In the early 1960s, something called the “Vinland map” was uncovered. It became famous because it proved that Vikings came to America before Columbus. It seemed to be a map of the North Atlantic as drawn from Scandinavian discoveries between 800 and 1100 CE, well before western Europe’s great Age of Exploration that began in 1400. It was announced by Yale University in the early 1960s, receiving much fanfare, and much skepticism.

On the right hand side of the map is the West European coast, including a quite recognizable Great Britain and Ireland, together with France, Spain and, at the top, Scandinavia. In the mid-Atlantic to the west of France and Spain were a group of islands that presumably represent the Azores.

Then, in the North Atlantic, west of Scandinavia, are first Iceland, then Greenland. Most interesting of all, to the west of Greenland, there is drawn a large island that must represent that portion of North America explored by the Vikings, that was known to them as “Vinland.” Vinland shows two large inlets, the northern one ending in an inland sea and seeming to represent Hudson Bay, while the southern seems to represent the Gulf of St. Lawrence.

This map really does not affect our notions of the discovery of North America. The true discovery of the American continents came more than 25,000 years ago, in the depths of the Ice Age, by Siberian hunters who followed the mammoth herds into what is now Alaska. Undoubtedly, we shall never learn the details of this momentous expansion of the human range.

Outlaws at home in Scandinavia, the Vikings pillaged England unceasingly. Later they spread westward, jumping from island to island, first to Iceland and then to Greenland, they established permanent colonies and their own kingdoms. Leif Erikson ventured further still, and founded a colony in a place he called Vinland.
1. Timeline of Vinland Map History and Discovery.
   After our class discussion, what is the currently held belief about the authenticity of the Vinland Map? Are all scholars in agreement?

2. Analyzing Evidence: You will rate each of the following categories as ...
   **Very certain**--There is abundant, compelling evidence... and only one reasonable interpretation.
   **Probably sure**--The evidence is very strong, and you can presume an opinion... but another interpretation might be possible.
   **It proves nothing**--The evidence is consistent with it being both real or fake... We are speculating, this permissive evidence cannot prove anything.

Between 800-1100 CE, the Vikings traveled everywhere -- eastwards as far as the Middle East as traders, and westwards into the North Atlantic on unimaginable voyages of exploration. Here is a map of their voyages across the north Atlantic.

In 1965, archeologists discovered conclusive proof that the Vikings arrived 500 years before Columbus. They found the ancient Viking settlement at Newfoundland. Leif Erikson’s site Vinland was identified with a Viking settlement, discovered and excavated at L’Anse aux Meadows in Newfoundland.

The Northern climate was harsh. The L’Anse aux Meadows settlement lasted only two years. The last Viking settler in Greenland died in 1540. And the whole Viking culture disappeared in the 12th century when both the Vikings and Scandinavia were converted to Christianity.
This evidence suggests the map is: • Real  • Not sure  • Fake  • Undecided
How conclusive is this evidence? • Very certain  • Somewhat sure  • It proves nothing  • Undecided

Explain: __________________________________________________________________________________
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Have you ever have seen a 15th century map? How can you tell if it’s real? A “real” map would be consistent with other maps at the time. In the 15th century, some parts of the world were well charted, but much of the earth was unknown.

The Mediterranean: One of the most recognizable portions of the map is the Mediterranean, and this to be expected. Examine below the geography of the Mediterranean.

The 15th century was the high point of the Renaissance. The center of activity was Italy. Already, for over 2,000 years, the Mediterranean had been home to the Greek and Roman empires. Trade had flourished, the coastlines had been thoroughly mapped, and we would expect it to be fairly accurate. This area was called the “Mediterranean” because, at that time, it was the center of the known Earth: in Latin medi = center and terra = earth.

Greenland: To the northeast of mainland Europe, we find Iceland (“Islanda”), and Greenland (“Gronland”). Greenland is remarkably precise. Compare below the map’s Greenland with a contemporary map. Compare the amount of detail of the coasts. Compare the overall shapes.

The Vinland map shows Greenland as an island, which is highly unusual for a map before the 19th century. Are these accurate? ... Are they too accurate? Could a 15th century cartographer known that?

It was not until the late 19th century, with the invention of the steam-powered vessel, that a ship could survive the arctic conditions and travel around the northern coast. Greenland was first circumnavigated by Admiral Perry.

In 1450, little was known about Greenland. Its shape was pure conjecture. Compare these other maps below. Greenland appears variously as a peninsula extruded from Europe, as a part of the arctic landmass, and occasionally as an island (with an inaccurate Northern coastline).

Vinland: To the west of Greenland is North America (Labrador, Newfoundland, Nova Scotia and New England). On the map we see an odd looking island, with two large inlets, labeled “Vinlanda” ... and this is what makes this map so famous. The presence of Vinlanda on this map (which has been dated to 1425) would be further proof that Columbus (1492) was not the first European to discover North America appears on the map.

The two indentations (estuaries) on the east coast of Vinland are shown in great detail. Can they be identified today? Vinland is shown as an island, with a large bay on its western shore. Given the detailed mapping of Greenland on the Vinland Map, what can one conclude about the mapping of Vinland?
Yes. The parchment is old.

In the mid 1990s, a sample piece was cut from the bottom of the map for Carbon-14 dating, and after nearly a decade of silence, the results were published in 2002. Two measurements dated it as contemporary and the rest dated it to 1425 (consistent with the age determined from the watermarks and writing on the map).

