea. The earliest recorded representations, most importantly that of Homer, pictured the Mediterranean as situated at the center of a circular world, a view that may be rooted in Babylonian conceptions (Dilke 1985, 13; Aujac 1987, 131; Thrower 1996, 16). This circular world, in turn, was bounded by "Ocean," a flowing stream—the Ocean River—coursing around the Afroeurasian landmass. Mythologically, the Ocean River was ruled by, and named after, the titan Oceanus. Just as Oceanus was held to be the father of personified rivers (river gods) in the Greek world, so the primeval water of the Ocean River was considered the ultimate font of all terrestrial streams (Grimal 1986, 315). In this view, the Mediterranean Sea was literally and figuratively a central place, whereas Ocean formed the potent and foreboding limit of the habitable world.

The mythological vision of a primordial Ocean River gradually yielded to a more mundane perspective. Although Hecataeus and the other philosophers of the sixth-century B.C. Ionian enlightenment subjected much of geography to formal analysis, their underlying concept of the maritime system remained relatively unchanged. Ocean was still conceived as a circumfluent stream coursing around an essentially circular "known world" (Keane 1899, 8); "the river Oceanus," according to O. A. W. Dilke, "was a permanent concept in Graeco-Roman antiquity" (1985, 56; see also Smith 1872–1873, 1: 312; Wright 1925). A few Greek geographers even continued to believe that the Nile River flowed directly from Oceanus to Thalassa (Heidel 1937, 27–28).

The neatly stylized global vision of Hecataeus and the Ionian school, though highly influential, was rejected by several prominent Greek thinkers. Both Herodotus and Aristotle scoffed at ideally circular depictions of the terrestrial world (Aujac 1987, 134, 145), and Herodotus flatly denied the entire ocean-river concept: "I know myself of no river called Ocean, and can only suppose that Homer or some earlier poet invented the name" (1972, 137). Arguing against the Homeric and Ionian traditions, Herodotus called instead for an empirically based geography that would acknowledge the limits of current understanding (Romm 1998, 89). In his vision, there was simply no way to know whether ocean surrounded the entire ecumene. He also castigated as "less rational" the theory that the Nile flowed directly from the ocean (Herodotus 1972, 137). Herodotus, moreover, presciently insisted that the Caspian

formed a completely enclosed body of water rather than a gulf of the ocean, as was then commonly assumed (p. 123).

Yet Herodotus's geographical vision did not prevail, and most classical geographers continued to posit an earth-encompassing Ocean. Different Greek and Roman scholars appended various names to this body of water and its several segments without challenging its essential unity. Many writers used the term "Atlantic" (derived from the titan Atlas) to refer to the entire Ocean Sea, whereas others called this water body the "Outer Sea," "Great Sea," or simply "Oceanus." Specific segments of this ocean received locational referents, such as the "Western" (our Atlantic), "Southern," "Eastern," and "Northern" Seas (Smith 1872–1873, 1: 312–313). The term "Indian Ocean" (Indikon pelagos) was commonly employed but usually referred only to the waters off India itself. The western part of the modern Indian Ocean was called the "Erythraean Sea" (Red Sea), whereas Roman geographers called the waters of the central Indian Ocean, around the latitude of Sri Lanka, the "Mare Prasodum" (Green Sea) (Toussaint 1966, 6). From the world-encompassing ocean issued, in most accounts, four great embayments: the water bodies now known as the Mediterranean Sea, the Caspian Sea, the Red Sea, and the Persian Gulf. The view that four major gulfs indented the ecumene persisted throughout antiquity, being especially prominent in the work of Strabo (1917, 467) and Pomponius Mela (1998, 34), as well as in that of the notorious "flat earther," Cosmas Indicopleustes (Dilke 1985, 171–172).

Ptolemy's work is often considered to mark the zenith of classical geography, but his views on the global distribution of land and waters were decidedly heterodox (Dilke 1985, 81). Like Herodotus, Ptolemy rejected the circular landmass and the circumambient ocean. In his continental vision, landmasses extended to the edge of the map, presumably continuing into the unknown reaches of the world (although he also opined that more of the globe was covered by water than by land [1991, 159]). Ptolemy castigated geographers who "surround the earth on all sides with an ocean, . . . making a fallacious description, and an unfinished and foolish picture" (p. 165). He further hypothesized that the world's major water bodies were themselves discontinuous, separated by intervening landmasses. The fact that tides were experienced in both the Atlantic and the Indian Oceans led scholars such as Eratosthenes and Posidonius to posit their unity; Ptolemy, however, argued against uniform tides in these two bodies of water (Thomson 1965, 163, 208, 213). In particular, he depicted the Indian Ocean as an enclosed lake, separated from the Atlantic by a southerly land bridge linking Asia to Africa (Ptolemy 1991, 159–160).

In short, in the classical Mediterranean world a dominant oceanic model, predicated on a single sea encircling a limited ecumenical body of land, vied with a continental model, in which seas were separated from each other by extensions of dry land (Wright 1925, 19). These two views, in various permutations, were to coexist for centuries; the issue was not finally settled, in favor of a (modified) oceanic model, until the completion of the voyage of Ferdinand Magellan in the early 1500s.

Those scholars who imagined the known earth as an island surrounded by sea did not necessarily view the ocean itself as undivided. Pythagorean influences led

several scholars to hypothesize an unknown landmass in the Southern Hemisphere to counterbalance that of the north. With Crates of Melos, the earth was partitioned into four such continents, each located in a different quadrant of the globe (one in the Northern Hemisphere on the opposite side of the ecumene, the other two in the Southern Hemisphere). Crates' theory implicitly posited two earth-spanning oceans, one oriented north–south, the other east–west (Cassidy 1968, 19; Dilke 1985, 42; Relaño 1997, 11).

Crates' theory came to be favored by most Roman geographers (Whittaker 1994, 12). Under its influence, Mela wondered whether Taprobane (Sri Lanka) might be the northern tip of the southern continent (Mela 1998, 25, 114, 122). Mela, like other Roman geographers, applied different names to different sections of the oceanic water encircling the known world: "Ocean, differing by name as by position, abuts Asia from three directions: the Eastern Ocean from the east, from the south the Indian, from the north the Scythian Ocean" (Mela 1998, 36). Other classical geographers added to the lexicon of maritime place-names: Ptolemy named four separate oceans merely in the waters around Britain (Dilke 1987, 193). Such designations were not applied with much precision but, rather, served as convenient tags for ill-defined stretches of coastal water that merged into the "boundless sea" (Mela 1998, 103). (According to Tozer, the term "Oceanus," reflecting its riverine origins, actually connoted an area of water near the shore [1897, 21]). Among the minor geographical writers of the Roman period, even the locations of named water bodies could be quite confused. One text, for example, listed the province of Syria under the heading of the "Oceanus Orientalis," even though this "ocean" was in most contemporary sources placed to the east of India (Whittaker 1994, 14). Nor were classical geographers generally concerned with taxonomic distinctions between different kinds of sea space. Mela, for example, used the terms *mare* (sea) and *sinus* (gulf) interchangeably (1998, 37).

The empirically based tradition of Herodotus, who refused to speculate about the unknown world, had clearly faded by the Roman period. And as the classical era in the Mediterranean world passed into late antiquity and thence to the Middle Ages, more cosmological views of global geography, stressing theoretical elegance and theological order, increasingly held sway.

Medieval Constructs

In medieval Europe the views of Ptolemy, Herodotus, and Strabo, now considered the foremost classical geographers, were of relatively little account. Far more important were three writers of late antiquity: Macrobius, Orosius, and Martianus Capella, all of whom viewed the (known) world as bounded by Ocean (Kimble 1938, 8, 20). Macrobius and Capella, following Crates, postulated four inhabited landmasses, three of which remained unknown, symmetrically arranged and partitioned by the sea (Cassidy 1968, 54–56; Dilke 1985, 174). The complex flow patterns and resulting collisions of the ocean's waters around these continents resulted, according to Macrobius, in the tidal flux (Macrobius 1952; see also Cassidy 1968, 56). Macrobius also

postulated an oceanic stream, the "Alveus Oceani," flowing just below the sea's surface in the tropical waters separating the ecumene from the unknown southern landmass (Woodward 1987, 300).

