Maps

Understanding maps and map images
NASA Photograph of Earth from Space
There is no possible way to accurately represent a round globe on a flat surface.
Distortion will occur in at least one of these components:

- Shape
- Size (area)
- Distance
- Direction
Maps can mislead us!

- Intentional
- Unintentional
The Mercator Projection: A Critique

Peters

Mercator
The former Soviet Union is 8.7 million square miles.

Africa is 11.6 million square miles.
Europe is 3.8 million square miles.

South America is 6.9 million sq. miles.
Greenland: 0.8 million sq. miles

Africa: 11.6 million sq. miles
Greenland is 0.8 million square miles.

China is 3.7 million square miles.
Mental Maps

Our brain is trained to “see” in certain ways . . .
How we read maps

• We are used to reading from top to bottom and from left to right
  – So we always look to the top for the most important information, so the northern hemisphere is noted first

• We look for important information in the center
  – Whatever is in the center of a map is noticed first, then we look at the periphery

• We expect larger things to be more important than smaller things
  – Larger countries or continents are more prominent and therefore given more “weight” in our minds
Why is NORTH always at the TOP?
The North is 18.9 million square miles.

The South is 38.6 million square miles.
How does it change your viewpoint when seen “up-side-down”?
Which country is the most important one in this view of the Americas?
The Peters Map

What are its strengths?

- Fairness
- Accuracy
**Mercator**: good for navigating

- **Meridians straight**
  - lines up with compass
- **Conformal**
  - shape is accurate
- **Area distorted**
  - not in proportion
  - larger farther from equator
The Mercator Map
Eurocentric

- Europe is larger
- Europe is on top

Makes Europe seem more important!
Should school children only see the Mercator map?

- How will this affect their viewpoint?
- Will they be able to overcome this bias?
- If the problem of distortion is explained by teachers at an early age
  - Being aware of the issue helps bring perspective
**Peters:** good for representing the world equally

- **Equal area**
  proportions are correct everywhere
- **Straight parallels**
  easy to see directions
- **Distortion of shape**
  elongated
  not used to it!
The Peters Map
Politically Correct
Important in today’s global society