

## 4 Studying Geography Introduction to Mapping

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## Geographers' Tools

### TOPICS in "INTRODUCTION TO MAPPING"

- Cartography
- Location Systems
- Maps and their Parts
- Geographic Information Technology
  - Remotely Sensed Information
  - Automated Cartography (mapping by software)
  - Geographic Information Systems (GIS)

**EXAM 1 follows this section**

2

## Geographers' Needs

When studying the earth we need to be able to do three things:

1. **Collect data** (using specialized tools)
2. **Locate data that has been collected** (using a grid spread over the Earth's surface)
3. **Portray data spatially** (using cartographic techniques to create maps)

3

## The Map

The map is our special tool because it:

1. Gives a wealth of **information** at a glance.
2. Shows **relationships** between locations.
3. Can be used to **influence** people by the visual components included in the map.

4

## Cartographic Terms

### ❖ Map:

A view of the earth or a portion of its skin drawn to scale (proportion) on a flat surface.

### ❖ Cartography:

The art and science of map making.

### ❖ Atlas:

A collection of maps.

### ❖ Globe:

Spherical-shaped map or model of the earth.

5

## Cartographic Terms

### ❖ Thematic map:

A cartographic representation of a particular subject; it is a special-purpose map.

### ❖ Cartogram:

A map that uses data other than land surface to portray the size of an area.

### ❖ Mental map:

A map drawn from memory representing a person's perception of an area (size, content and proximity of component parts).

6

## Cartographic Terms

### ❖ Cartographer:

Mapmaker; portrayer of information.  
**Selects** the information to be shown and  
**Decides** how it will be portrayed on the map.

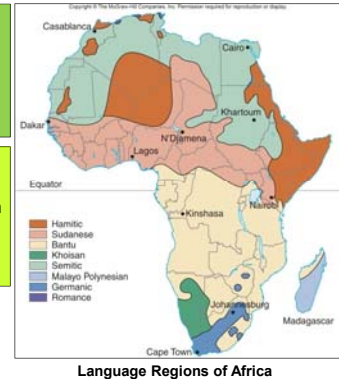
### ❖ Reader:

**YOU**, the interpreter of the information.  
 ➤ Therefore, you must be aware of the options a mapmaker has when creating a map.

7

## Thematic or Special-Purpose Map

A thematic map focuses on one subject or topic. Contains data or information that is **relevant** to the theme and **omits** other geographic material.



Language Regions of Africa

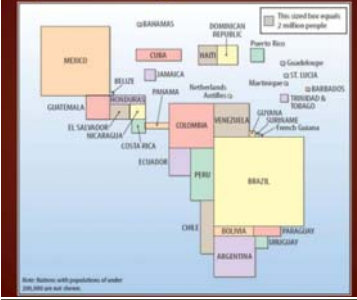
## Cartogram

A cartogram is a map that uses **data other than land surface** to portray an area's size. It **does not** represent true size or true shape.



Compare Ecuador with Peru and Nicaragua with Puerto Rico on both maps.

Population Cartogram of Latin America



Countries are drawn to size according to their population (above), NOT land area (left).

9

## Mapping Billionaires



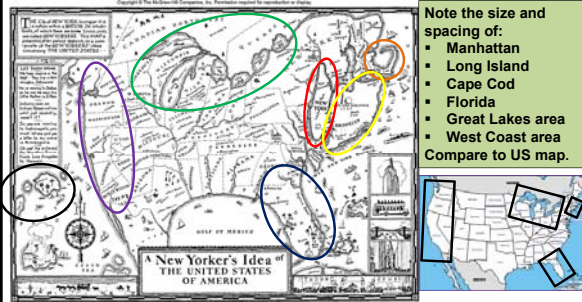
**Standard Thematic Map:** Uses color intensity to show headcount within a country's land area and shape.

**Cartogram:** The size of each country is drawn according to the number of billionaires living there, not its land area.

10

## Mental Map

❖ A **mental map** is an illustration of a person's **perception** of an area. It **is drawn from memory**.  
 ➤ Distance, size and proximity are influenced by a person's **preferences** and **familiarity** with the area portrayed.



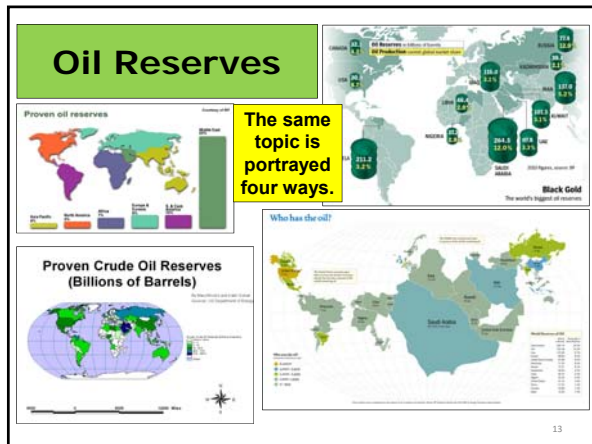
Note the size and spacing of:  
 • Manhattan  
 • Long Island  
 • Cape Cod  
 • Florida  
 • Great Lakes area  
 • West Coast area  
 Compare to US map.