Although the Cratesian notion of other inhabited landmasses eventually lost favor with Christian geographers, for whom human geography had to square with the biblical account (see Relaño 1997, 34), medieval geography remained heavily indebted to Macrobius and Capella. Early medieval writers generally portrayed the known world as a neatly bounded, often roughly circular or oblong space surrounded by an encompassing ocean or ocean stream (Cassidy 1968). Isidore of Seville opined that the known earth "was called *orbis* because it was like a wheel with the ocean flowing all around it" (Cassidy 1968, 63; see also Kimble 1938, 24). Many medieval writers regarded the encircling ocean as small compared with the terrestrial earth, a notion supported by both Aristotle and Crates but based in part on a passage from the apocryphal second book of Esdras (6: 42): "On the third day you ordered the waters to collect in a seventh part of the earth; the other six parts you made dry land" (quoted in Woodward 1987, 328; see also Wright 1925, 188). The influential geographical thinkers Petrus Comestor and Pierre d'Ailly both believed that the earth's lands were much more extensive than its waters (Grafton 1992, 82). A few other writers, however, including Dante, came to different conclusions, positing a vast and undivided ocean (Hawkins 1991, 195; Relaño 1997, 14).

In the increasingly sacralized medieval worldview, the geometrical arrangement of land and water was held to have profound theological significance. This may be seen most clearly in the "T–O orbs" of the time. In this tradition, dating back to Isidore of Seville, a circular ocean—not dissimilar to that of the ancient Greek poetic tradition—encompasses a terrestrial world on which rivers and seas together inscribe the shape of the cross. It is important to note, however, that the so-called T–O maps served more as religious icons than as sources of spatial information; as David Woodward shows, the function of all medieval *mappaemundi* was "primarily didactic and moralizing and lay not in the communication of geographical facts" (1987, 342).

But whatever their intent, early medieval world maps did depict spatial patterns of land and sea, and they did so in a manner reminiscent of the descriptions of the Ionian geographers of the sixth century B.C. The maps in the Beatus cartographic family (derived from the work of Beatus of Liebana, fl. 776–786; see Dilke 1985, 173; Woodward 1987, 300ff.), for example, stemming from an eighth-century Spanish prototype, depict an oval or circular known world surrounded by an island-pocked "Oceanus circumfluens" (Figure 1) (J. Williams 1997, 20). From this stream, embayments emphasized by classical geographers—the Mediterranean Sea and the Arabian and Persian Gulfs—protrude in a highly stylized manner. The Red Sea, often portrayed as an east–west channel separating the ecumene from an antipodal land to the south of Africa, is also a prominent feature on many Beatus maps.

During the High Middle Ages, world maps grew far more intricate than those of the Beatus tradition, sacrificing geometrical order for the portrayal of specific, if not always accurate, information. In most instances, however, they continued to depict

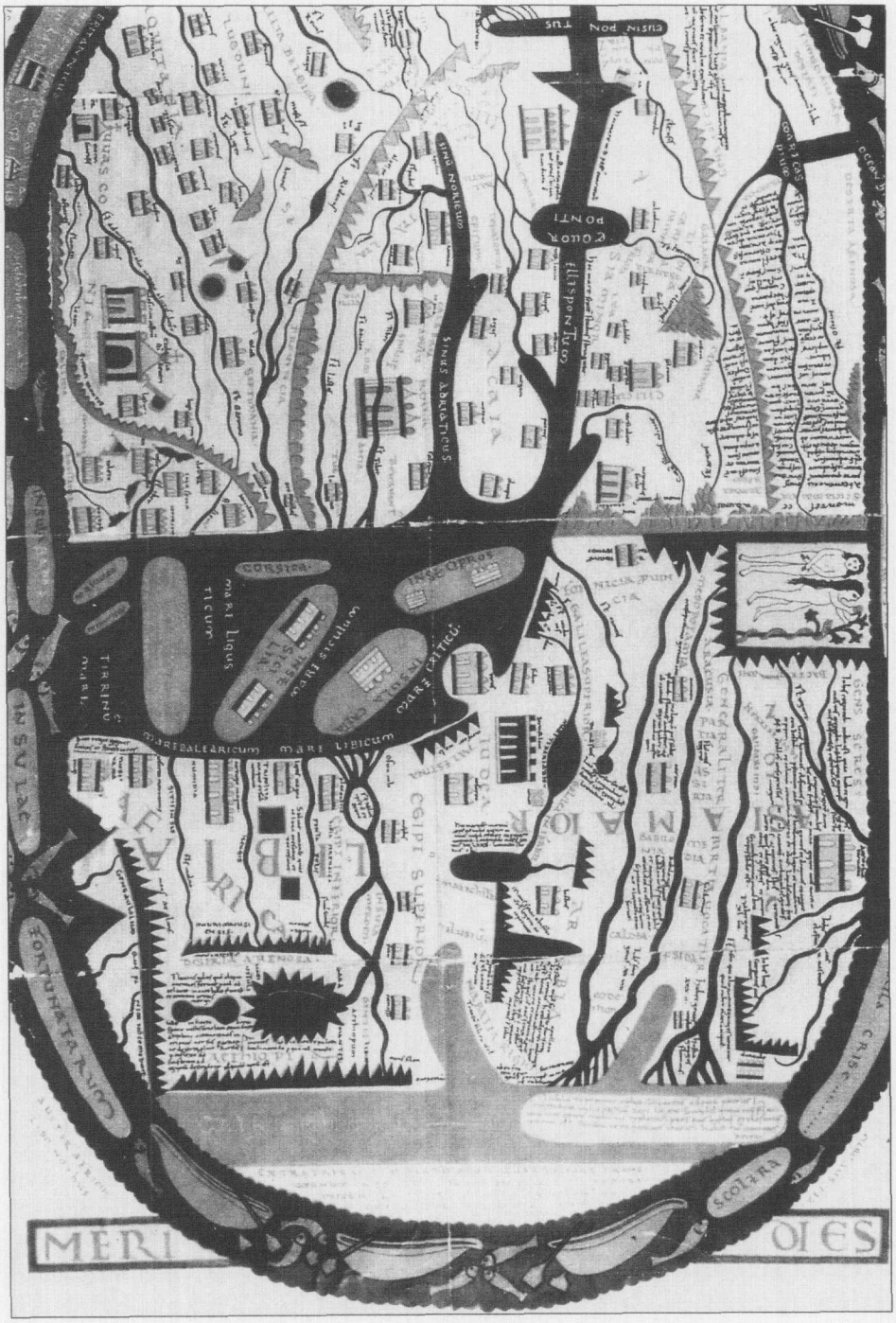

FIG. 1—A Beatus map, eighth century. (Reproduced courtesy of the American Geographical Society Collection of the University of Wisconsin–Milwaukee Library)

the ocean as a narrow, encircling boundary of the inhabited world. As Woodward summarizes the medieval mappaemundi: "Around the entire world was the encircling ocean, an enduring tradition since the time of Homer" (1987, 328). Francesc Relaño nonetheless cautions against assuming that such portrayals implied a literal belief in a narrow oceanic belt (1997, 142). Although the depiction of Ocean on most mappaemundi was "in harmony with the Homeric 'Oceanus River,' " this largely arose "from the absence of any motivation for extending its width at that early stage. For, unlike the Christian ecumene, the surrounding sea was the huge realm of nonhumanity" (p. 142).

This maritime boundary at the periphery of the terrestrial world, whatever its width might be, was not conceived as the edge of a flat earth, beyond which lay the void. As Jeffrey Burton Russell has shown, the flat-earth scenario was largely the invention of nineteenth-century Darwinists seeking to discredit the Christian worldview (1991). Most medieval European thinkers fully accepted the sphericity of the earth, and most of those who did not were at least agnostic on the issue. But the ocean was still largely perceived as a barrier to, rather than as a potential conduit for, interregional communication. Some thinkers, following a tradition dating back to the ancient Greeks, averred that the ocean was far too shallow, too blocked by muddy shoals and seaweed thickets, to allow westward voyages that might eventually reach eastern Asia (Cassidy 1968, 163). Circumnavigation of the world island, moreover, was usually deemed impossible because of the hypothesized torridity of the equatorial zone and the frigidity of the Arctic. In the 1200s, however, a few bold thinkers, including Albertus Magnus and Roger Bacon, did suggest that the torrid zone might be surmountable (Relaño 1997, 35, 146).

