

Geography 360

Principles of Cartography

April 26, 2006

Typography

Outlines

1. Principles of typography

- Anatomy of letterform
- Classifying type family
- Typographic variables

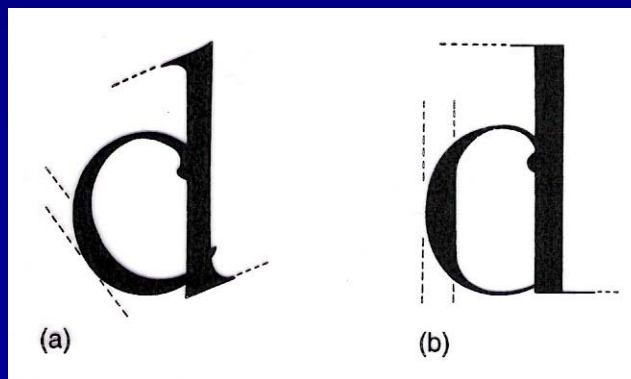
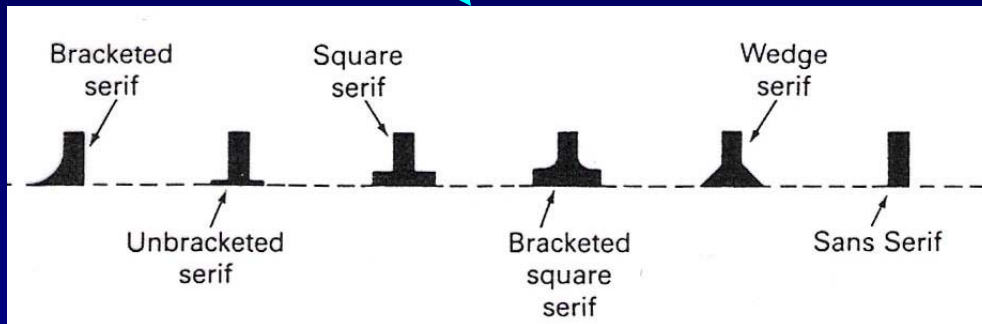
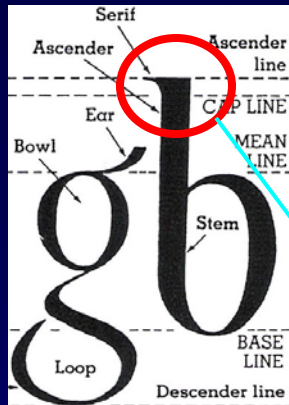
2. Using type for map design

- Choosing type family
- Choosing typographic variables
- Guidelines for type placement

1. Principles of typography

- What constitutes letterform?
 - with focus on serif and shading
- Classifying type family
 - based on common characteristics of letterform
- Typographic variables
 - Type style, size, case, spacing, ...

Some design aspects of letterform



Source: Dent Figure 14.1

- Serif : finishing strokes added to the end of the main strokes of the letter
- Shading: main slant of letterforms

- **Serif vs. San Serif**

TIMES NEW ROMAN	ARIAL
On the last class, we discussed how to match map symbols to geographic phenomenon on the basis of their dimensions, and logics inherent in visual variables.	On the last class, we discussed how to match map symbols to geographic phenomenon on the basis of their dimensions, and logics inherent in visual variables.

- **Diagonal shading vs. horizontal shading**

GOUDY OLD STYLE	ELEPHANT
On the last class, we discussed how to match map symbols to geographic phenomenon on the basis of their dimensions, and logics inherent in visual variables.	On the last class, we discussed how to match map symbols to geographic phenomenon on the basis of their dimensions, and logics inherent in visual variables.

Aspects of letterform

- Serif vs. Sans Serif
 - Serif: lettering styles that contain such finishing strokes
 - Sans Serif: lettering styles that do not contain such finishing strokes
- Diagonal Shading vs. horizontal/vertical Shading
 - Where is the position of the maximum stress in curved letters?
 - See Dent Figure 14.3

What is type family?

- Type family: a group of type designs that reflect common design characteristics and share a common base name (Fig. 11.18)

Palatino

Helvetica

Bookman

Gill Sans

Classifying type family

Cloister		Blackletter	
Goudy Old Style	}	Venetian	
Bembo		Oldstyle	Aldine-French
Caslon			Dutch-English
Baskerville		Transitional	
Bodoni Book		Modern	
Stymie Medium		Square serif	

Alexander Lawson, 1971, *Printing types: An Introduction*

Classifying type family

Class	Appearance	Distinct characteristics	Other name
<i>Black Letter</i>	Hand lettering	Decorative	Text
Oldstyle	Lacking geometric	Diagonal shading	Roman
Modern	Geometric	Vertical/horizontal shading	
Sans serif	Precise, clean-cut	No serif	Gothic

