

Setting Sail from St. Dié or How Far South Did Amerigo Go?

John Hessler
Geography and Map Division
Library of Congress
April 2006

Abstract

The following paper looks at the transmission of the texts of Amerigo Vespucci's voyages and their association with the group of humanists gathered around Martin Waldseemüller and Matthias Ringmann in St. Dié, in the earliest part of the sixteenth century. This group, that produced some of the most important cartographic works of the period, found the texts of Vespucci important enough to incorporate into several of their projects, including Waldseemüller's world map of 1507. We specifically study Vespucci's third voyage, showing that he sailed farther south than has previously been thought, and we speculate on his influence on the humanists of St. Dié. Using Vespucci's own words from his third voyage and the celestial and positional information provided by him it is shown that Vespucci may have actually sailed farther south than previously thought. We will use several complex astronomical algorithms to calculate Vespucci's approximate position and show it to be below the 60th parallel. We also examine the *Copia der neuen Zeytung auß Presillg Landt* and its role as evidence for a navigable east-west passage around South America. The *Newen Zeytung* was used as a source by Schöner in the depiction of this passage on his 1515 globe. This rare German pamphlet may in fact be based on the accounts found in Vespucci's third voyage and represent an important link between Schöner's and Waldseemüller's representations of the New World.

Introduction

Candide syncero voluas hunc pectore lector et
lege non nasum Rhinocerontis habens¹.

In 1504 Amerigo Vespucci published the account of his third voyage under the title *Mundus Novus*. The book gives a lengthy description of Amerigo's travels south of the equator in the new world and was later edited in 1505 by the Alsatian humanist Matthias Ringmann and published in Strasburg under a new title, *De ora Antarctica per regem Portugalliae*

¹ Matthias Ringmann, Dedication to Vespucci's Four Voyages, *Cosmographiae Introductio*, 1507. Translated as, "Honest Reader consider this text with all sincerity and do not imitate the rhinoceros".

pridem inventa (Figure 1). Ringmann is better known as one of the small group of humanist geographers associated with the Cathedral school in St Dié, in the Vosages mountains of France, and as the collaborator with Martin Waldseemuller on a number of important cartographic

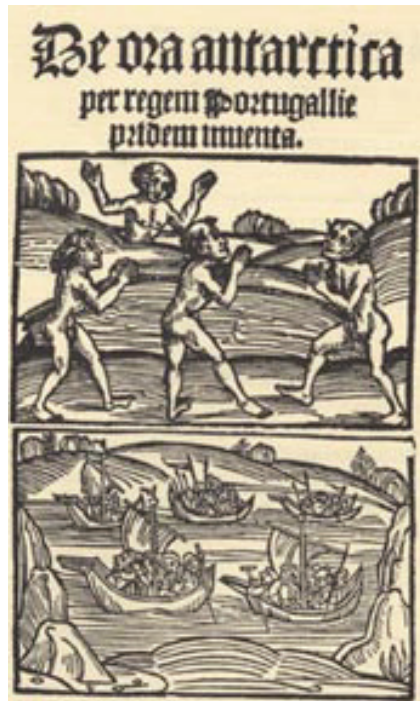


Figure 1: Title Page to Ringmann's Edition of Vespucci

undertakings, including the 1513 edition of Ptolemy's *Geographiae*, the famous 1507 world map, and the *Cosmographiae Introductio, cum quibusdam geometricae ac astronomiae ad eam rem necessaries*. The *Cosmographiae Introductio*, printed in 1507 in multiple editions by the press in St. Dié, is part cartographic textbook and part travel log, the last section being a Latin edition of the four voyages of Vespucci with a dedication and introduction by Ringmann. According to

Robert Karrow few books of its size have generated as much interest and speculation². The cause of much of this speculation and attention stems from the suggestion on the title page of the book that two maps, one a flat map (plano) and the other a globe (solido) accompanied the publication (Figure 2). The book itself describes in detail what has been identified as Waldseemuller's 1507 world map and the discoveries of Vespucci, after whom Waldseemuller named the continent South America.

Waldseemuller and Ringmann explain the shape of Vespucci's new discoveries by saying, "*Hunc in midu terre iam quadripartite conncitiet; sunt tres prime partes continents Quarta est insula cu omni quaque mari circudata cinspicciat*³".

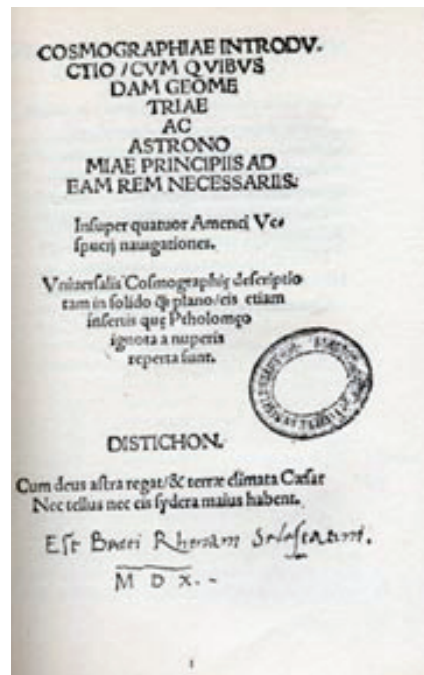


Figure 2: Title Page of Cosmographiae Introductio

² Robert Karrow, *Bio-Bibliographies of the Cartographers of Abraham Ortelius, 1570* (Chicago: Speculum Orbis Press for the Newberry Library, 1993).

