

Geography 12: Maps and Spatial Reasoning
Geography 12: Fall 2011
Maps and Spatial Reasoning

Instructor: Professor Keith Clarke
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Menzer



To set the stage

- In the beginning was the word..... “It is generally agreed that true writing of language was invented independently in at least two places: Mesopotamia 3200 BC and Mesoamerica 600 BC.” (numbers are earlier)
- Maybe, in the beginning was the **MAP!**



4500 BCE?

Spatial Thinking

- But did writing develop before SPATIAL REASONING?
- Spatial thinking: Reasoning and thinking using graphics (can also use spoken word, written word, numbers & symbols)
- Visual tools are drawings, photos, charts, graphs and maps

35,000BCE



Perhaps the first maps were...



Lets see what the authorities say...

Çatalhöyük : 6000 BCE



Drawing of the central portion of the Catalhöyük map. The twin peaked volcano is a reasonable representation of the way Hasan Dag looked 8000 years ago. It has been extinct since the second millennium BCE

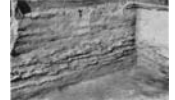


But is it a map?

A bird's eye view - of a leopard's spots. The Çatalhöyük 'map' and the development of cartographic representation in prehistory.

This is the author's version of an article published in *Anatolian Studies* Vol 56 2006, pp1-16.

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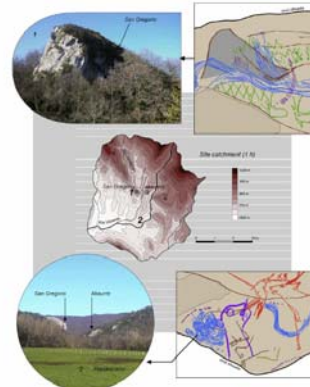
Abstract:
The striking wall paintings uncovered in the excavations at Çatalhöyük have fascinated archaeologists and non-archaeologists alike, and many interpretations of their content and meaning have been proposed. This article re-evaluates the claim that one of these paintings is a map of the village, with Hasan Dag erupting above it. It is argued that the excavator's first interpretation of the objects depicted in the painting, i.e. that they are a leopard skin above a panel of geometric design, is in fact a far more reasonable one, when this painting is contextualised within the entire corpus of painting and other art objects found at the site. Implications of this re-interpretation for our understanding of Neolithic spatial and symbolic representation, and the origins of map-making are considered, as well as the importance of the depiction of animals and felines in the Neolithic period.

Even older, 9,000 years before writing:



World's oldest stone map. Source: *Journal of Human Evolution*, 2009, Volume 57, Number 2, pp. 99-111.
A team of Spanish archaeologists have matched marks on polished sandstone made 14,000 years ago in Navarre, northern Spain to the landscape in which it was found and claim to have the earliest known map, which appears to be a prehistoric hunting map. The map has depictions of reindeer, a stag and some ibex, plus the shapes of mountains, and the course of a river

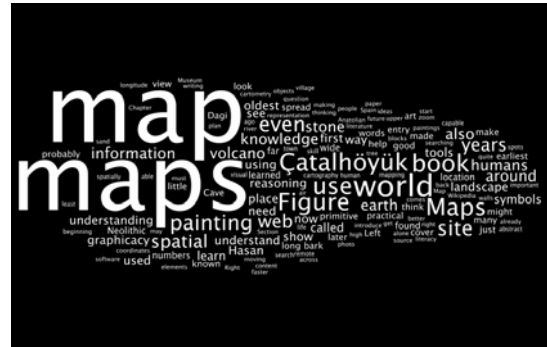
Abauntz Cave, Navarra, Spain



My assertion

- Humans could make and interpret maps thousands of years before they could write
- Use was for hunting, safety? migration?
- Major portion of the human brain deals with vision and space
- Spatial thinking can be tapped for memory, learning and reasoning!
- In the beginning, was the MAP

Maps, Graphics, InfoViz: Wordle



What you will learn

- Spatial reasoning and thinking
- Map geometry, construction and content
- Practical map use, reading and navigation
- Map representation
- Cartometry and map analysis
- Basics of cartography's sister disciplines

How you will learn it

- Textbook
- Lectures
- Labs and Gauchospace
- Supplemental materials
- Exercises in lab
- Evaluations

What I expect from you

- Attend lecture
- Attend lab
- Submit labs in a timely fashion
- Read the book and materials
- Ask questions
- Think spatially!