Typographic variables

- Type family can be further differentiated by typographic variables such as
 - Type style: *italic*, normal, **bold** (Fig. 11.18 B)
 - Type size: 24 point (Fig. 11. 18D)
 - Type case: UPPERCASE, lowercase, Title Case, Sentence case (Fig. 11.19A)
- Letter spacing: space between each letter (Fig. 11.20A)
- Kerning: variation of space between two adjacent letters (Fig. 11.20 B)
- Leading: line spacing (Fig. 11.20 C)

2. Using type for map design

- Choosing type family
 - Consider readability, similarity, and personality of type family
- Choosing typographic variable
 - Consider logics of variables in relation to data measurement scale
- Guidelines for type placements
 - Consider spatial dimensions of features

Black Letter

Oldstyle

Modern

Sans serif

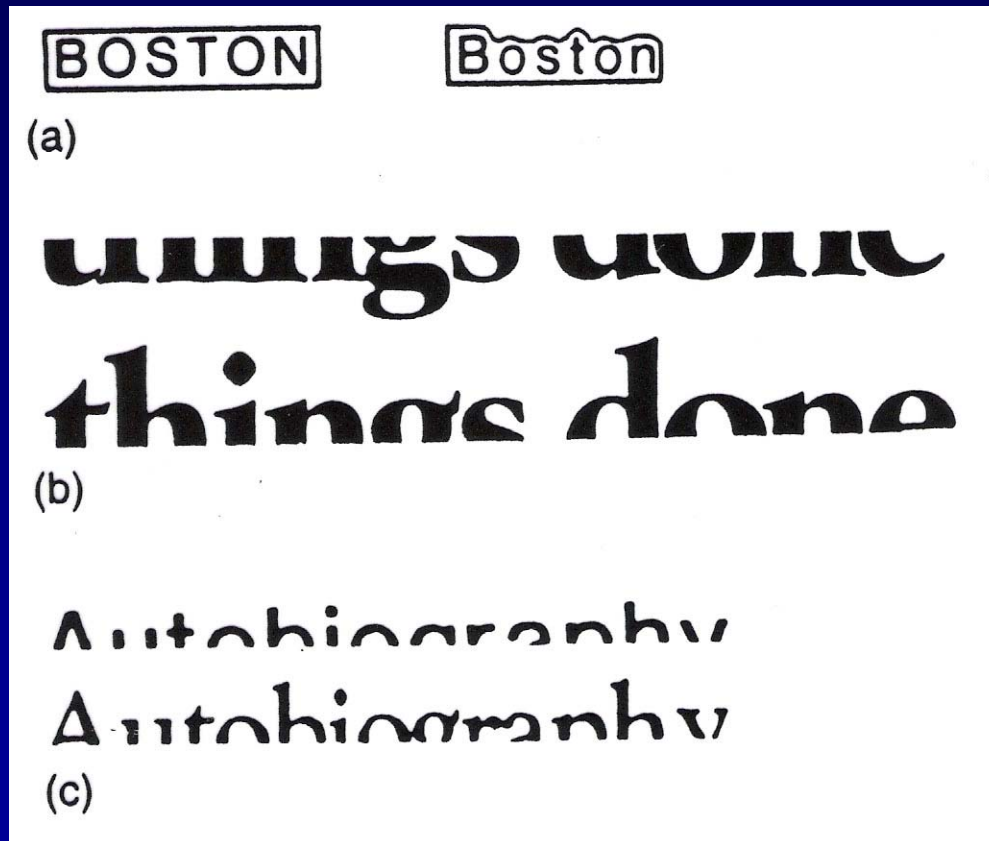
Choosing type family

- Which class of type family would you recommend the least for map lettering?
 - Rank classes of type family in terms of readability
- Which combination of type family would recommend the least for depicting nominal differences?
 - Group classes of type family in terms of similarity
- Which class of type family would you recommend the least for labeling medieval castle?
 - Consider how the appearance of type family is compatible with the map's content

Guidelines for choosing type family

- Readability
 - Decorative type family is not recommended for map lettering (hard to read)
 - Generally speaking, letters with serifs are easier to read than letters in sans serif style (even though the difference in effectiveness for map reading has not been proven) see Dent Figure 14.11
 - Generally speaking, letters that lack bold vertical/horizontal shading are easier to read (e.g. compare time roman and **elephant**)

Reading type



- a) Lowercase letters lead to easier word recognition because of the silhouette they produce
- b) It is easier to distinguish words by the tops of letters than by their bottoms
- c) Serif letterforms are frequently easier to read, because the letters are more distinct, especially along the upper halves of lowercase letters