³ [Martin Waldseemüller and Amthias Ringmann] *Cosmographiae Introductio..., Rudimenta* (ST. Dié: 1507), [p. 30]. Reprinted by Joseph Fischer and Franz von Wieser, *The Cosmographiae Inreoduction of Martin Waldseemüller in facsimile, followed by the Four Voyages of Amerigo Vespucci, with their Translation into English; to which are added Waldseemüller's two maps of 1507 with an Introduction*, ed. Charles George Hebermann (New York: United States Catholic Historical Society, 1907).

Ringmann and Waldseemüller's Latin phraseology is important in this context. The passage translates as, "the earth is now known to be divided into four parts. The first three parts are continents, while the fourth part is an island, because it has been found to be completely surrounded on all sides by sea." The 1507 map, that the book purports to describe, is the first that represents the continents of the new world separated from Asia and was the subject of much scholarly debate and commentary even before the discovery of the only surviving copy by Joseph Fischer in 1901. The shape of the South American continent as represented on the 1507 world map has been the subject of recent numerical and cartometric studies that have shown with some probability that Waldseemüller and Ringmann's use of the words "is now known" and "has been found" can be taken literally, implying some form of empirical evidence that is unknown or no longer extant⁴. Although these numerical studies increase the probability that claims of empirical evidence might be true, to date no documentary proof is known to exist that might substantiate these conjectures.

The following paper highlights the deep connections between the humanists at St. Dié and the writings of Amerigo Vespucci and speculates on their place in the cartographic undertakings of that group. It will analyze the text of the third voyage specifically in an attempt to show that based on this text an assertion can be made that Vespucci sailed further south than has previously been thought. The paper also examines the *Copia der neuen Zeytung auß Presillg Landt* and its role as evidence for the existence of a navigable east-west passage around South America. Schöner probably used the *Newen Zeytung* as a source for his depiction of this same passage on his 1515 globe. This rare German pamphlet may in fact be

⁴ John Hessler, "Warping Waldseemüller: A Cartometric Study of the Coast of South America as portrayed on the 1507 World Map." *Coordinates*, Series A (2005). <http://www.sunysb.edu/libmap/coordinates/contents.html> and "Transforming a New World: A Computational Study of Martin Waldseemüller's 1507 World Map," *Cartographica* (forthcoming 2006).

based on the accounts found in Vespucci's third voyage and represent an important link between Schöner's and Waldseemüller's representations of the New World.

Vespucci's Text and Daylight Analysis

... for all its newness, actually witnessing the globe culminates a long genealogy of imagining and reflecting upon the possibility of doing so. The meanings of the photographed earth were anticipated long before the photographs themselves were taken.

--Denis Cosgrove, *Apollo's Eye: A Cartographic Genealogy of the earth in the Western Imagination*

The history of the transmission of the texts relating to Vespucci's discoveries is directly tied to the researches of the group at St. Dié. Walter Ludd⁵, the canon at St. Dié, and under whose guidance the press operated, writes in the dedication of his small book *Speculi orbis...declaratio*, to Rene II, Duke of Lorraine and King of Jerusalem, "But we would not deny that, in place of the enlarged delineation of Europe here given, might properly be inserted the representation which we have hastily prepared of the unknown land discovered some time since by the King of Portugal." Ludd goes on to refer to "a description of those regions in French sent to you from Portugal, most illustrious King Rene" and "translated into Latin at my instance by the notable poet Johannes Basinus Sendacurius", and to a certain epigram of our Philesius Vogesigena (Ringmann) printed in the tract translated from Italian into Latin. Ludd is referring to two distinct versions of Vespucci's letters and narratives. The first is the so-called "Letter to Soderini" describing the four voyages of which Basinus made a Latin translation of a French (F) copy, this becoming the text included in the *Cosmographiae Introductio*. The other is the edition of the *Mundus Novus* that had

⁵ Guelterus Ludd, *Speculi Orbis succunctis declaratio* (Stasburg: J. Gruninger, 1507)

been prepared by Ringmann and printed in Strasburg in 1505 under the title, *De Ora anarctica per regem Portugalliae pridem inuenta*. The version of the Soderini letter used by Waldseemuller and Ringmann, and translated by Basinus, is thought to exist as an independent branch on the recension from the original text. Two other versions of the four voyages are thought to also derive from a lost original (O), passing through intermediate states(X), and are known as the Florentine Print (P) and Magliabechiana manuscript (M) both of which are in Italian.

The stemmata resulting from the study of the recension of all of these the texts made by George Northup is shown in Figure 3⁶. Northup's collation of all three of the extant forms has shown that the Waldseemuller version (H) has a different line of descent from the other two. His recension highlights the fact that we do not know whether the French version, now lost, goes back to an Italian copy or to an original Spanish archetype. The idea that Waldseemüller's version of the voyages directly descends from the archetype and is found on it's own branch of the stemmata means that the group at St. Dié had access to a copy of the letter that came from a source close to Vespucci himself.

Most commentators on Vespucci's voyages have accepted that the farthest south that he sailed was around fifty two degrees south latitude. This number comes from Vespucci's own

⁶ Amerigo Vespucci, Letter to Piero Soderini, edited. And translated by George Tyler Northup (Princeton: Princeton University Press, 1916), 16.

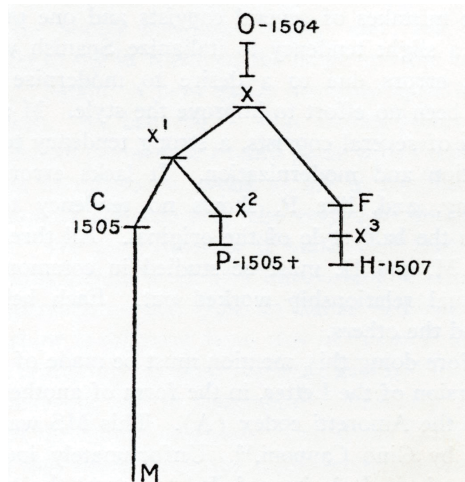


Figure 3: Northup's Recension of the Letter to Soderini

descriptions that place him in the vicinity of Cape Sao or just a little farther south.