The transmission of Ptolemy's *Geography* from the fading Byzantine Empire to western Europe in the early 1400s brought about a revolution in global hydrography. Ptolemy quickly became the geographers' touchstone, supplying a new model of a mathematically precise depiction of the pattern of land and sea, divorced from theological concerns. In the process, the prevailing vision of a land-encompassing ocean was challenged by Ptolemy's continentalist bias. Many fifteenth-century world maps followed Ptolemy in depicting an enclosed Indian Ocean, isolated by a land bridge connecting southern Africa to Asia. But despite Ptolemy's profound influence, his global vision never reigned supreme. Important world maps of the 1400s by Fra Mauro, Andreas Walsperger, and Giovanni Leardo continued to depict a roughly circular ecumenical landmass surrounded by an oceanic ring. This vision was, of course, endorsed by mariners proposing to reach India by sea. As Norman J. W. Thrower relates, "Because of the circumfluent ocean on some late medieval maps, a navigable route from Europe to the Indian Ocean by way of southern Africa—denied by early representations by Ptolemy—appears to be feasible" (Thrower 1996, 56; Relaño 1997, 165, 176).

What immediately strikes the modern viewer's eye on the Leardo map of 1452 or 1453, as on many maps of the era, is the bright red coloring given to the Red Sea (Figure 2). How this body of water received its name and whether that name actually

stemmed from a red coloration (either of the water, the sea's coral bed, or its surrounding lands) were topics of considerable interest among geographers through the Renaissance (see, for example, the long discussion in Purchas 1905, 1: 60–62). Complicating any answer to these questions was the unstable referent of the term. To the ancient Greeks, the Red or "Erythraean" Sea was a southeastern segment of the circumfluent ocean, denoting the area of water now known as the northwestern Indian Ocean (including the Arabian Sea, the Gulf of Aden, and the waters off the Somali coast). The body of water that we now call the "Red Sea" was then usually called the "Sinus Arabicus" (Arabian Gulf), one of the four great bays penetrating the ecumenical landmass. Medieval European geographers, however, could not agree on where the Red Sea should be located. One source of confusion was the biblical story of the parting of the Red Sea, which is evidently based on a mistranslation of "Reed Sea," a shallow barrier between the Nile Delta and the Sinai Peninsula. Classically minded geographers in the Renaissance insisted on calling the body of water to the west of Arabia the "Sinus Arabicus"; others called it "Mare Rubrum" or "Mare Rosso," and a few used both terms. On some maps of the time, the label "Red Sea" (in various forms) was appended only to the Gulf of Aden; in others it denoted the entire Arabian Sea. This toponymic wandering did not cease entirely until the 1800s.

The main lesson to be gained from the instability of the term "Red Sea" is that geographical terminology before the nineteenth century was anything but precise. Labels for large expanses of water or land were often deployed in a casual manner, imperfect synonyms abounded, and the transposition of place-names was common. More remarkably, few cartographers or geographical writers seem to have cared much for consistency on this score. The casual nature of premodern geographical nomenclature is most clearly evident in the terrestrial divisions inscribed on the famous Hereford World Map (circa 1300), on which the terms "Africa" and "Europe" are transposed. Seeing "Africa" written across the face of western Europe can only strike the modern observer as a ludicrous error, but little seems to have been made of it at the time. As late as the 1700s, world atlases often gave completely different names to the same bodies of water on different maps. (See, for example, Emanuel Bowen's *World Atlas* of 1744: On page 55, the South Atlantic is the "Southern Ocean," but on page 58 the same area is the "Atlantic Ocean.") The insistence on consistent nomenclature for large geographical categories is to some extent an artifact of modernity.

The Oceans Mapped and Knit Together

The European voyages of exploration and plundering in the 1400s and 1500s necessitated a radically new vision of the world and its oceanic reaches. This period saw what J. H. Parry aptly calls the "discovery of the sea"—a discovery, in other words, "of continuous sea passages from ocean to ocean" (1981, xii). Knowledge gained of the vast, interconnected, yet to some extent subdivided maritime expanse was as significant cosmographically as was the discovery of a fourth part of the terrestrial world.

After the voyage of Vasco da Gama, the Ptolemaic conception of an enclosed Indian Ocean could no longer be maintained. Still, several cosmographers associated

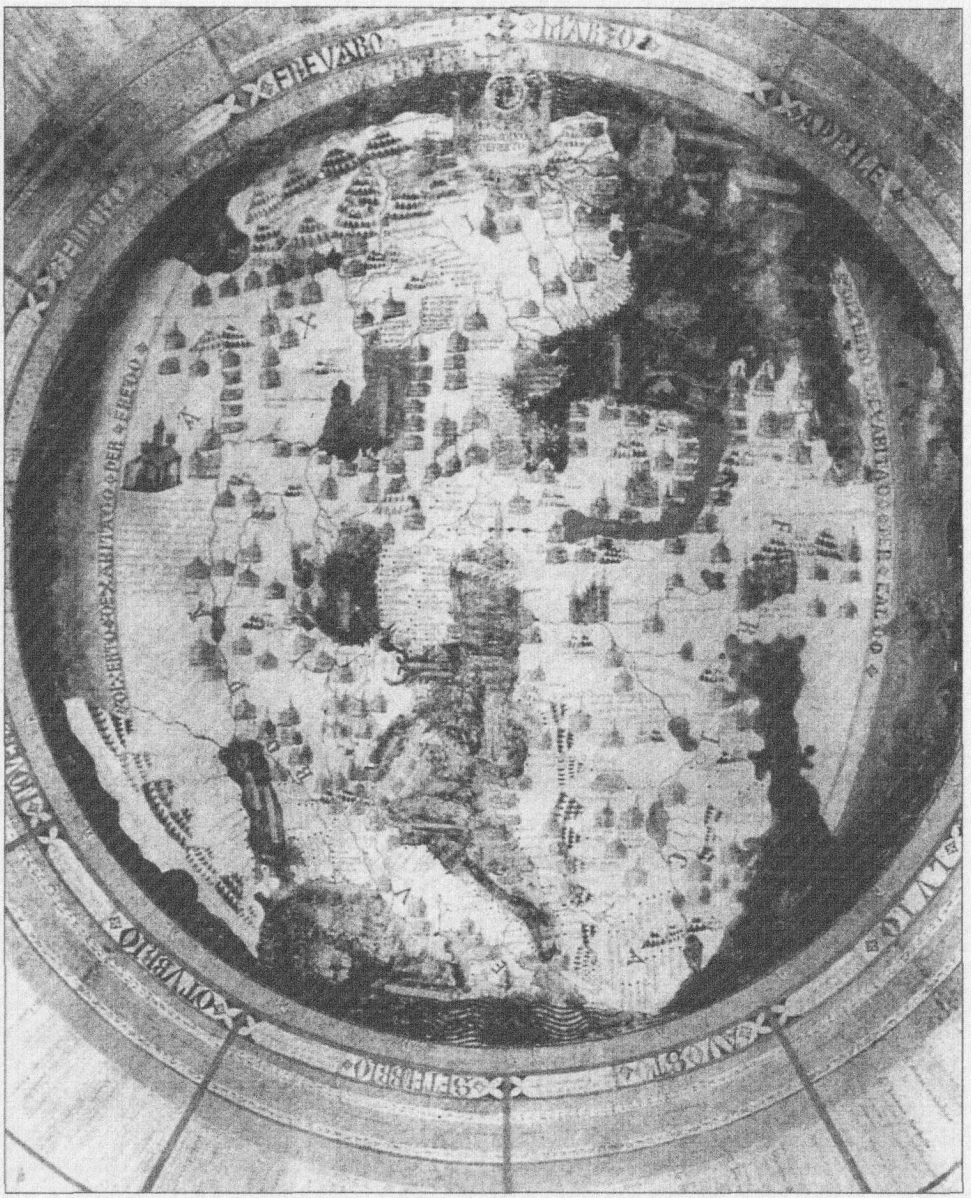

FIG. 2—Map of the world by Giovanni Leardo, 1452 or 1453. (Reproduced courtesy of the American Geographical Society Collection of the University of Wisconsin–Milwaukee Library)

with Iberian courts upheld a modified continental model of the world in which land bridges enclosed the seas, preventing global maritime communication. Lopo Homem, an official cartographer of the Portuguese government, for example, depicted America in 1519 as joined to the hypothesized great southern landmass that in turn was linked with eastern Asia, thus enclosing the Atlantic and Indian Oceans to-