Source: Dent Figure 14.11

Guidelines for choosing type family

- Similarity

- Distinctively different type family can be combined to suggest nominal differences
- You can think of a set of distinctively different type family as “distinguishing” type of visual variables such as shape and hue

Use different type family to differentiate city and national park

Also using too similar fonts can be confusing



Source: NationalGeographic.com

Black Letter

Oldstyle

Modern

Sans serif

Guidelines for choosing type family

- Personality

- Appearance of type family invokes different feeling
 - Black letter: old, traditional?
 - Old style: mellow, restful, and dignified?
 - Modern: abrupt, dynamic?
 - San serif: newness, precision?
- Make the use of this natural association of type family with feeling to enhance communication
- Choose a type family that is compatible with the map content
 - e.g. black letter is not an appropriate choice for a map depicting a twentieth-century feature aside from legibility

Choosing typographic variables

- Type style: normal or *italic*?
 - By convention, italics for *natural features* (*hydrographic features*), and normal for cultural features



Choosing typographic variables

- Type style: **bold** or not?
 - Good to depict more important features



Choosing typographic variables

- Type case:
 - Use uppercase for large features such as countries, oceans, and continents
 - By convention, mountain range in upper case
 - By convention, country names in upper case
 - Similarly, uppercase for state; lowercase for county
 - Use uppercase for important item



Choosing typographic variables

- Type size
 - Good to show quantitative order (e.g. big city, medium-sized city, small city)

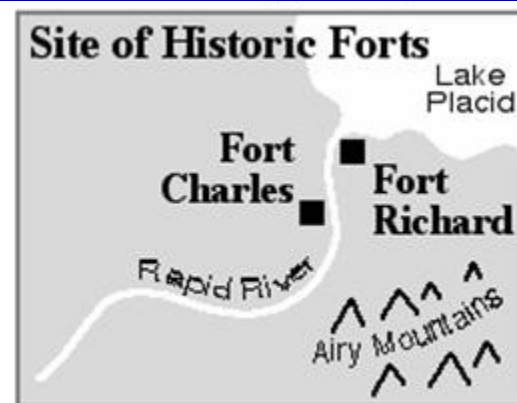
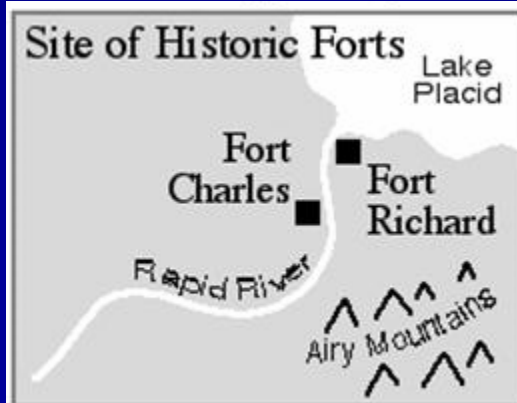
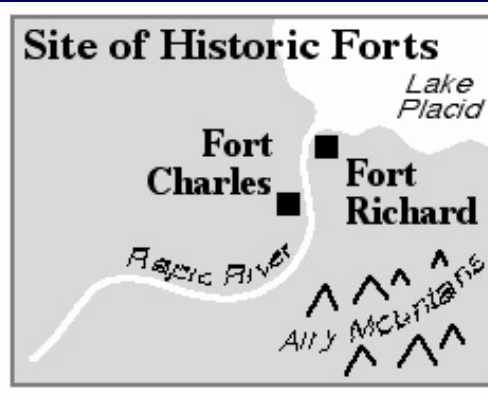
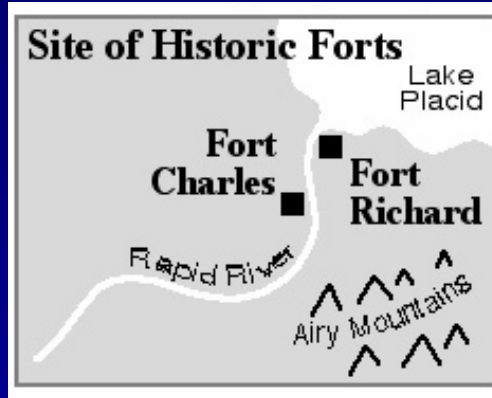
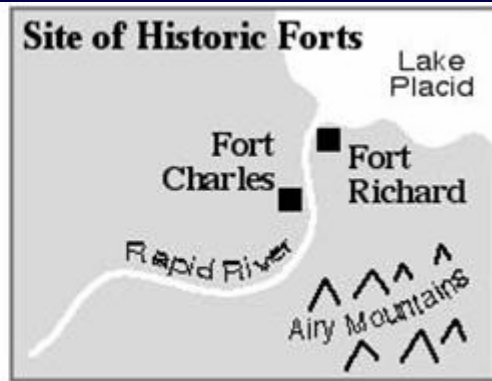
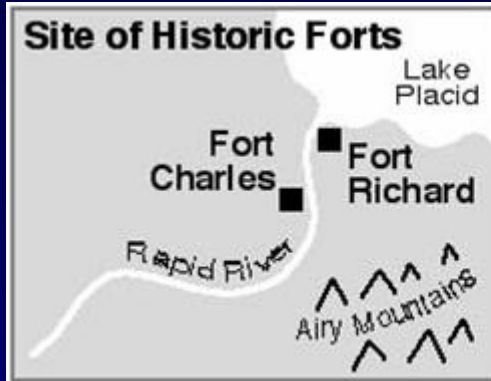