“And we went so far south that we were already beyond the Tropic of Capricorn at a place where the south-pole rose thirty-two degrees above our horizon. Already we had utterly lost the Ursa Minor, and the Ursa Major stood over us very low, and showed [itself to us almost at the horizon's edge. We where compelled to guide ourselves by the by the stars of that other pole...And we sailed on this course until we found ourselves at such an altitude that the south pole had an elevation of full fifty-two degrees above our horizon, and we no longer saw the stars of either Ursa Minor or Ursa Major...and this was the third day of April.⁷”

Vespucci is sailing in a SSW direction at this point and traveling along the coast. He also says that he travels along the length of about six hundred leagues of new coastline, which corresponds to about twenty-five hundred miles. The Letter to Soderini in the Florentine version shows an interesting difference from the other accounts of the third voyage. Vespucci in his other renditions of the voyage such as *Mundus Novus* says that, “after we rounded the a cape...we began to run SSW. We sailed 600 leagues divided by 16 and two-thirds give approximately 37 degrees”, this distance when added to the 8 degrees of the cape yields distance of about 45 degrees SSW along the coast. In the *Letter to Soderini*

⁷ Vespucci, 38.

Vespucci all of sudden describes a change of course from SSW to SSE that moves him out to sea. Where in the other texts he says he follows the coast as far as 50 degrees, the Letter says, “we began our navigation with a SSE wind and we sailed on this course until we found ourselves at such an altitude that the South Pole had an elevation of 52 degrees above the horizon.” Interestingly the version of the *Letter* used by Waldseemüller in the *Cosmographiae* does not describe this change of course and we are led to believe that Vespucci is still traveling along the coast.

Roberto Levillier in his seminal study of the texts of Vespucci’s third voyage concludes that the difference in these two descriptions of the direction of navigation is a purposeful censorship of the text by Portuguese authorities⁸. Levillier also concludes that the whole purpose of the third voyage was to investigate the passage that might exist around South America. It is interesting to note that Waldseemüller’s description of the coastline on the 1507 world map ends at about the same latitude that Vespucci describes in the third voyage (Figure4).

The uniqueness of the Waldseemüller recension and his depiction of the 1507 map leave us with some problematic but suggestive questions. Does Waldseemüller know something more from his Vespucci sources than he explicitly tells on the 1507 map? Why does his copy of the Letter to Soderini not reproduce the censored direction? How close to what Vespucci knew are Waldseemüller’s representations?

⁸ Roberto Levillier, “New Light on Vespucci’s Third Voyage,” *Imago Mundi* 11 (1955): 38.



Figure 4: Southern Part of South America on the 1507 World Map

The account of the third voyage in the *Cosmographiae Introductio* continues with the description of a storm and Vespucci's position at the time "for we were then (3rd April) 500 leagues from that harbor from which we had begun our southward voyage," placing him around 50 degrees south and 800 leagues from his first landfall. At this point in the voyage a storm begins with the wind blowing fiercely, Vespucci continues,

"The gale was so terrible that all were alarmed in no slight degree. The nights, too, were very long. For on the 7th of April, when the sun was near the end of Aries, we found the night fifteen hours long. Indeed, as your majesty is well aware, it was the beginning of winter in that latitude. In the midst of this tempest, however we sighted land and sailed along the shore for twenty leagues⁹."

Vespucci here is trying to give us some indication of location, the sun is rising at the end of Aries, the night is 15 hours long, and he is able to see the coast at some point. At first glance the little information given in the narrative appears to hold out little hope of actually ascertaining his position but a closer look allows us to calculate at least Vespucci's latitude. If we take Vespucci at his word we can calculate his position on April 7th (April 16th taking into

⁹ Vespucci, 39.

account the Gregorian calendar reforms) using a complex algorithm that calculate that the length of day on April 16th 1502 at various southern latitudes.

The problem of deriving a formula for daylight duration at elevation zero (sea-level) is one of modeling the rotation and orbital revolution of the earth with respect to the sun and can be divided into three parts:

1. Predicting the revolution angle (θ) from the day of year (J).
2. Predicting the sun's declination angle (\mathcal{G}), or the angular distance at solar noon between the Sun and the equator, from the earth orbit revolution angle.
3. Predicting daylight (D) (plus twilight) from latitude, longitude and the sun's declination angle.

A model that very accurately solves these problems is William Forsythe's CBM model that calculates the length of day for some given latitude and day of the year to a maximum error of seven minutes¹⁰. The model takes into account the effect of twilight and the refraction of the atmosphere when the sun is below the horizon. The following equations were used to calculate the curve shown in Figure 5 for the length of day at various latitudes for April 16 in the year 1502.

$$\theta = 0.2163108 + 2 \tan^{-1} [0.9671396 \tan [0.00860(J - 186)]]$$

$$\mathcal{G} = \sin^{-1} [0.39795 \cos \theta]$$

$$D = 24 - \frac{24}{\pi} \cos^{-1} \left[\frac{\sin \frac{p\pi}{180} + \sin \frac{L\pi}{180} \sin \mathcal{G}}{\cos \frac{L\pi}{180} \cos \mathcal{G}} \right]$$