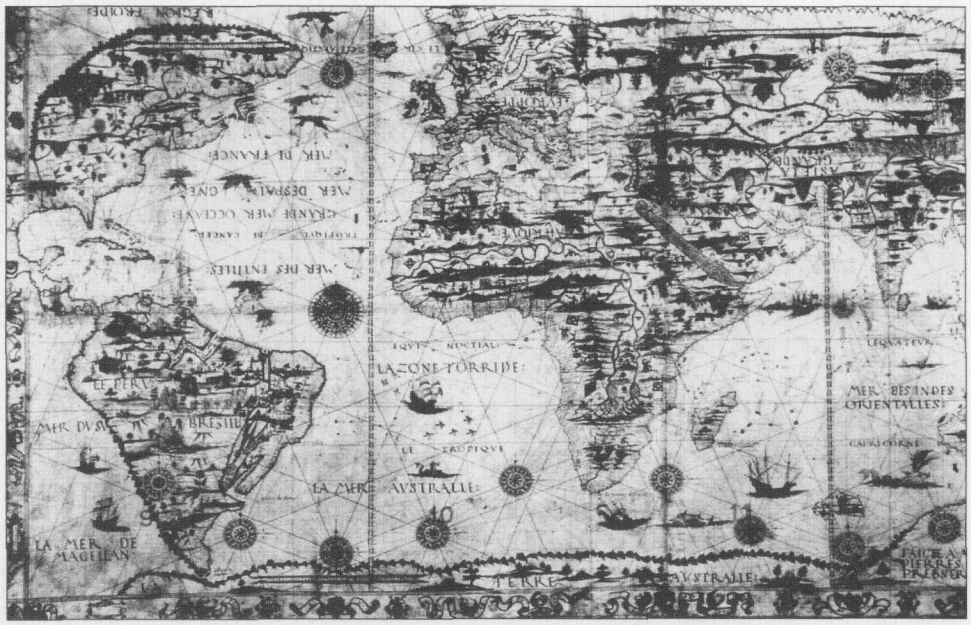

FIG. 3—A portion of the world map by Pierre Desceliers, 1553. Reprinted in 1924 by the Vienna Geographical Society. (Reproduced courtesy of the American Geographical Society Collection of the University of Wisconsin–Milwaukee Library)

gether in an isolated maritime realm (Relaño 1997, 235–236). The voyage of Magellan, however, put a quick end to such speculation. Henceforth, the interconnectedness of the marine world was fully recognized.

The new oceanic model of global geography is evident in the Cantino Planisphere of 1502, a surprisingly modern-looking map, given its date. But although this map represents the final eclipse of the Ptolemaic world vision, its nomenclature relies heavily on Ptolemy. The North Atlantic is the "Oceanus Occidentalis" (Western Ocean), whereas the Pacific (or at least the western Pacific) is still the "Oceanus Orientalis" (Eastern Ocean)—suggesting that the world island could still form the central reference point. Another Ptolemaic place-name on the Cantino Planisphere is the "Mare Barbaricus" (Barbarian Sea), located off the east coast of Africa—even though the map indicates no indention worthy of such distinction.[1] Maritime spaces unknown in the classical tradition presented a greater challenge. Here the southern Atlantic become simply the "Mare Oceanus" (Ocean Sea), as if it were effectively the main body of the world's maritime expanse.

Over the course of the 1500s, cartographers increasingly distinguished discrete oceans on the map of the world. In Diego Ribero's map of 1529, for example, the South Atlantic Basin is labeled, as it generally would be over the next 300 years, the "Ethiopian Ocean." In Sebastian Cabot's map of 1544, the Pacific seems to appear as a distinct place. But it was not—nor would it often be until the 1800s—called "the Pacific." Although Magellan bestowed this name in the early 1500s, it was Balboa's

term, the "Mar del Sur" (South Sea), that stuck—even though it originally referred only to the Bay of Panama. (One reason why this seemingly incongruous label continued to be employed was the fact that European mariners had to sail far to the south to enter its water; see Spate 1977.) Elsewhere, classical terms and concepts continued to be used where possible, even if they did not correspond to any visible marine divisions. Sebastian Cabot, for example, designated the central portion of the Indian Ocean as the "Mare Prasodum" (Green Sea), reserving the label "Indian Ocean" for areas farther to the north.

Although most sixteenth-century world maps show the familiar roster of oceanic place-names—some classical, others derived from recent feats of navigation—nomenclature remained far from fixed. A few cartographers used wildly divergent classification systems. In Pierre Desceliers's map of 1553, for example, the South Atlantic becomes the "Southern Sea" and the Indian Ocean is called the "Eastern Indian Ocean" (Mer des Indes Orientales) (Figure 3). But it is the North Atlantic in which Desceliers's scheme is most unusual. Rather than viewing this expanse of sea as a distinct basin, Desceliers treats it as a series of oceanic strips or bands extending seaward from, and named in accordance with, segments of the European and American coasts. Thus one encounters, in midocean, not only the "Great Ocean Sea" but also the "Sea of France," the "Sea of Spain," and the "Sea of the Antilles."

Although Desceliers's view of the Atlantic failed to gain acceptance, it does dramatically illustrate an important feature of early modern maritime nomenclature. He may have defied convention by extending land-based names across a major ocean basin, but it was common at the time to conceptualize certain "seas" or even "oceans" as segments of water situated off an eponymous area of land, rather than, as modern geography has it, distinct bodies of water partially separated from other waters by intervening lands.

Toward a Basins Perspective

Oceanic divisions and nomenclature grew more stable in the late 1500s. Individual oceans came increasingly to be conceptualized, or at least cartographically depicted, as discrete units of sea space. This view is apparent in the labeling employed by Abraham Ortelius, the Dutch cartographer who essentially invented the modern atlas.

Ortelius in 1570 divided the Atlantic into two distinct basins, labeling the northern one "Mar Del Nort" (North Sea) and the southern one "Ethiopian Ocean." He identified the Indian Ocean as a single basin, called simply the "Sea of India," and designated the Pacific as the "Mar Del Sur" (Figure 4). The result was a map showing four major oceanic basis: the North Atlantic, the South Atlantic, the Pacific, and the Indian. This scheme is remarkably similar to the modern-day maritime classification, the only major difference, other than that of nomenclature, being the division of the Atlantic. But a closer look at Ortelius's maps indicates that he may have arrived at this concept of discrete ocean basins through a different evidentiary base than that confronting the present-day hydrographer. Like most of his contemporaries, Ortelius depicted a great southern landmass, one roughly concentric with but far larger

than Antarctica. This hypothetical landmass was drawn as extending almost to the southern tips of Africa and South America and as encompassing the whole of Australia and New Guinea. This spectral continent effectively divided the global Ocean into a series of basins far more discrete than the ones visible on a modern globe.

If Ortelius's world maps reveal a surprisingly modern conception of large marine divisions, his atlas as a whole shows a very different sense of the organization of sea space (1964). Ortelius labeled large basins generally as either a "mar" (sea) or an "oceanus" (ocean), evidently using the two terms interchangeably.[2] If anything, he more often mapped smaller divisions of marine territory as oceans rather than as seas. Thus his map of Europe identifies an "Oceanus Britannicus" (British Ocean) as well as the "Oceanus Deucaledonius" (Scottish Ocean). Here one encounters the old concept of an ocean as a coastal segment of water identified with the adjacent lands (Tozer 1897, 21). Terms such as "Deucaledonius," derived from Ptolemy, also show the persistence of the classicizing urge.

In the heyday of Dutch cartography, northern European world maps diverged farthest from the Ortelian view in their depiction of the Pacific. Typically, seventeenth-century maps placed three or sometimes even four names in different parts of this vast basin. The far western Pacific was often labeled the "Oceanus Cinensis" (Chinese Ocean), a term that reappears, in several different forms, over the next two centuries (see, for example, the world maps of Hondius/Mercator [1613], Pieter van den Keere [1611], and Willem Janszoon Blaeu [1607]). The eastern/central Pacific, in contrast, was usually depicted as "Mar del Zur" in the equatorial reaches and as the "Mare Pacificum" at about 30° south latitude. Most intriguingly, the northeastern Pacific was sometimes identified as the "Oceanus Occidentalis" (Western Ocean) (see, for example, the three maps reproduced in Schilder 1981).