Choosing typographic variables

- Spacing
 - Appropriate for naming areal features (effective in showing its extent)



Better use of typography?



- Type family

- Type style: italic

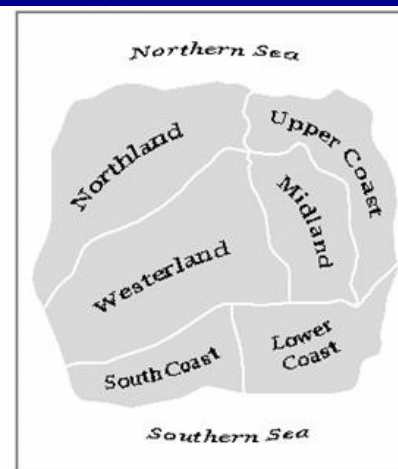
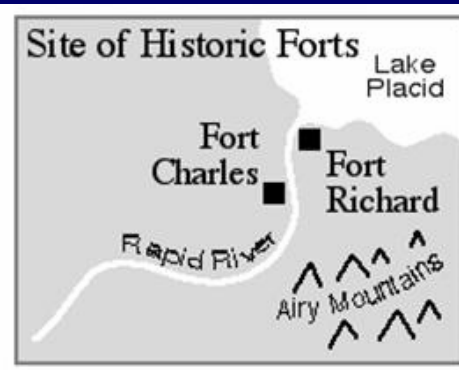
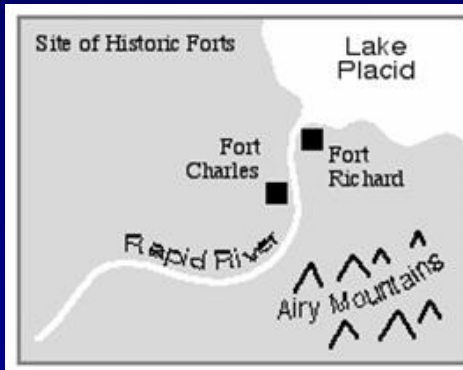
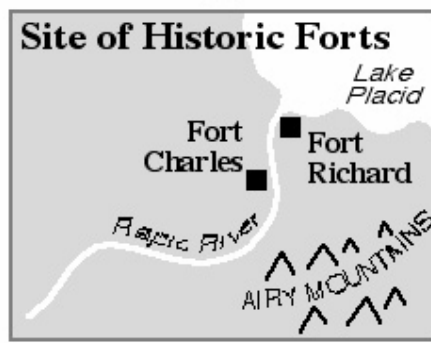
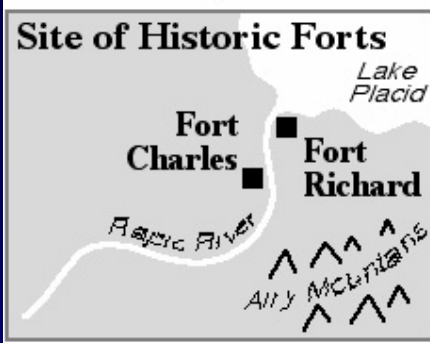
- Type style: bold

Better use of typographic variable?

- Type case

- Type size

- Spacing



Summary of typographic design in maps

mark the nature of typographic variables in cells

Typographic variables	Qualitative	Quantitative
Type family*		
Style		
Italic		
Bold		
Case		
Size		
Spacing		

* typographic variables are characteristics of type family

Summary of typographic design in maps

Typographic variables	Qualitative	Quantitative
Type family*	x	
Style		
Italic	x	
Bold		x
Case	x	x
Size		x
Spacing	x	