The two anomalous measurements do not actually date the manuscript as contemporary. They contain too much 14C (perhaps because of contamination from nuclear particles in the atmosphere).

Ignoring that, we can say that the carbon dating dates the parchment to a date consistent with Map being medieval, pre-dating the voyages of Christopher Columbus. What does this tell us? Either:

The map is genuine, contemporaneous with the parchment, or The map is a later forgery drawn on old parchment. Had the parchment been found to be modern, the Map would have been proven to be fake. But the parchment is medieval, as was expected. The Map was found bound in a 15th century book, and wormholes on the Map match wormholes on adjacent pages. Moreover, the watermark on the Map matches that those on adjacent pages in the book and the watermarks can by clearly dated to 1430.

Unfortunately, we can not date the ink using current technology. The amount of ink on the Map is too minute — it would take the whole Map to measure the age of the ink.

The parchment is old. Does that mean the map is old too? Or might a forger have drawn on a blank page from the book, or some other 15th century parchment?

This evidence suggests the map is:  • Real  • Not sure  • Fake  • Undecided
How conclusive is this evidence?  • Very certain  • Somewhat sure  • It proves nothing  • Undecided

Explain: ________________________________
Two inks were used in the 1400s, India ink (soot) and iron-gall (oak burls). India ink is stable, but iron-gall “rusts” to Fe₂O₃. Here, the ink has a yellow fringe, but analysis shows the ink is soot. The ignorant forger used India ink, and then added yellow pigment to make it look old.

Only iron-gall ink yellows with time, forming rust Fe₂O₃. Chemical analysis of the yellow pigment shows it is not rust, but synthetic anatase (TiO₂). This anatase was first made in 1920. How could synthetic anatase be found on the map?

When manuscripts written with iron-gall ink age, iron ions leech from the iron gallotannate causing discoloration and embrittlement of both paper and parchment. However, the Vinland Map shows no evidence of embrittlement or parchment loss.

Typical damage in aged iron-gall manuscripts include brown or yellow staining and, sometimes losses.

Explain: __________________________________________________________________________________
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There is no convincing reason why any individual might forge the Vinland Map. The knowledge, skill and materials needed would limit possible forgers to a handful of experts, who would necessarily be well known.

Wilcomb Washburn of the Smithsonian Institution has suggested arrogance, wry humor, or jeu d’esprit as possible motives. He suggests further that forgery could result from the deep antagonism that can develop between academic scholars and museum curators.

Two possible names have been suggested: a Dominican friar (Luka Jelic, 1863-1922) and a German Jesuit priest (Josef Fischer, 1858-1944). Kirsten Seaver, citing circumstantial evidence and complex reasoning, proposes that Fischer did it, out of a wish to thwart Hitler.

The Vinland Map displays cartography (the tracings on the map), text and captions. Were these drawn in 1425, or forged much later?

If the map is genuine, the cartographic information must have been gathered by the Vikings around 1000 AD and then transmitted, over 500 years, through manuscripts (now lost) or by oral tradition. In whole or in part, the Vinland Map would then be either a copy of an older document (now lost) or an original document based on the information available in 1440.

Is the lettering identifiable as a script used during the period 1000 - 1440?

The Vinland Map was discovered as part of the first volume of a uniform two-volume set. Completing the first volume was the Tartar Relation, unrelated to the Map and an account of a mission to Asia in 1245-7. The second volume contains part of the Speculum Historiale, written by Vincent of Beauvais.
All three, Vinland Map and Tartar Relation and Speculum Historiale, have been identified as being written by the same hand in “Oberrheinisch Bastarda” rendered in English as Upper Rhineland bastard (or cursive) bookhand.

Is the Latin usage consistent? Can its style be dated and located to a region?

The very odd title given to Bishop Eirick on the Vinland Map is identical to that given him in print in 1891 by Luca Jelic … and this is one reason that Jelic has been identified as a possible forger.

On the Vinland Map, the caption for the Canary Islands and the Azores is written as Magnae Insulae Beati Brandani Branziliae Dictae in which the diphthong is written out -ae. Elsewhere on the Vinland Map it is not and on the Tartar Relation it is never written out.

The Vinland Map uses a virgula to indicate an inter-sentence pause, written as “/”. This is abnormal for the Oberrheinisch Bastarda script and is not used in the Tartar Relation.

Can it be located in time and place?

The script was in use in Germany, Switzerland, France, Flanders and Italy throughout the period ca. 1415 —ca. 1460. Plausibly, its designation is to the Upper Rheinland, and speculatively, to Basle, scene of an important church council ca. 1440.

Is it used consistently or inconsistently (as expected perhaps for a forgery)?

The script appears to be the same for Vinland Map, Tartar Relation and Speculum Historiale. The writing is of uniform size except in the Vinland Map where map captions had to placed in small areas. Capital letters were used much more frequently in the Vinland Map.

Is the Latin usage grammatically correct?

The rendering of Leif Eiriksson as leiphus erissonius (together with other similar examples) suggest a scribe who is not a Scandanavian who knew Latin but a non-Scandanavian who knew Latin but not Icelandic. The rendering of Iceland as Isolanda identifies the scribe as Italian.

Similarly, Vinland appears as Vinilanda, but should have been translated as Terra Labruscarum.

Final Conclusion: Based on what you have learned, do you think the map is authentic or a forgery? Explain.

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