Although this version of the "Occidental Ocean" soon disappeared, the dual labeling of the Pacific as both the "South Sea" and the "Pacific Sea" (or "Ocean") became virtually standard in later seventeenth-century maps. The term "Pacific" typically appears in smaller lettering than does "Mar del Sur," and it is usually placed in the southeastern reaches of the basin, near the spot where Magellan, after having been battered in negotiating the straits, initially entered calm waters and endowed the name. It remained uncertain, however, whether the term "Pacific" properly referred only to these waters or, more generally, to the ocean as a whole (as a synonym, in other words, for "South Sea"). In 1703, William Dampier insisted that the calm area to the north and west of the Juan Fernández Islands was "the *Pacifick Sea*, properly so called," disagreeing with cartographers who appended the label to the entire basin, which he repeatedly called the "South-Seas" (or "South-Sea") (1937, 71, 63). Four decades later, Richard Walter, the recorder of George Anson's famous circumnavigation, made it clear that he expected to find "the celebrated *tranquility* of the Pacific Ocean" within the confines of the larger Southern Ocean—although he was disappointed on this score (Walter 1900, 50). The term "South Sea," moreover, remained ambiguous as well: Daniel Defoe limited it to the Southern Hemisphere, whereas the South Sea of the infamous South Sea Company extended only 300

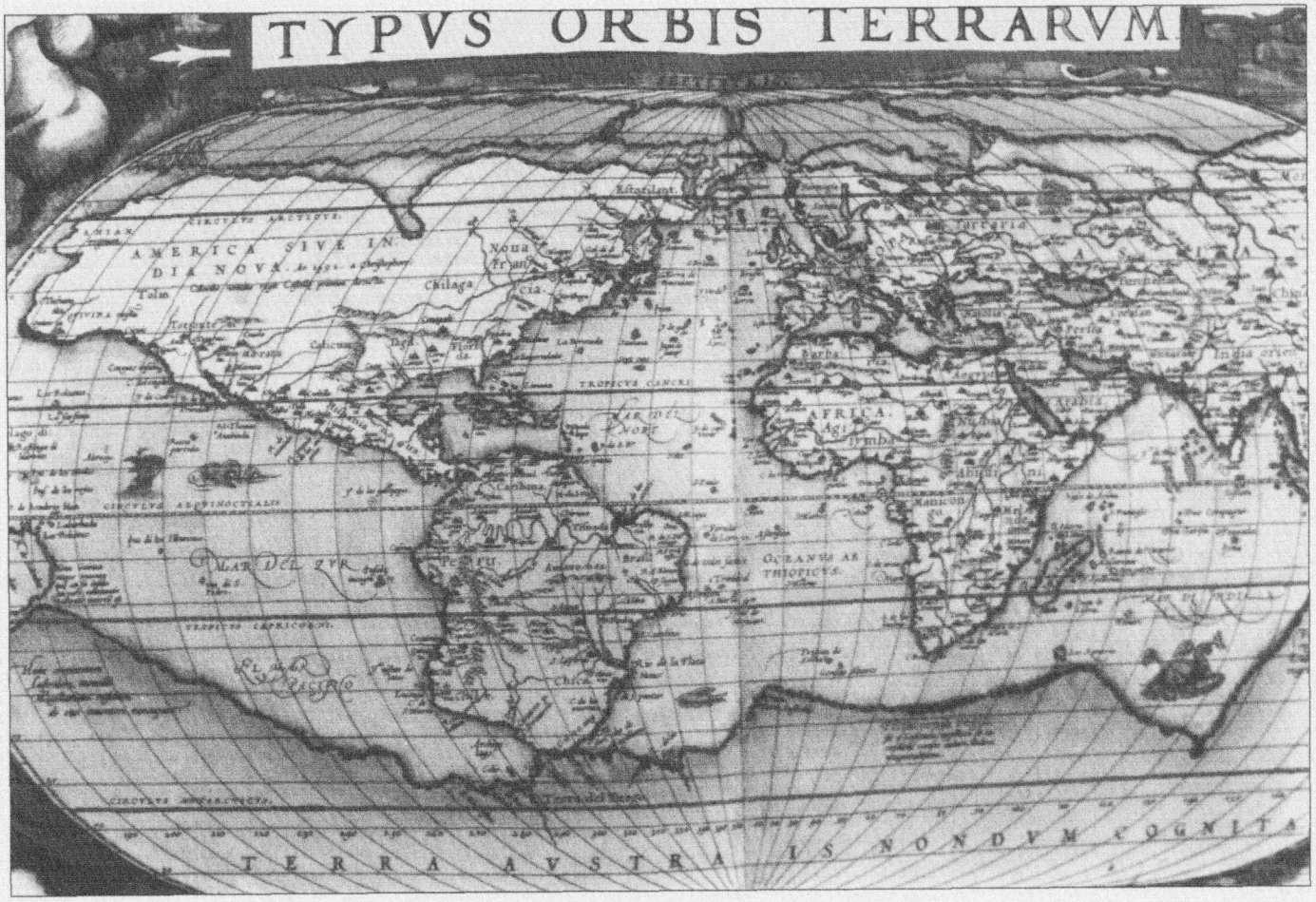

FIG. 4—Map from *Theatrum Orbis Terrarum,* by Abraham Ortelius, 1570. (Reproduced courtesy of the American Geographical Society Collection of the University of Wisconsin–Milwaukee Library)

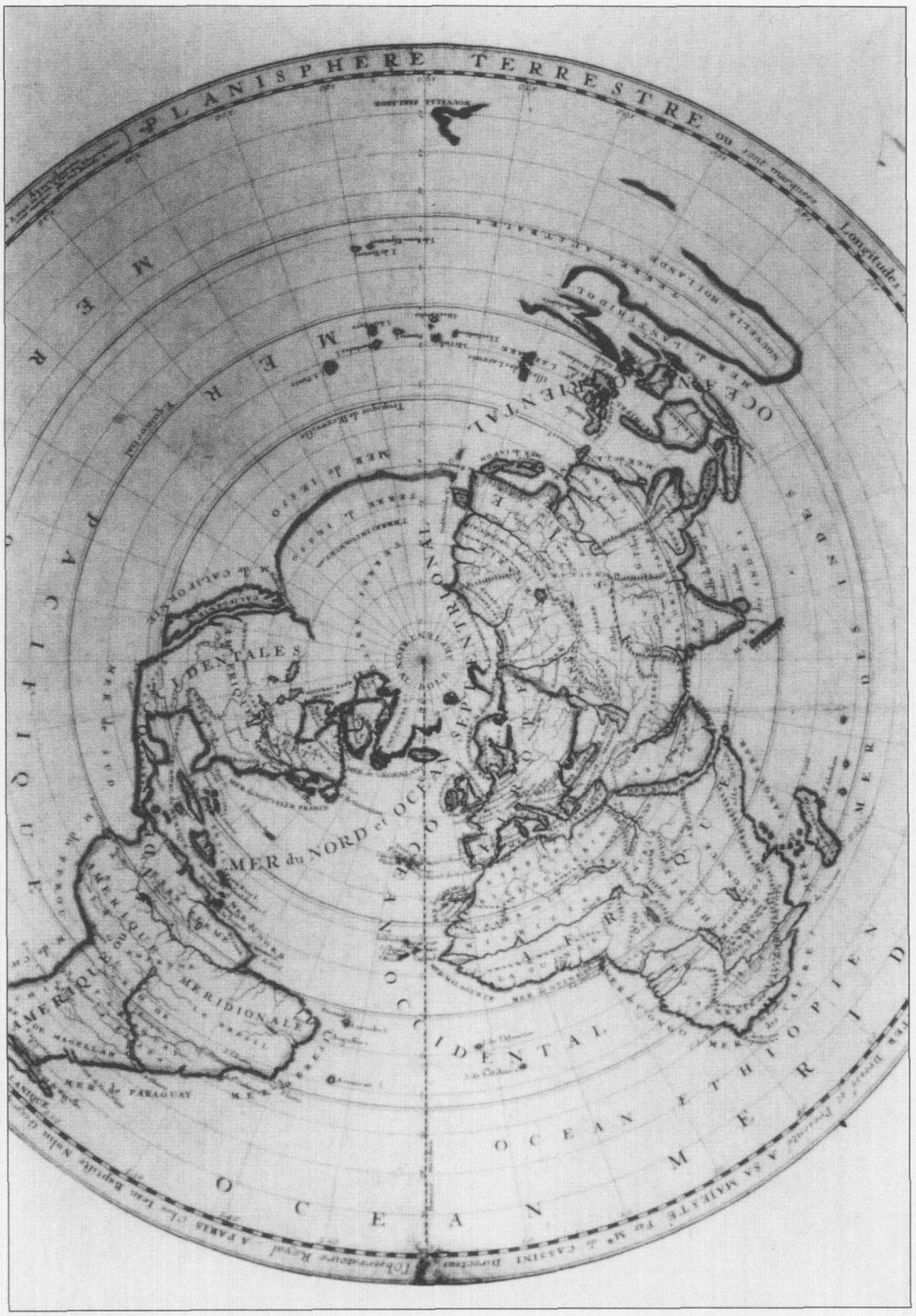

FIG. 5—The world map by Jacques-Dominique Cassini, 1696. (Reproduced courtesy of the American Geographical Society Collection of the University of Wisconsin–Milwaukee Library)

leagues west of Spain's American empire (G. Williams 1997, 157, 207). By the late 1700s, however, many world maps indicated that the two terms had come to be fully interchangeable (as in the notation "Pacific Ocean or South Sea"), encompassing the entire basin.