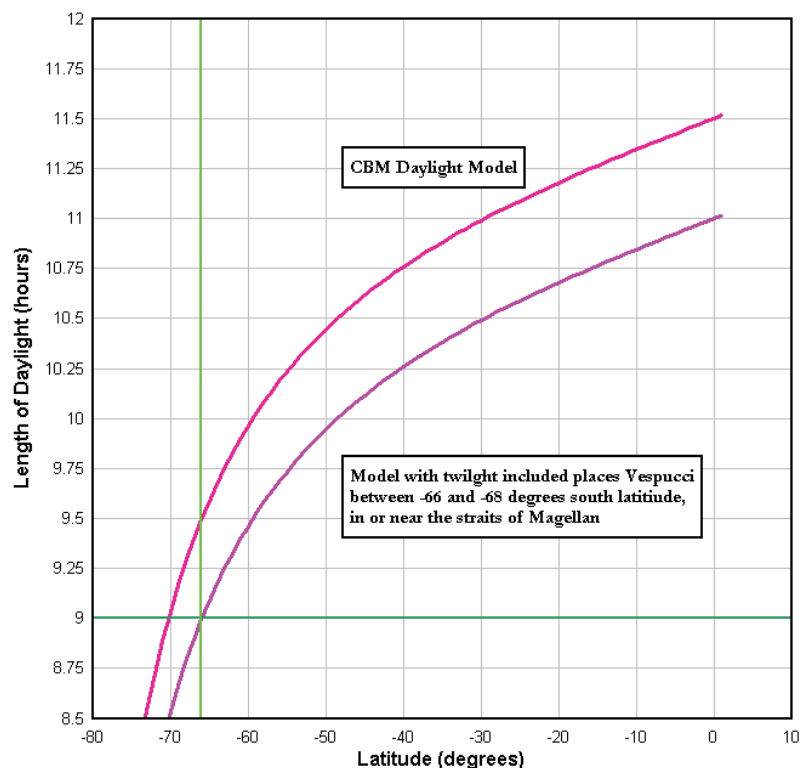
¹⁰ William C. Forsythe, Edward J. Rykiel et.al. "A Model comparison for day length as a function of latitude and day of year", *Ecological Modeling* 80 (1995): 87-95.

The factor p in the equations above is called the light coefficient and takes into account the refraction of the atmosphere that causes the apparent length of day to appear exceed the actual times of sunrise and sunset.

Daylight Definition	p
Sunrise/Sunset when the center of sun is even with horizon	0.0
When top of sun is even with horizon	0.266667
When top of sun is apparently even with horizon Includes refraction of light through atmosphere	0.8333
With civil twilight	6.0
With nautical twilight	12.0
With astronomical twilight	18.0

The calculation takes into account atmospheric refraction and the lengthening of the day by of nautical twilight when the center of the sun is twelve degrees below the horizon. Vespucci is not giving us an accurate measurement of the day's length but rather stating in it rounded values for the purpose of his narrative. The fact that he took notice of the length of the day as something that needed to be recorded leads us to believe that his statement is at least approximately accurate to some reasonable degree. As can be seen from the curve Vespucci needs to have attained a latitude of around -65 degrees in order to observe a 15 hour night, placing him near the Straits of Magellan. Although this is only a single number from his account of the third voyage, Vespucci was an astute astronomical observer and not prone to errors.

Figure 5: Length of Daylight as Function of Latitude
on April 16th, 1502



While it is true that the group at St. Dié was well aware of the new discoveries of Vespucci and used them in many of their cartographic works just how they received them remains an open historical question. On the title page of the *Four Voyages (Letter to Soderini)* found in the *Cosmographiae* the dedication to Duke Rene reads “illusttissimo Renato Iherusalem et Siciliae regi, duci Lothorinhgiae ac Barnensi, Americus Vesputius humilem reverentiam et debitam recommendationem” The passage translates as, “For the most illustrious Rene, Sovereign of Jerusalem and King of Sicily, Duke Of Lorraine and of Bar, Amerigo Vespucci pays humble homage and presents his greetings.” Although this dedication has been taken to be a mistake in interpretation, Vespucci would not have dedicated the text to the Duke, and Vespucci most likely would not have written his original

account in French, it has been conceded by a number of scholars¹¹ that the Duke may have received the account of the voyages at the same time he received a group of new Portuguese sea-charts. These charts are mentioned in the *Cosmographiae Introductio* where Waldseemuller says,

“Hec inductione ad cosmopgraphiae dicta suffuciat si te modo amonuerimua prius, nos in depingendis rabulis typi generalis no omnimodo sequutos esse ptholomeu, ppresertim circa mouas terra ubi in cartis marinus aliter animaduertimus equatoreim costi to I que Ptholomeua secerit. Et pinde no debet nos statim culpate qui illud ipm notauerint. Consulto em foccimus quod hic Ptholomeu , alibi cartas marinas sequuti sumus.¹²”

What we have written as an introduction to the Cosmography will be sufficient for understanding, if we tell you that in designing the sheets of the world map we have not been instructed by Ptolemy in every respect, especially when showing the new lands, where on a marine chart we observe the equator at a different location than that shown by Ptolemy. Therefore those who will notice this should not find fault with us for we have made these changes purposely, following Ptolemy and the new marine charts.

There are also close connections between Matthias Ringmann and one of Vespucci's friends Gianfrancesco Pico de la Mirandola who lived in Florence. It appears that in late 1505 Ringmann visited Pico at the request of a Strasburg friend to bring back manuscripts of his works for printing. Ringmann had just finished his work on the third voyage and in his prefatory letter to his edition of the *Mundus Novus* he says, “ in this little book of Amerigo Vespucci Albericus I have hastily read and compared nearly all its details with Ptolemy, the maps of whom I am just now carefully examining”. It seems obvious that on his visit to Pico he should enquire about Vespucci and discuss the new discoveries. It should be recalled that the Florentine print of the voyages most probably predates the Basinus version found in the *Cosmographiae Introductio* and was probably well known in Florentine humanist circles.