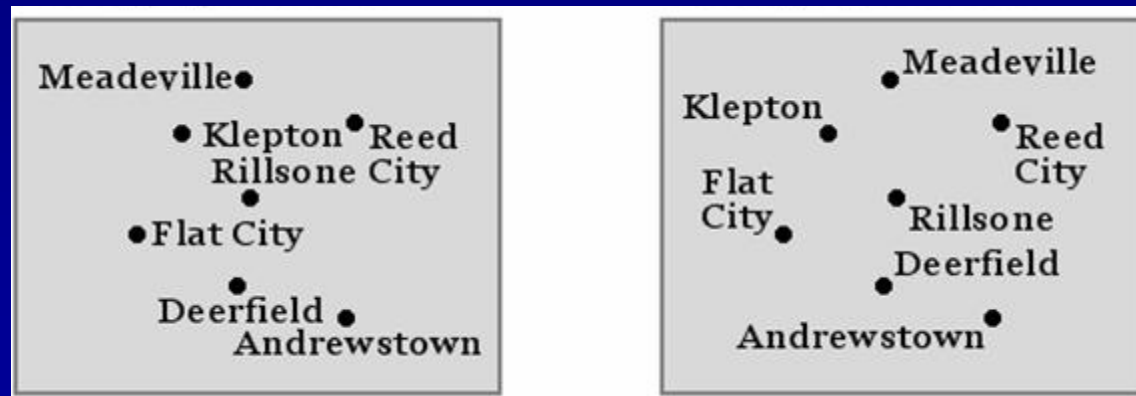
Type placement

- Lettering can express the feature's location by its placement
- Careful type placement enhances the appearance of the map
- Type placement fall into one of the following categories: labeling point, linear, and areal features

Guidelines for labeling point features

- Ideal location is above the feature, but should take into account conflict with neighboring labels
- See Figure 11.23 for the sequence of preferred locations

Which looks better?



Guidelines for labeling point features

- Label port and harbor town on the sea; label inland towns on the land
- Label land features on land; water features on water

Which looks better?



Guidelines for labeling point features

- Alight type to graticule

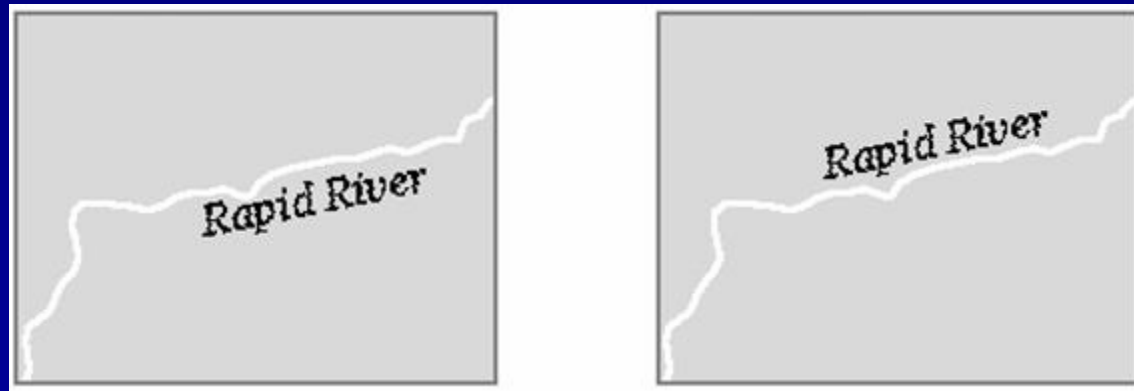
Which looks better?



Guidelines for labeling linear features

- Above the feature

Which looks better?



Guidelines for labeling linear features

- Not upside down

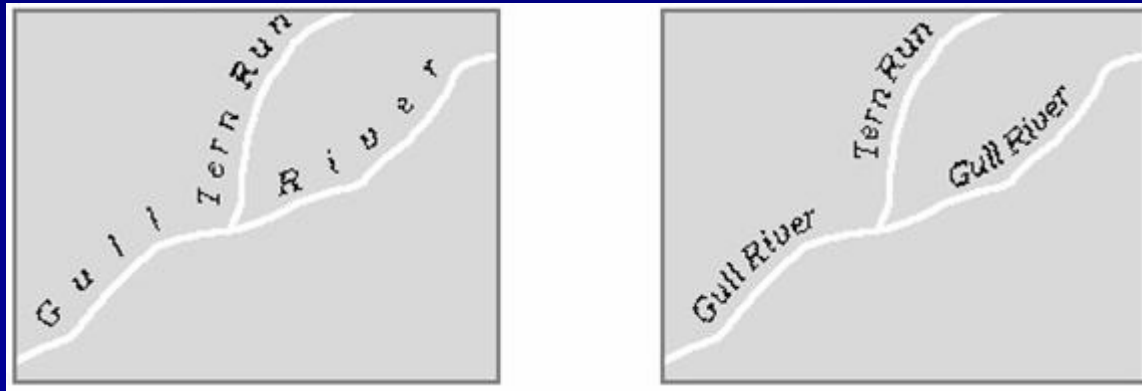
Which looks better?