The term "Atlantic" also appears with increasing frequency in the seventeenth century. Usually, it is relegated to the European oceanic margin, especially in the hemispheric portrayals of the world that were common at the time. In the typical English map of the early 1600s, the large oceanic expanse to the east of America (in the depiction of the Western Hemisphere) is labeled "Mar Del Nort," whereas the narrow oceanic belt shown off the coast of Europe (in the Eastern Hemisphere map) is labeled "Atlantick Sea." Most Dutch maps of the time followed the same usage, labeling the waters off Europe as the "Mare Atlanticum." Yet how much this reflected popular usage is difficult to determine; for Sir Francis Drake, and other English mariners as well, this water body was more often simply the "Western Ocean" (or "Sea") (Drake 1854, 91). In any case, what is notable is that the basin now known as the Atlantic was seldom called by that name in the early modern period. Although the term is one of the oldest in the geographical lexicon, stemming from Greek mythology no less than "Oceanus," it long remained a relatively recondite and restricted term.

Enlightenment Reconceptualizations

In the late 1600s, new ways of imagining the ocean began to emerge. Edmond Halley conceived a substantially undivided universal ocean, useful for charting global patterns of wind and currents (Thrower 1969). Others continued to depict separate oceans, but in novel ways. In the 1700s, many, if not most, European cartographers had come to depict named oceans not as distinct basins but as stretches of water linking one basin to another. A possible precursor of this new system of maritime division was Jacques-Dominique Cassini's unusual map of 1696 (Figure 5).

If the most striking visual element of Cassini's map is its polar perspective,[3] its most significant conceptual innovation is its abandonment of discrete basins in favor of a novel and idiosyncratic mode of ocean classification. In the Southern Hemisphere, Cassini adopted a modified zonal scheme, with a Southern Ocean at the Antarctic latitudes being flanked on its north by the "Ethiopian," Indian, and Pacific Oceans. Cassini's "Occidental" and "Ethiopian" Oceans, bearing no connection to any recognizable basins, appear to wrap themselves around the African and Asian landmasses. And a remarkable serpentine arc of water, stretching from the Caribbean through the North Atlantic and hence across the Arctic to Kamchatka, is labeled the "Sea of the North and the Northern Ocean."

Cassini's strange "Sea of the North and the Northern Ocean" does not, to my knowledge, appear in any other map. But the "ocean-arc" concept, in which oceanic designations are displaced from basin cores to skirt or wrap around landmasses, became a standard feature of Enlightenment cartography. In a Johann Homan map of 1715, for example, the "Ethiopian," or Southern, Ocean wraps around southern Africa, encompassing parts of the southern Atlantic as well as the southern Indian

Ocean. Similarly, in a 1719 edition of the atlas of Nicolas Sanson, the "Ethiopian Ocean" arcs from the southern Atlantic to the southwestern Indian Ocean, the "Mer Magellanique" embraces both the Atlantic and the Pacific coasts of southern South America, and the "Eastern Indian Ocean" extends from the Arabian Sea through the Malay Archipelago to include the South China Sea (Figure 6). This atlas also flanks the major landmasses with a large array of marginal seas that show no hint of enclosure or separation from the main oceanic body. South America, for example, is bordered by the "Sea of Brazil," the "Sea of Peru," the "Sea of Chile," and so on. The same patterns are also clearly visible in the maps of Didier Robert de Vaugondy.

A map showing ocean arcs looks strange to modern eyes. We are so accustomed to viewing ocean basins as given features of global geography that it seems almost perverse to delimit sea space in accordance with intervening lands. The "Ethiopian Ocean," for example, seemingly ignores hydrography altogether, taking not only its name but also its very form through reference to the adjacent landmass of Africa.

But the ocean-arc concept is not without its virtues. When considering oceans not as physical units but rather as spaces of human activity, ocean arcs can elucidate patterns obscured in the basin schema. In the eighteenth century, the Indian Ocean of our textbooks, stretching from Durban to Perth, did not compose any kind of meaningful interaction sphere. Yet the "Eastern Indian Ocean," an arc linking the Swahili coast to the South China Sea, did constitute a closely linked series of trading circuits (see Abu-Lughod 1989). Similarly, one could argue that as Atlantic-based slave and plantation economies extended to Réunion and Mauritius, they effectively carved out an "Ethiopian Ocean" that did indeed stretch from the (modern) South Atlantic to the Mascarene Islands. Even a "Magellanic Sea" could be justified by the similar maritime conditions encountered by sailors on both sides of southern South America.

Late–Eighteenth– and Nineteenth–Century Imaginings

Ocean arcs were the most common means of portraying maritime space in the eighteenth century, but other schemes remained in use. Although some British atlases employed arcs (for example, Carrington Bowles's "A New and Accurate Map of the World" of 1770), others, such as Emanuel Bowen's *World Atlas* of 1744, used a basin approach. John Senex's 1725 world map also used a clear basin concept, although his nomenclature is far from modern (he labels the Indian Ocean, for example, as the "Eastern Ocean," reserving the term "Indian Sea" for the waters north of the equator (Whitfield 1994, 110–111). By the end of the century, moreover, a revivified basin view was clearly gaining ground.

One of the main sources of inspiration for the new basins perspective was the model of physical geography proposed in 1758 by Philippe Buache. Buache imagined a global framework of interconnected mountain ranges—both terrestrial and submarine—that formed a kind of global exoskeleton. These world-encompassing ridges divided the sea into three discrete basins: the Atlantic (which Buache simply called "the ocean"), the Indian, and the Pacific (see Buache 1978, 386–387). Although

FIG. 6—Portion of a map from a 1719 edition of Nicolas Sanson's *Atlas Nouveau* (Paris). (Reproduced courtesy of the American Geographical Society Collection of the University of Wisconsin–Milwaukee Library)

Buache's imaginative depiction of global physical geography did not stand the test of time, his vision of discrete ocean basins was eventually to prevail.

By the late 1700s, perhaps under the influence of Buache, seemingly modern depictions of maritime space begin to appear in atlases. In Samuel Dunn's "Chart of the World" of 1774, for example, the Atlantic is still divided into separate northern and southern oceans (the north being the "Western or Atlantic Ocean" and the south the "Southern Ocean"), and the Pacific is separated into eastern (the "Great South Sea or Pacific Ocean") and western ("Eastern Ocean") basins. But all one would have to do to transform this into a modern-looking map would be to substitute the term "South Atlantic" for "Ethiopian" and remove the "Eastern Ocean" label.

The full transition to the modern view, however, was still at least a century away. Most atlases of the early 1800s identified a "Southern Ocean" (sometimes the "Great Southern Ocean"), a vast expanse of water defined essentially in latitudinal terms. The Southern Ocean was to survive in an attenuated fashion as the Antarctic Ocean well into the twentieth century, and it is occasionally still encountered. A related concept of the time, especially favored by French cartographers, was that of the "Grand Ocean," which basically covered the Pacific but could include all or part of the Indian Ocean as well. In the 1821 "Carte générale du globe terrestre" of J. Goujon, for example, the southern Indian Ocean is appended to the "Grand Ocean," and its northern reaches are labeled "Mer des Indes." Often, however, the term "Grand Ocean" referred only to the Pacific. In John Pinkerton's *A Modern Atlas* of 1818, the northern Pacific is labeled the "Grand Northern Ocean," and the southern Pacific is the "Grand Southern Ocean." Nineteenth-century German maps, moreover, often labeled the Pacific as the "Grosser Ozean," whereas today it is generally called the "Pazifischer Ozean" or, in direct translation, the "Stiller Ozean."