¹¹ Joseph Fischer

¹² [Waldseemuller and Ringmann], *Cosmographiae Introductio*, [37]

Ringmann would revisit Pico three years later to bring back to St. Dié Greek manuscripts of Ptolemy for his work on the 1513 edition of the *Geographiae*.

The Copia der newen Zeytung ausz Presillg Landt

...the contemplation of history is inexhaustible. It loses itself in its material. Because of this the history and temporality of the present utterly fail to attain the past, they merely form another present.

Martin Heidegger
Der Begriff der Zeit, 1924

The only surviving copies of the two world maps created in 1507 and 1516 by Martin Waldseemüller were found in a single bound volume that is now known as the Wolfegg Codex. The two maps and the codex now reside in the collections of the Library of Congress. The contents of the codex were brought together sometime after 1516 by the Nuremberg astronomer and mathematician Johann Schöner (1477-1547). Schöner also included in the volume a set of globe gores of his own design and a copy of a star-chart by Stabius as rendered by Albrecht Dürer. The maps contained in the volume are annotated with a series of red-lines drawn by Schöner that form a grid over their surface the purpose of which has only recently been considered in the scholarly literature¹³. The grid covers only a small portion of the 1507 map, appearing over parts of Europe, Asia, North Africa, and the Middle East. The grid on the 1516 map, known as the Carta Marina, covers nearly its entire surface.

Because of the fact that Johann Schöner's 1515 globe depicts a passage around South America, well before Magellan had discovered such a passage, many scholars have been led to speculate that Schöner used Waldseemüller's 1507 map as a model, hypothesizing that the

¹³ John Hessler, Schöner's Lines, forthcoming (2007)

red grid lines were used to re-scale the map to the size of the globe gores. Waldseemüller's map does not explicitly show this same passage but does depict South America detached from Asia suggesting that the passage exists. Elizabeth Harris in her study of the typography on the only surviving copy of the map concluded that based on the condition of the woodblocks and other physical evidence, that the copy of the map that Schöner owned could not have been printed before 1515¹⁴. If Harris's date is correct the use of Waldseemüller by Schöner as a model would not be a possible explanation for Schöner's depiction of the passage.

The most likely source for Schöner's description of the passage under South America is a rare German pamphlet, *Copia der Newen Zeytung aus Pressillg Landt*¹⁵, according to which a Portuguese expedition of two vessels had tried to sail through the passage from the east, but was forced back by winds¹⁶. Rittner von Wieser¹⁷ supposes that the expedition had to have taken place in the late fifteenth or early sixteenth century (before 1509) making the pamphlet a possible source for both Schöner and Waldseemüller.

That Schöner used the *newen Zeytung* as a source can be seen by the description of the lands of "Brazil" in his *Laculentissima quaedam terrae totius descriptio* which not only describes his globe but also discusses the people and the animals in the area in the same way as the *newen Zeytung*. The *newen Zeytung* is a small and extremely rare pamphlet that contains only four pages of text. The work is known in two different editions, one bearing a woodcut of a Portuguese coat of arms and one edition with a woodcut showing islands and ships. This

¹⁴ Elizabeth. Harris, "The Waldseemüller World Map: A Typographic Appraisal" *Imago Mundi* 37 (1985): 30-53.

¹⁵ The pamphlet is reproduced and translated with commentary in M. Graubard and J. Parker, *Copia der Newen Zeytung aus Pressillg Landt, Tidings out of Brazil*, (Minneapolis, 1957).

¹⁶ Chet Van Duzer, "The Cartography, Geography and Hydrography of the Southern Ring Continent, 1515-1763" *Orbis Terrarum* 8 (2002): 115-158.

¹⁷ F. Ritter von Wieser, *Magalâes-Strasse und Austral-Continent. Auf den Globen des Johannes Schöner*. (Innsbruck, 1881)

pamphlet was discussed in the nineteenth century and both Alexander von Humboldt and Armand Avezac-Macaya commented on it¹⁸. Serious consideration of the text begins with von Weiser who through philological and linguistic evidence presented the view that the original text was in German, that the expedition that it describes could not have taken place after 1509, and that it reached as far south as St. Matias Bay¹⁹.

Rodolpho Schuller in what is perhaps the most extensive commentary on the pamphlet disagrees with von Weisen based on linguistic evidence²⁰. Schuller finds that in the four pages of text that there are some forty words of Portuguese, Spanish and Italian origin and that this is in fact a German translation of an earlier text or based on another work.

The narrative is quite similar to Vespucci's with a critical difference being that the text does actually describes a ship rounding of the continent.

“When we came to the Cape...which is a point jutting out into the ocean at the level of Nort Assril and perhaps one degree higher or further in latitude...And they sailed around this very cape and found that the same gulf lies as Europe does, with the side lying *ponente levante*, that is, situated between sunrise or east and sunset or west. Then they saw land on the other side as well when they had sailed a distance of sixty miles along the cape in the same manner as when one travels toward the east and passes the *Stritta Gibilterra* and sees the land of the Berbers. And when they came around the cape as stated and sailed or traveled northwestward toward us, there arose such a great storm and also such wind that they were unable to sail or travel further. Hence they had to sail through *tramontana*, that is northward or midnight, and back again to the other side and coast which is the land of Brazil.”²¹

The location of Nort Assril in the above quote remains unknown but the text clearly describes a passage around South America that resembles the straits of Gibraltar. According to Schuller the *newen Zeytung* must derive from the writings of Vespucci that have been supplemented by other Portuguese sources.