## Map Design

❖ The map reader must be aware of the map-maker!  
**WHY?**  
 ➤ Because map-makers use **cartographic generalization** to create the end product.

✓ The **mapmaker selects** the information and subjects to be shown.  
 ▪ So what was omitted?  
 ▪ How is the information being portrayed?  
 ✓ The map be influenced or limited by a number of **stylistic** factors **chosen by the mapmaker**.

12



### Cartographic Variables

- Scale.** The ability to show detail.
- Technology and Skill.** The ability to present detail.
- Data.** How accurate and reliable is it?
- Purpose.** What is the theme, goal or end-result of drawing this map?
- Psychology.** Use of leading colors, patterns, symbols and categories.
  - Are they **eye-catching** or **eye-quieting**?

14

### Cartographic Generalization

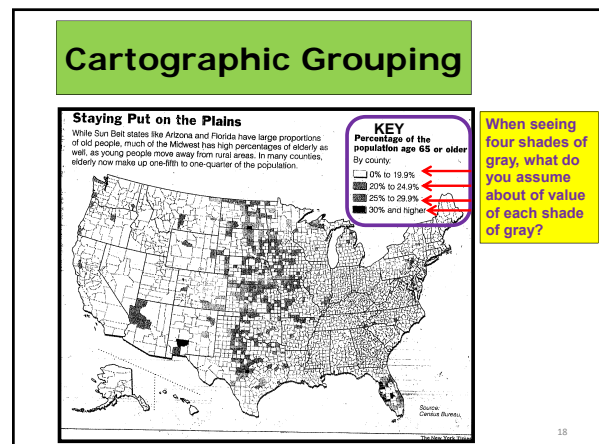
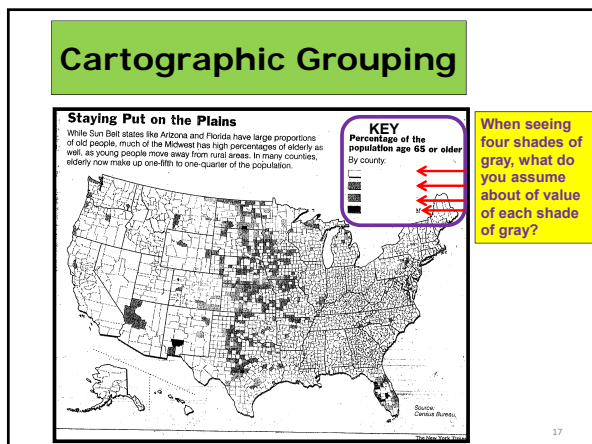
- ❖ **Simplification:** omitting details (no map shows everything, but what is omitted and why?)
- ❖ **Classification:** sorting and arranging into groups and/or categories; also called grouping or categorizing.
- ❖ **Symbolization:** use of shapes, colors, patterns to represent information.
- ❖ **Induction:** portrayal of generalized information between points of reliable and accurate information.