The Southern Ocean should not be confused with the South Sea, a name that has been located only in the Pacific. Rather, the Southern Ocean has encompassed varying expanses of the southern Atlantic, Indian, and Pacific Oceans. In *Carey's General Atlas* of 1804, for example, it includes the entire southern half of the Atlantic (the old "Ethiopian Ocean") as well as the southern portion of the Indian Ocean—but not the southern Pacific (which remained part of the South Sea). Carey's implication is that Africa does not extend far enough to the south—unlike South America and Tasmania—to effectively divide the waters. Pinkerton's *Modern Atlas,* by contrast, excluded the South Atlantic from the Southern Ocean but included the southern Pacific. And James Playfair, in his *A New General Atlas* of 1822, placed all of these southern waters—down to the Antarctic Circle—into a single, encompassing Southern Ocean. On its poleward margin he distinguished yet another ocean: the Antarctic. According to modern geographical knowledge, Playfair's Antarctic Ocean would be a small and discontinuous waterway encircling the polar landmass. Like most cartographers of his day, Playfair envisioned the Antarctic as having no land and as forming a frozen ocean, much like the Arctic. In the nineteenth century it was not uncommon to define the Arctic Ocean as lying north of the Arctic Circle and the Antarctic as lying south of the Antarctic Circle (see, for example, Guyot 1854, 34–35).

As late as the turn of the twentieth century, geographers often supposed the Antarctic to have no land. On this supposition, Ralph Tarr and Frank McMurry argued that the Antarctic Ocean is twice as large as the Indian Ocean (1901, 434, 548).

In the mid-1800s a number of cartographers began to divide the Pacific—like the Atlantic—into separate southern and northern oceans. Combined with the distinction of a Southern (or Antarctic) Ocean in the far south and an Arctic Ocean in the far north, this resulted in a system of seven oceans: North Atlantic, South Atlantic, North Pacific, South Pacific, Indian, Arctic, and Antarctic (see, for example, Anthony Finley's *A New General Atlas* [1827] and *Mitchell's Universal Atlas of the World* [1857]). This sevenfold scheme appealed to the poetically and numerologically inclined. Since medieval times, Arabic authors had written of "seven seas," and apparently the notion entered (or perhaps reentered) Europe with the translation of a book of Omar Khayyam's poetry. According to the article on "Ocean and Oceanography" in the 1963 *Encyclopaedia Britannica,* "The term 'seven seas' is often encountered in the works of medieval Arabic geographers. The Turkish hydrographer Piri Reis in the sixteenth century listed them as the South China sea, Bay of Bengal, Arabian sea, Persian gulf, Red sea, Mediterranean sea and Atlantic ocean" (Lyman 1963, 16: 683). In 1897 Rudyard Kipling popularized the idea when he published a book of poetry entitled *The Seven Seas* (Freuchen 1957, 33). What those "seven seas" might include remained unclear; they were certainly not enumerated by Kipling (1897). Only much later did Freuchen argue that the "modern" seven-seas schema is identical to that of the seven "oceans" listed above (1957, 33).

In the nineteenth century, the conceptualization of sea space emerged as a significant geographical issue, addressed by some of the finest geographical minds. Élisée Reclus, in 1872, argued that the Southern Ocean, rather than the Pacific, forms the dominant feature of the planet's maritime realm: "The southern Ocean alone—that mighty breadth of waters, in comparison with which all other oceans seem but mere arms of the sea—extends over nearly an entire hemisphere of our planet" (Reclus 1872, 76). In this view, the Atlantic, Pacific, and Indian Oceans are effectively immense embayments extending northward from the globe-girdling Southern Ocean. Such a position is evident in the *Oxford English Dictionary:* "But the Pacific, Indian, and Antarctic really form one great ocean, the 'South Sea'; of which the Atlantic and Arctic again form a smaller prolongation" (OED 1989, 1: 1971). Alexander von Humboldt held somewhat similar views, writing that "the learned hydrographer Fleurieu has very justly named this vast oceanic basin the Great Ocean, in contradistinction to all other seas" (1849, 292). Carl Ritter likewise argued that an "oceanic hemisphere," centered in the southern Pacific, formed one of the two great divisions of the globe, the other being the largely terrestrial "land hemisphere," centered in Europe (1861, 178, 318).

Reclus's imagining of a massive Southern Ocean was based on the knowledge of the time. Before the existence of an Antarctic landmass had been established, one could reasonably imagine a vast, virtually hemispheric, Southern Ocean. Even today, one is struck by the scope and continuity of this "Southern Ocean" when view-

ing a globe from the Antarctic perspective. The world is much more commonly imagined, however, from the equatorial vantage point, if not from that of the Northern Hemisphere's midlatitudes, where the oceans do indeed appear to form separate basins. In the twentieth century, that perspective—emphasizing the "natural" separation of the sea into discrete oceans—again became dominant as the globalist vision of scholars like von Humboldt and Reclus waned.

The Modern View

The transition to the modern, English-language conception of maritime space required that oceans be fully differentiated from seas. The two terms—the first classical and learned, the second based on a Germanic root meaning "wetland"—had long been deployed more or less as synonyms. Indeed, they are still complexly intertwined: Although "oceans" are larger than "seas," the entire oceanic extent remains "the sea," as in "the high seas" or "sea level." This united water body was, until 1400, often called the "sea ocean," or "sea of ocean," and down to 1650 was commonly the "ocean sea" (OED 1989, 1: 1971; 2: 2690).[4]

Even after a particular sea came to be defined as a subdivision of a particular ocean, the term "South Sea" continued to be employed as a synonym for the Pacific, or at least the tropical Pacific. Although this usage began to diminish after 1800, it remained current—especially in reference to the tropical Pacific islands—until the mid-1900s. O. H. K. Spate contends that the term "Pacific"—which previously had often been used ironically in reference to the ocean's less-than-peaceful waters—came into usage as shifting nineteenth-century trade patterns made the northern Pacific an important arena of global commerce (1977). (Felix Keesing, however, used the term "South Sea" as late as 1941 to refer to the "island region of the Pacific" [xiii, xiv].) After World War II, the South Sea idea faded away, and today it lingers mainly as a term of cultural nostalgia. That Micronesia, lying almost wholly north of the equator, is still often popularly located in the "South Pacific" may reflect the continuing influence of the South Sea concept.

The major problem in the transition to the modern hydrographic view was gaining agreement on the number of oceans found on the globe. In the late 1800s, one could find, depending on which authors and cartographers one consulted, between one and seven oceans.[5] Increasingly, however, scientifically minded geographers and oceanographers sought to standardize and simplify the list. In 1878, *Black's General Atlas of the World* joined the northern and southern sections of the Atlantic to create a unified ocean separating the Americas from Europe and Africa. Reuniting the North and South Pacific Oceans, it arrived at a five-ocean scheme (Atlantic, Pacific, Indian, Arctic, and Antarctic) that would prove popular. The suturing of the northern and southern portions of the Atlantic and Pacific Oceans, however, led some to question the status of the Indian Ocean. Ellen Churchill Semple, following Arnold Guyot and ultimately Carl Ritter, thus declared that the Indian Ocean was actually only a "half ocean," considering its limited extent in the Northern Hemisphere (1911, 308).

The five-ocean scheme failed to gain universal acceptance. One objection was that the Antarctic (or Southern) Ocean, not forming a distinct basin, was defined by different criteria from the others. In 1897, the noted German oceanographer Otto Krümmel sought to settle the issue definitively and scientifically. There are, Krümmel declared, only three oceans: the Atlantic, the Pacific, and the Indian. The Arctic, he argued, is merely a marginal sea of the Atlantic, and the Antarctic, or Southern, is not even a proper body of water. (As Richard Davis declared in 1972, the Antarctic cannot be considered an ocean because it is not bounded by land [p. 14].) The lasting influence of Krümmel's view is apparent in an *Encyclopaedia Britannica* article on "Ocean": "For many years, five Oceans were accepted. . . . After the work of Otto Krümmel, however, it became common practice to recognize only three" (Mero 1989, 25: 123). In this view, the Bering Strait forms the boundary between the Pacific and Atlantic Oceans (Dietrich 1963, 2). But despite the confident assertion in the *Encyclopaedia Britannica,* Krümmel's authority was never overwhelming. A four-ocean model (including the Arctic) remained common in geographical circles through the 1960s and beyond (Monkhouse 1965, 218; Stamp 1966, 307), and even the five-ocean model is not extinct. Indeed, the *Encyclopaedia Britannica* itself, as recently as 1963, anachronistically advanced a seven-ocean scheme (Lyman 1963, 16: 683). Meanwhile, not a few oceanographers continue to insist that any division of the singular Ocean has no scientific legitimacy (see, for example, Anikouchine and Sternberg 1973).