¹⁸ Alexander von Humboldt, *Examen critique de l'histoire de la geographie du nouveau continent*, vol 5. (Paris: Librairie de Gide, 1859)

Armand d' Avezac Macaya. “Considerations geographiques sur l'histoire du Bresil” *Bulletin de la Societe de Geographie*, 4th Series 14 (1857): 90-356.

¹⁹ Von Weiser (1881)

²⁰ Rudolpho Schuller ed., *A nova gazeta da terra do Brasil* (Rio de Janeiro, 1914).

²¹ *Newen Zeytung*, 28-29

Conclusions

Could the *newen Zeytung* have derived from Vespucci and could it be the source for Schöner's passage and one of the sources for Waldseemüller's 1507 map. Could this passage under South America, so chronometrically problematic on the Schöner globe and the 1507 map, in the end be derived simply from information provided by Vespucci? The answers to these questions and the speculations presented in this paper are meant to be just that, speculations. The calculation of Vespucci's latitudinal position, while accurate, is based on only one reference in what might very well be a fanciful narrative written for a patron's enjoyment. The evidence for the relationship between Vespucci, Duke Rene II, and the humanists in both Florence and St. Dié remains circumstantial, and gathered from only a few letters and dedicatory prefaces. The circumstances of Schöner's use of the *newen Zeytung* for his depiction of a passage around South America and not Walsseemüller's 1507 map is based on Harris's conclusion that Schöner's annotated copy of the map could not have been printed before 1515.

We see the evidence we have presented as at once compelling and problematic. In trying to explain the sources for the representations of the New World on both Waldseemüller's 1507 world map and on Schöner's 1515 globe we are examining two objects that go out of focus whenever we look at them too closely. When discussing them rarely does clarity supervene.

That in the end Vespucci is the source for both Waldseemüller's new ocean and Schöner's new passage would of course be extremely gratifying to cartographic historians. Unfortunately, we cannot provide that gratification here. All we really see when we examine the evidence, and we see it repeatedly, in the *Cosmographiae Introductio*, on the 1507 map, and

in the *neuen Zeitung*, is some unknown important connection to Portuguese sources. What I have tried to show here is that the possibility does exist that the solution to the problem of depiction South America before Magellan lies perhaps in the simplest one, and it is derived from the man after whom Waldseemüller decided to name the new continent, Amerigo Vespucci.

Addendum

Message: 1

Date: Mon, 15 Mar 2010 08:18:30 -0400

From: "John W. Hessler" <jhes@loc.gov>

Subject: [MapHist] Mr X and the 'Secret' Paper

To: maphist@geo.uu.nl

Message-ID: <20100315T081830Z_A82500170003@loc.gov>

Content-Type: text/plain; charset="utf-8"

Hesters,

The paper that Peter refers to was written by me in 2006 and was called, "Setting Sail from St. Die or How Far South Did Amerigo Go?" The paper has not been published but it is not 'secret', as it has circulated widely among Vespucci scholars for some time. I have not published it due to the complexity of the model it proposes...and the fact that sometimes mathematicians like me, model things without necessarily thinking through exactly how to connect the results with their historical import. The model does say something radical about Vespucci as Peter points out, whether it is correct however, is another question, and one that I have not answered in a way that I consider satisfactory.

The paper contains a mathematical analysis of a particular line from Vespucci's Letter to Soderini where he says,

"The nights too were very long...on April 7th, when the sun was near Aries, we found the night fifteen hours long..."

I had thought that based on this information I could tell Vespucci's location or at least his latitude from what he says in this line. The line comes at an important part in his narrative where he was apparently sailing south and got caught in a "gale so terrible that all were alarmed in no slight degree".

I began by deriving the equations necessary to tell the daylight hours for a particular location as a function of historical time. The problem of deriving a formula for daylight duration at sea-level is one of modeling the rotation and orbital revolution of the earth with respect to the sun. This turned out to be extremely complicated and required three things.

Predicting the revolution angle from the day of year.

Predicting the sun's declination angle, or the angular distance at solar noon between the sun and the equator, from the earth's orbit revolution angle.

Predicting daylight from latitude, longitude and the sun's declination angle.

This is further complicated by the fact that one must take into account the refraction of light from the atmosphere at sea that causes the apparent length of day to appear to exceed the actual times of sunrise and sunset to an observer.

After deriving these equations, which turned out to be complicated trigonometric functions of the inverse tangent, I looked to see if other models had been derived that solved this problem. I found that William Fosythe and Edward Rykiel had published a paper, "A Model comparison for length of day as a function of latitude and day of the year" in 1995, in the journal Ecological Modeling. Although equivalent in many ways to my model, it contained a constant that allowed one to change the definition of daylight to account for perceived changes due to twilight and refraction.

To make this story a bit shorter the refined model and my final calculations, which are slightly different from the draft that Peter cites (the article is out there in several forms), predicts that Vespucci would have had to have been between 52 and 54 degrees south in order to make the above statement. Look at a map and you will see the problem...he is at the Straits...

Was he trying to tell us something or is this result simply an artifact of the model? This is a question I have not been able to answer to my satisfaction and hence the article remains unpublished..

If anyone is interested in the model I can either send you a copy or I will post it on my website if there are too many requests...