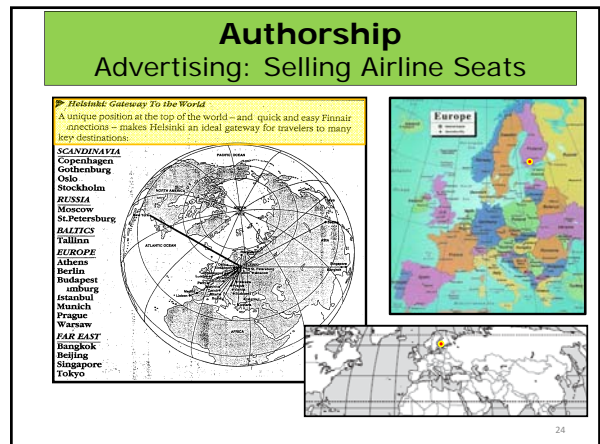
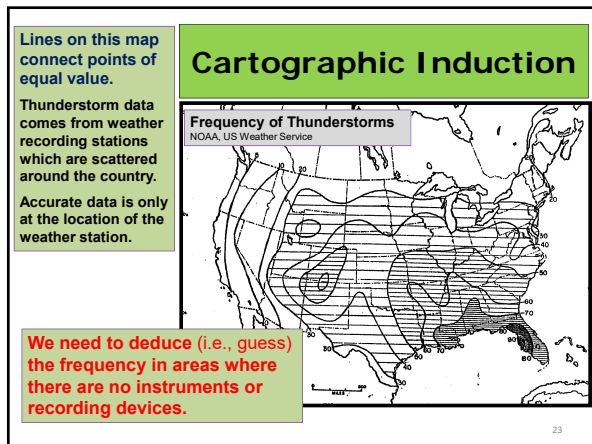
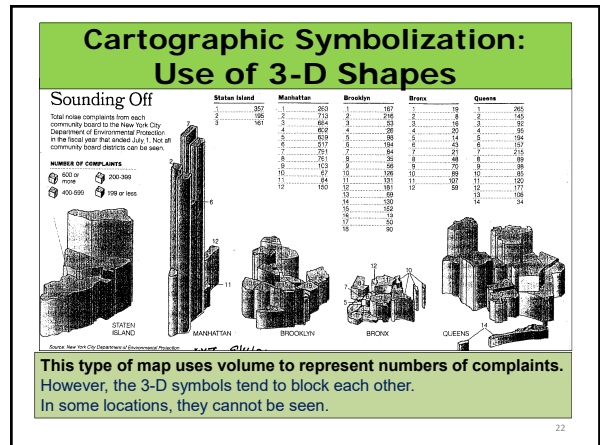
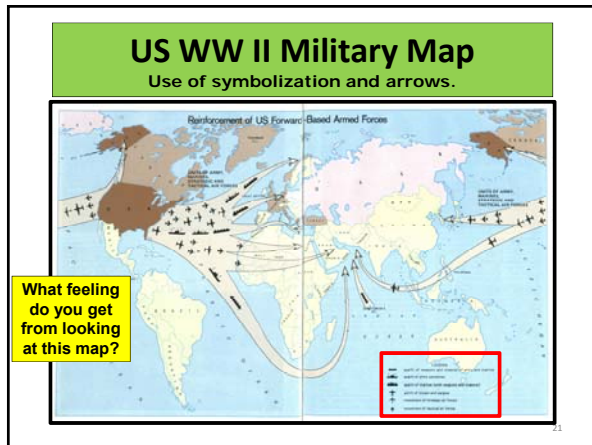
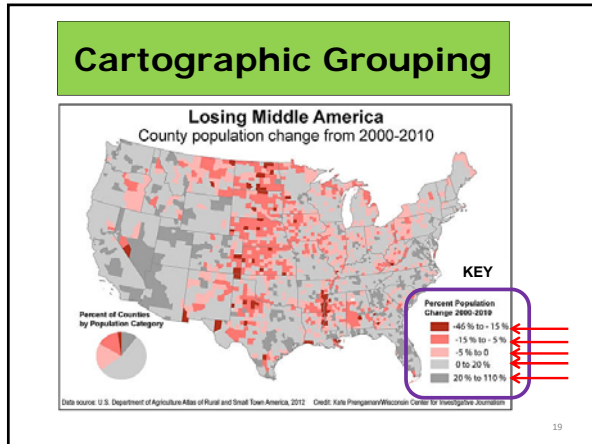
15

### Cartographic Authorship

- ❖ **Compilation:**  
Who is putting the data together?
- ❖ **Publishing:**  
Who is responsible for getting it out to the public?

16





### Authorship

#### Advertising: Selling Theme Parks

**A World of Fun, Not a World Away.**  
No matter where you live or travel, there's a Six Flags near you!

**REALLY??**

**Where are they?**

**CLICK YOUR PARK!**

the world's #2 theme park company...and gaining

|                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| Six Flags Great Escape | Six Flags Great Escape | Six Flags Great Escape | Six Flags Great Escape | Six Flags Great Escape |
| 2000                   | 2000                   | 2000                   | 2000                   | 2000                   |
| 2000                   | 2000                   | 2000                   | 2000                   | 2000                   |
| 2000                   | 2000                   | 2000                   | 2000                   | 2000                   |
| 2000                   | 2000                   | 2000                   | 2000                   | 2000                   |
| 2000                   | 2000                   | 2000                   | 2000                   | 2000                   |

© 2009 Six Flags Parks  
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### Using Maps to Compare Service:

#### Classic 2009 Verizon vs AT&T Dualing Ads

**Verizon Wireless**      **AT&T**

Actual US population map

**5X More 3G Coverage**  
Comparison based on square miles. Coverage not available everywhere.

In 2009 AT&T and Verizon attacked each other in warring ads and in court. AT&T said map ads were misleading because it had nationwide voice, serviced a high percentage of the American people and had "somewhat slower" wireless service.

<https://cdn.phonearena.com/images/articles/294951/thumb/verizon-vs-at-t-vs-t-mobile-vs-sprint-coverage-maps.gif>

### AUTHORSHIP

#### Point-of-View Map (propaganda)

Find at least six subliminal symbols on this map >>>>

**SAUDI ARABIA**

**How can anyone say that selling F-15s to Saudi Arabia isn't a threat to Israel?**

Advertisement placed in the NY Times by the Binai B'ith on 5/9/78 in an attempt to influence a US Congressional vote on selling fighter planes to Saudi Arabia.

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### Outline Map of the Middle East

Israel      Jordan      Iran

Saudi Arabia

N  
W ← → E  
S