Guidelines for labeling linear features

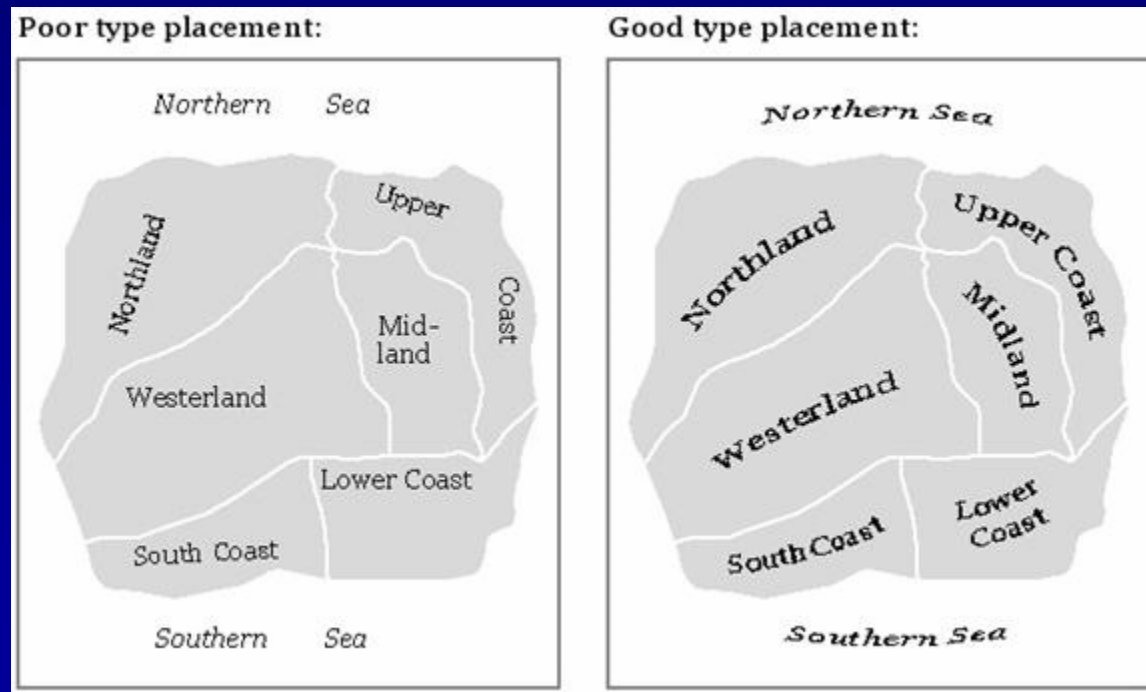
- Repeat, rather than space out label along a linear symbol

Which looks better?



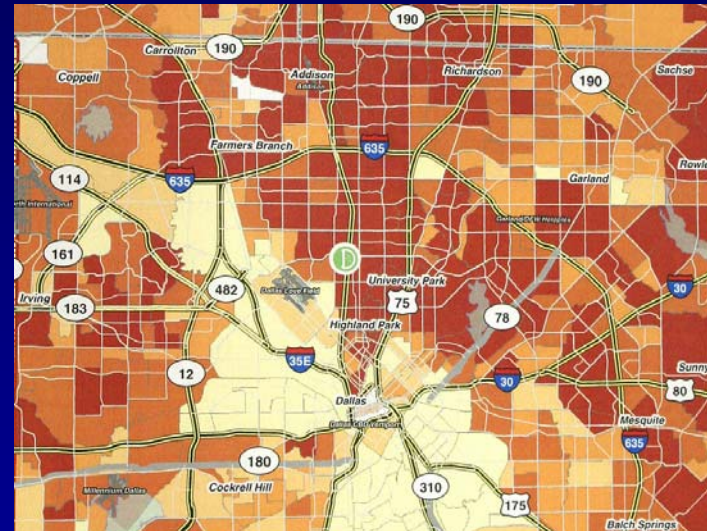
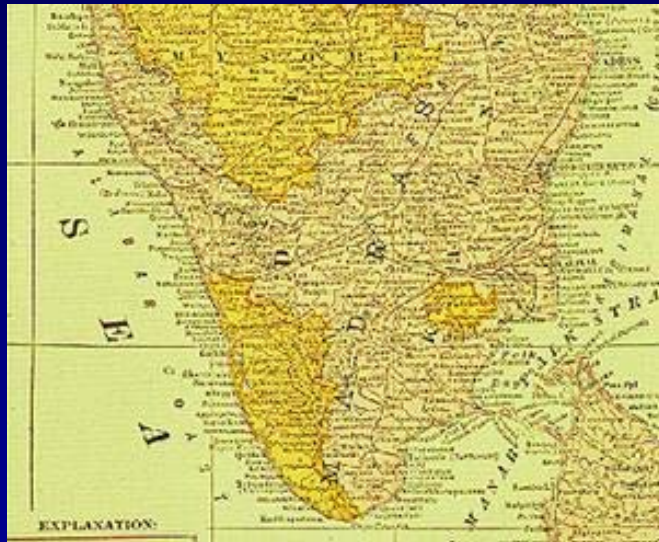
Guidelines for labeling areal features