John W. Hessler

>Dear John, Peter:

>

>About Vespucci being at 52 degrees South...be careful...there is more than the Magellan Strait there...in fact in some other Vespucci reports at high Sea in the South Atlantic, South Georgia may be what he and his crew and the fleet lead by Goncalo (cedilla c) Coelho mentioned to have sighted...I passed South Georgia once on my way to Antarctica - and it is indeed a hard place to land at. Anyway had Vespucci indeed been at the SW passage/Magellan Strait - and he would go totally "wacko" happy for all his life for such finding...Instead no - he returned to Spain after a second travel for Portugal (or better King Dom Manuel "fired" him)...where he died around 1512 still stuck as Major Pilot of Spain, looking for some sort of Veragua Strait across nowadays Mexico/Yucatan to the "Indies"...A man of the seas who finds indeed such a "graal" of sea routes as the SW passage, does not go back to die "slowly and dusty" in search for something that only got Spain stuck for wayyyy too long...when the Portuguese were already in 1511 sailing in the Arafura Sea (Pacific Ocean) with Antonio de Abreu and F.Serrao.No, nope - Vespucci never saw the Magellan Strait. If anything was South Georgia.You are losing your time if keep thinking so.

Delenda Cartago,
Paulo Afonso

Message: 1

Date: Fri, 26 Mar 2010 10:50:33 EDT

From: PWDBard@aol.com

Subject: [MapHist] Vespucci/Waldseemueller, Afonso & the "Secret"
Essay on the Strait

To: maphist@geo.uu.nl

Message-ID: <a536d.3d883b3.38de23b9@aol.com>

Content-Type: text/plain; charset="us-ascii"

Dear Maphisters:

While I continue to wait for some challenger to step forward and refute my multidisplinary dossier regarding what the Euopeans knew about the New World (especially the new southern continent) and when they knew it, I will limit my comments to two particular issues which have been raised in the past few days on Maphist.

Fernandez-Armesto & the "Secret" Essay

Fred Shauger says that Hessler (formerly known as Mr. X) shared this unpublished "secret" essay with Filipe Fernandez-Armesto, evidently one of "the Vespucci scholars with whom Hessler states he had shared his essay. Fred goes on to say that that F-A actually cites this essay in his Vespucci biography which was published in 2007.

Given F-A's strongly expressed utter contempt for Vespucci and stated low opinion of Roberto Levillier's *Imago Mundi* essay (1955) about how far Vespucci sailed along the eastern coastline of South America in 1501-1502, it seemed counterintuitive to me that F-A would have seen any value in this essay by Hessler who seems to admire Levillier's superb *Imago Mundi* essay as I do. Keep in mind F-A (like Samuel Eliot Morison) makes clear in his book that he does not think that the Portuguese ever sailed much beyond the point that Cabral reached at 23 degrees latitude south in the Spring of 1500. F-A not only has no use for any speculation about the west coast, he broadly suggests that the Cantino map and most others that depict an east coast for South America were fantasy maps based on pure speculation.

Given this situation, what value would F-A have placed on Hessler's essay? None that I could imagine. But I checked F-A's Vespucci biography to be sure I did not overlook a Hessler citation. I cannot find one. Perhaps it is there and I will be happy to learn where it is if someone would be so kind to tell me its location.

Afonso on Vespucci's Sailing Directions

Paulo Afonso whom I thank profusely in the preface my book *The Magellan Myth: Reflections on Columbus, Vespucci and the Waldseemuller Map of 1507*, for directing me to the all-important Lenox Globe, is recycling the old claim that the Portuguese expedition that Vespucci was on in 1501-1502 spun away from the coastline at 32 degrees latitude and veered off into the deep South Atlantic to reach 50 degrees latitude south.

Paulo is wrong and this can be shown on several levels.

First, Levillier followed by Arciniegas make a strong argument that there was no rational incentive for this expedition to swing away from the coastline like that and I have argued that the African analogy was foremost in the minds of the Portuguese explorers at that point.

By this I mean the desperate need to answer the Big Question of whether there was a second southern water passage (in addition to the Cape of Good Hope) that might lead to Asia and which side of the treaty line that passage (if it existed) might fall: on the Spanish or Portuguese side? Queen Isabella dispatched the Guerra-Velez de Mendoza expedition quickly in the

summer of 1500 to help answer that question and this was expedition that Vespucci expected to be on but was blocked by a sudden royal edict barring foreigners (see Louis Vignerat, *The Discovery of South America and the Andalusian Voyages*, 1976)

We know also that Johannes de Besicken published in Rome in 1505 a letter from King Manuel to King Ferdinand and there is a passage about prior discussions about whether this new land was a continent or an island -- all this 2 years before the Waldseemüller map!! It is in my view that it was in Lisbon's self-interest to give the Spanish impression that this was a continent and not an island with a southern water passage -- or if it was an island with such a passage, the eastern coastline curled far enough to the SE to place the cape/strait on the Portuguese side of the treaty line (e.g. see what is conveyed or suggested in the Lenox Globe, Cantino map)

This was Portuguese disinformation pure and simple. Paulo can buy it but there is no reason for the rest of us to swallow it.

What about Vespucci? Where was his mind?

Well we know that in his letter that leaked and was published in at least 3 editions in 1503-1504 and many times later with the title *Mundus Novus* Vespucci claims that they followed "a long, unbending coastline" and never hints at a departure from it. Not at all. In fact, in another unpublished letter to Lorenzo Medici dated to 1502 shortly after this voyage was completed in mid-1502, we can clearly see that Vespucci says that they sailed by this coastline "always on a southwest, 1/4 west course" to a point 50 degrees below the Equator (see Letter III on pages 29-30 in *Letters from a New World* edited Luciano Formisano, 1992).

Given the internal consistency between this unpublished letter and the *Mundus Novus* version, why then an alteration in the Italian edition of Vespucci's Letters (the Four voyages) and also in the Saint-Die Latin edition of that same expedition that asserts a departure from the coastline to SE and being way out to sea when it reached 50 degrees below the Equator?