But if the Arctic Ocean still figures in many schemes of global geography, the Antarctic or Southern Ocean has become little more than a vestige (although the term is still commonly used in Australia). Through the 1950s and 1960s, scholars argued over whether the Indian Ocean extended only to 35° south latitude or reached Antarctica; in 1951 the Pan–Indian Ocean Science Association was established in part to determine its boundaries (Villiers 1952; Toussaint 1966, 6). The association eventually settled on the Antarctic limit (Toussaint 1966, 249). The Antarctic Ocean, meanwhile, was defined out of existence by the International Hydrographic Organization (IHO), a group charged with the task of officially delimiting the exact boundaries of all international bodies of water (IHO 1953, unpaginated prefatory "Note," 4, 22). This commission has drawn the boundaries between the Pacific, Indian, and Atlantic Oceans as straight lines, extending from the southernmost points of South America, Africa, and Australia (Tasmania) due south to Antarctica.

Yet the official extension of the Indian Ocean to Antarctica caused some concern in the world of Indian Ocean studies. The waters south of 35° south latitude do not fit into the Indian Ocean by any relevant human criteria. As Auguste Toussaint argued, "the southern sea, at least from a historical point of view, is clearly different in character from the Indian ocean" (1966, 249). By biological criteria, sub-Antarctic islands such as Kerguelen and Crozet are best considered in a realm apart. Biologists who work on the sub-Antarctic islands, whether Atlantic (South Georgia, South Orkney, South Sandwich, Bouvetoya), Pacific (Macquarie, Auckland, Campbell), or Indian, moreover, sometimes insist that they be placed within the Southern Ocean (see, for

example, the "Botany in the Subantarctic" Web pages at [http://www.botany.uq.edu.au/macquar.htm]). It is also doubtful whether the IHO's official extension of the Indian Ocean eastward to Tasmania has any bearing on popular geographical conceptions. In a number of major atlases, maps focused on the Indian Ocean exclude most of the area directly south of Australia (for example, Goode 1990, 221).

Conclusion

The *Encyclopaedia Britannica*'s claim that a three-ocean model has prevailed since the time of Krümmel—despite the conflicting evidence found in an earlier editions of the same encyclopedia—is telling. The vision that it exemplifies is essentially positivistic, suggesting that large-scale geographical divisions are discovered through objective analysis rather than defined by convention. It also implies that the history of geographical ideas can be reduced to a simple narrative of progress, one in which better accounts replace the misinformed views of the past.

Such a linear narrative does have limited utility in the history of hydrographic thought. The actual mapping of oceans, the depiction and measurement of the spatial patterns of lands and seas, has, in fact, evinced steady progress from the creation of the Portolan charts to the present day. Such mapping is both extremely complicated and tremendously useful. It does not, however, simply reveal the divisions of oceanic space, for those divisions are fundamentally intellectual constructs. For the conceptual apprehension of geographical space, the narrative of progress simply fails to enlighten (for recent critiques of the scientific-progressive view of the history of cartography, see Woodward 1987; Brotton 1998, esp. 18–19).

As traced here, the Western conceptualization of the oceans may better be described as one of aimless wanderings. In this Foucauldian story line, different ways of dividing and labeling the sea come in and out of fashion, each successive view reflecting the epistemic environment of its time without adding any cumulative conceptual purchase. By this reading, our present system of hydrography, from the IHO's emphasis on unambiguous divisions to the popular press's enthusiasm for "Pacific Rim discourse," may be said to reflect the strategic interests of contemporary global capitalism (Dirlik 1993).

Alternatively, one may tell the history of the imagining of the oceans as a story of conceptual decline. For those who favor a human-centered geography, the Enlightenment maps that depicted oceans within comprehensible frameworks of interaction may seem preferable to our current basin scheme. Others may favor the unitary perspective advocated by Reclus: When viewed from an Antarctic perspective, the map of the world quite literally shows the ocean as a singular, albeit deeply embayed, entity. Such a view may rhetorically appeal to those who advocate a "one-world" approach to global affairs, downplaying the distinctions among continents, civilizations, or even nation-states.

To be sure, it can be argued that the odd march from the River Ocean to the modern schema does represent a sort of progress, despite the many bizarre twists and dead ends along the way. Arbitrary though some of its boundaries may be, our mod-

ern view of oceanic divisions is at least founded upon an accurate picture of the distribution of lands and waters over the surface of the globe. Reclus stressed oceanic unity in the southern latitudes in part because he did not know about Antarctica. Or again, one could insist that the modern system represents progress on the grounds that a single set of conventions has been, by and large, accepted across the globe. Even the names of the major water bodies have been largely internationalized (Room 1997, 14–15). In earlier times one could never be sure what a specific maritime designation referred to; terms wandered across large areas of the globe, and partial synonyms abounded. Today, one can consult the IHO to learn precisely where the conventional limits of the Atlantic Ocean, as well as all of its marginal seas, bays, and gulfs, are located. Although scholars and journalists obviously do not follow these boundaries religiously, they are certainly used to good effect by states and international agencies in political negotiations.

In the final analysis, perhaps it is pointless to ask whether our imaginings of the oceans have improved, declined, or merely changed. What is certain is that no standard textbook definitions can ever reveal "real" divisions across the undivided Ocean Sea. Dividing up sea space in a regular manner allows effective communication, but it does so by guiding our imaginations along certain preset pathways, pathways that reflect specific cultural and political outlooks.

Perhaps the most effective way to expose those outlooks is to experiment with novel modes of mapping. On standard equatorially based world maps, discrete ocean basins do indeed leap to the eye. But on polar-based projections—which are almost as rare today as they were in the time of Cassini—different patterns emerge. One of the best ways to see the world afresh—and to reveal a global sea—is simply to invert a globe. Whether or not such maneuvers can help us escape our habitual "Northern Hemispherism," they do at least offer a bracing lesson in the constructedness of our oceanic categories.

Notes

1. Many early modern world maps compound the error by labeling this area the "Sinus Barbaricus," "sinus" indicating a distinct protrusion of the sea into a landmass. The notion of a "Barbaric Sea" penetrating the east coast of Africa was also present in medieval Arabic geography. J. K. Wright speculates that it could have referred to either the Gulf of Aden or the Mozambique Channel (1925, 281). For a particularly large and intricate portrayal of the "Sinus Barbaricus," see Bruman (1989, map after p. 124). Early Portuguese navigators conceived of the "Barbarian Gulf" beginning at the southern tip of Africa (Parry 1981, 125).

2. In geographical texts of the time, more careful distinctions were sometimes drawn. In Heylyn's *Microcosmus* of 1621, for example, "The Sea" is divided into three parts: "Oceanus," "the general collection of all waters" (later usually called the "Ocean Sea"); "Mare," "the sea, a part of the ocean that we cannot come to but through some strait"; and "Fretum," or straits (Heylyn 1975).

3. As David Woodward notes (1999), although pole-centered projections were used well before Cassini—that of Juan Vespucci of 1524 being particularly important—they remained relatively rare.

4. *The English Atlas* of 1680–1682 (Moses Pitt) makes it clear that the modern distinction had by then emerged, albeit not without lingering confusion: "The vast body of the sea is called the Ocean; and the sea is ordinarily called some lesser part of it, let into the land by a strait" (1: 2). Note, however, that many atlases continued to label relatively small water bodies, such as the North Sea, as "oceans" well into the 1800s.

5. Two oceans: "Great" (Indian, Southern, and Pacific) and Atlantic. Three oceans: Pacific, Indian, and Atlantic. Four oceans: Pacific, Indian, Atlantic, and Arctic. Five oceans: Pacific, Indian, Atlantic, Arctic, and Antarctic. Six oceans: Pacific, Indian, North Atlantic, South Atlantic, Arctic, and Antarctic. Seven oceans: North Pacific, South Pacific, Indian, North Atlantic, South Atlantic, Arctic, and Antarctic.

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