- Curve and space the type to fit the areas to ensure that the area and the label are clearly associated
- Keep labels as horizontal as possible
- Keep labels away from area borders



Functions of map lettering

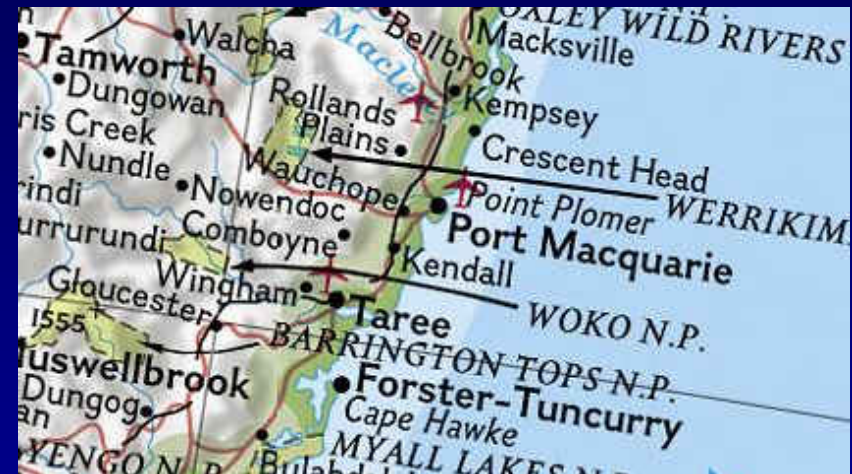
1. Type on maps to label



- The type as a *literal* symbol: names features shown on the map
- The type as a *locative* symbol: indicates the location (extent, orientation) of features

Functions of map lettering

2. Type on maps to organize



- Type provides an important structure
- Link to visual variables
 - The type as a nominal symbol: italic, spacing
 - The type as an ordinal symbol: bold, size
- Link to map's intellectual hierarchy (map purpose)