For their part, Levillier and Arciniegas speculate that Portuguese censors forced Vespucci to alter his text or perhaps they altered it and then peddled that altered text, after Vespucci returned to Spain. We do know that the Portuguese had a thin skin about disclosures of what they considered highly sensitive (Top Secret) information about the true physical nature of this coastline. As I noted in a previous post on Maphist, Albert Ronsin cites a November 1504 royal edict that prohibited any depiction and presumably any discussion of this coastline below 8 degrees latitude south -- well short of where reached during his voyage in 1500.

However, there is a better, more credible explanation for the textual alteration and new narrative that Vespucci offers regarding this 1501-1502 voyage and you can find it in my book, *The Magellan Myth*.

When you study the documentation more closely you can see that it was probably not the Portuguese censors who had to pressure Vespucci to alter his account but much more likely that he made this decision on his own after he suddenly realized that Lorenzo Medici's follow-up questions in letters in 1502 brought home to him that he had said and revealed far too much to the Italian scholar in Florence.

We can see Vespucci's fumbling ex post facto attempt at self-censorship in his reply to Medici's follow-up questioning about that particular voyage in another published letter (Letter IV which is known as the Ridolfi fragment in Formisano's edition of Vespucci's letters).

It is here (circa late 1502) that Vespucci takes upon himself to rewrite the account he articulated in Letter III and in the letter that became known as *Mundus Novus* about what happened because in Letter IV Vespucci says to Medici:

"In truth, when we were at the latitude of fifty degrees, we were at sea and not on land, because when we managed to push off from land, we were not at a latitude greater than 32 degrees, and we sailed to the southeast until we arrived at the said latitude of 50 degrees without finding land" (See Formisano's anthology, page 37)

Ha Ha and Ah Ha! "In truth" -- Vespucci now says to Medici "In truth"? Meaning what? Perhaps something like -- I am so sorry I misspoke or misled you. Lorenzo. Well Well. This is a rather dramatic and impossible to camouflage alteration of Vespucci's prior explicit descriptions/accounts to Medici.

Clearly Vespucci was trying to take back what he had conveyed to Medici in prior communications.

Furthermore, and as F-A observes, the Letter IV/the Ridolfi fragment is odd because of the uncharacteristic sour tone or mood conveyed by Vespucci in this specific letter which I believe reflects his irritation with the awkward follow-up questions that the naturally curious Medici was asking in behalf of himself and quite likely other Florentine intellectuals with whom Medici had shared Vespucci's letters. Vespucci at one point conveys some irritation about getting the impression that his letters have been shared for circulated -- hence his nervousness about what he had said earlier.

In conclusion, I argue that before departing on his last voyage for Portugal in May 1503 Vespucci was already troubled by how much he had revealed to Medici who evidently was trying to get Vespucci to reconfirm or pindown that it was along the coastline that the 50 degrees had been reached. In response, Vespucci beats a retreat and tries to peddle a new/alterd narrative in the hope that Medici will buy it and deflect attention or memory about what was said in the earlier accounts.

But Vespucci failed in this attempt.

Somehow after Vespucci departed on his last voyage in the Spring of 1503 a letter containing the original account to Medici on this sensitive point slipped out into the public domain in published form known as *Mundus Novus* by late 1503. And I have argued that this was extremely damaging to Vespucci when he finally returned to Lisbon in June 1504. If not exactly then, then not long thereafter because *Mundus Novus* also contains a statement to Medici about how Vespucci was withholding from King Manuel his written accounts of his two voyages for Spain/Queen Isabella (King Manuel's

mother-in-law).

You can imagine how livid King Manuel would have been upon learning that the wildly popular *Mundus Novus* which reveals too much about the new southern continent and also ironically makes him look like a man who has been kept in the dark about Spanish exploration. In my opinion, the publication of *Mundus Novus* killed Vespucci's career in Portugal and he had get out fast by late 1504 which in fact he did. We soon find him at Columbus home in Seville in February 1505 spilling his guts to the Admiral (for more about this highly revealing development see my book which offers so much more than what you will find in Toby Lester's book).

This is the true story. The story about departing from the coast and sailing to the SE in the deep South Atlantic was Vespucci's fumbling and ultimately unsuccessful attempt at damage limitation by peddling (ex post facto) disinformation to his Italian interlocutors. It did not quite work.

But he evidently stuck with his story line because the later account of the so-called Third Voyage of 1501-1502 retains the bogus story about shift to the SE and the 50 degrees at sea. Ringmann and Waldseemüller published that version but never bought into it as one can clearly see from their statements, maps/globe gores, etc. They knew that the coastline did not bend to the SE as Cantino suggests, and that there was a southern water passage and that a west coast had been found -- meaning an island-like continent.

They had other non-Vespucci sources, and surely a deep one -- a Deep Throat -- in Lisbon to whom or which Ringmann and Gauthier point in their statements. There were leaks coming from Lisbon which King Manuel could not stop with his plumbers and this explains why we have not only Waldseemüller's depictions but also the Lenox Globe and the Rosselli map of 1508 and roughly 18 other cartographic items (see Table A in my book) which convey the existence of "a land surrounded by a vast ocean" to quote Ringmann.

We cannot exclude the possibility Vespucci himself saw the strait or knew that other navigators in the Portuguese service had found it before he returned to Spain. I gave voice to that suspicion in my first essay in *Exploring Mercator's World* in late 2002 and Hessler's unpublished essay suggests that this remains a distinct possibility.

Whatever the truth about the exact state of Vespucci's personal knowledge, Paulo is wrong about the shift to the SE.

This should be a good lesson for those who wish to challenge me on substantive grounds relating to my multidisciplinary dossier which -- unlike Gavin Menzies wild Chinese-first theories -- remains unrefuted. You need to be well-prepared if you want to try to take me down in a debate to convince others that I have not prevailed with my scholarship.

Peter Dickson
Arlington, Virginia
(703) 243-6641