Functions of map lettering

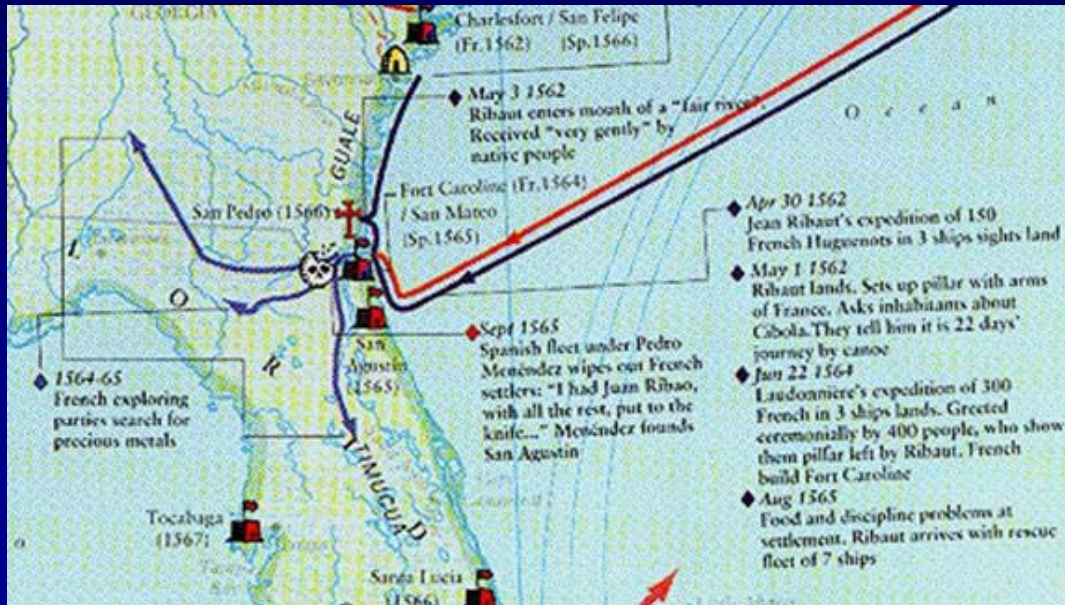
3. Types on map to explain



- cannot explain everything on a map with graphics alone

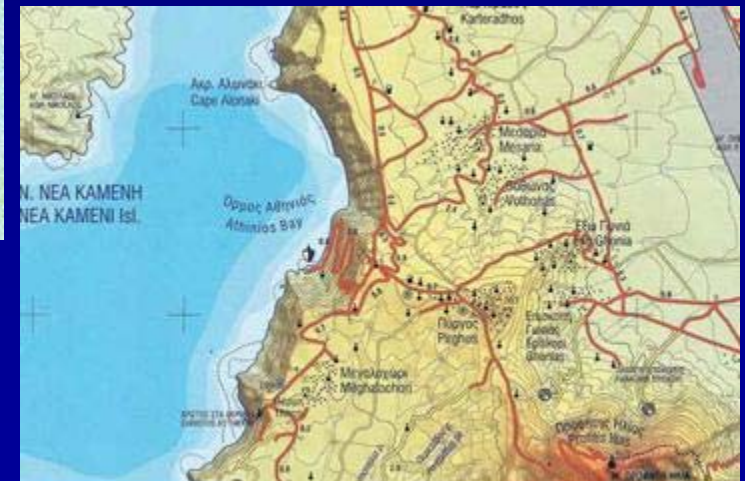
Functions of map lettering

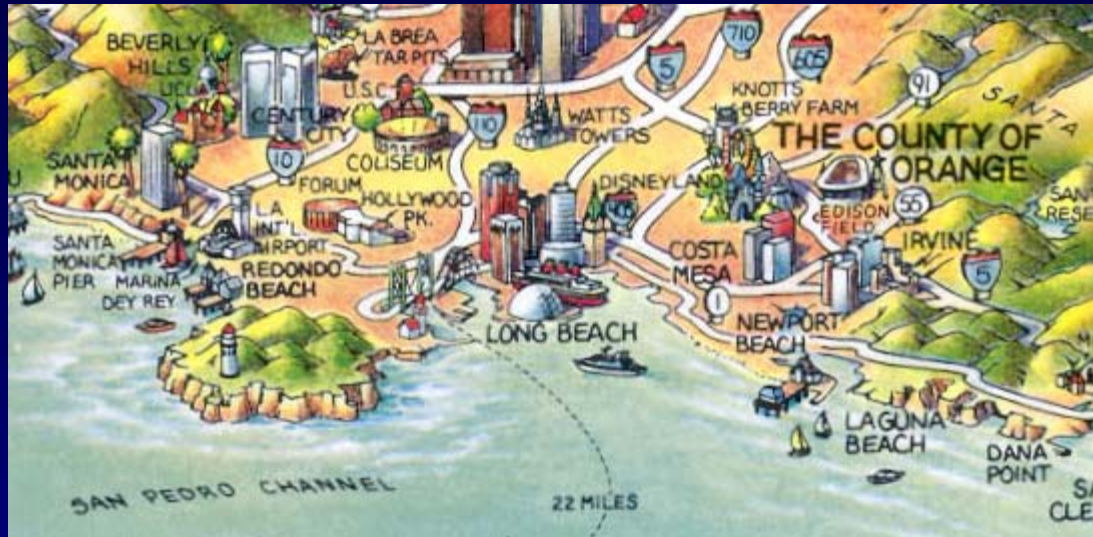
4. Type on maps to impart “visual atmosphere”



▲ Type which looks ‘historical’ on an historical map

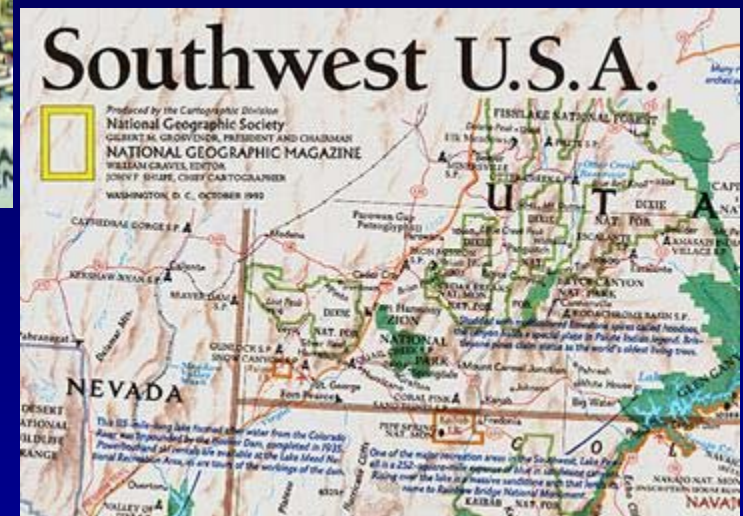
▼ Type which looks ‘contemporary’ on a tourist map





▲ Type which looks 'friendly' on a perspective view map of California

▼ Type which looks 'elegant' on a National Geographic map



- Achieve different *impressions* with the appropriate choice of typography