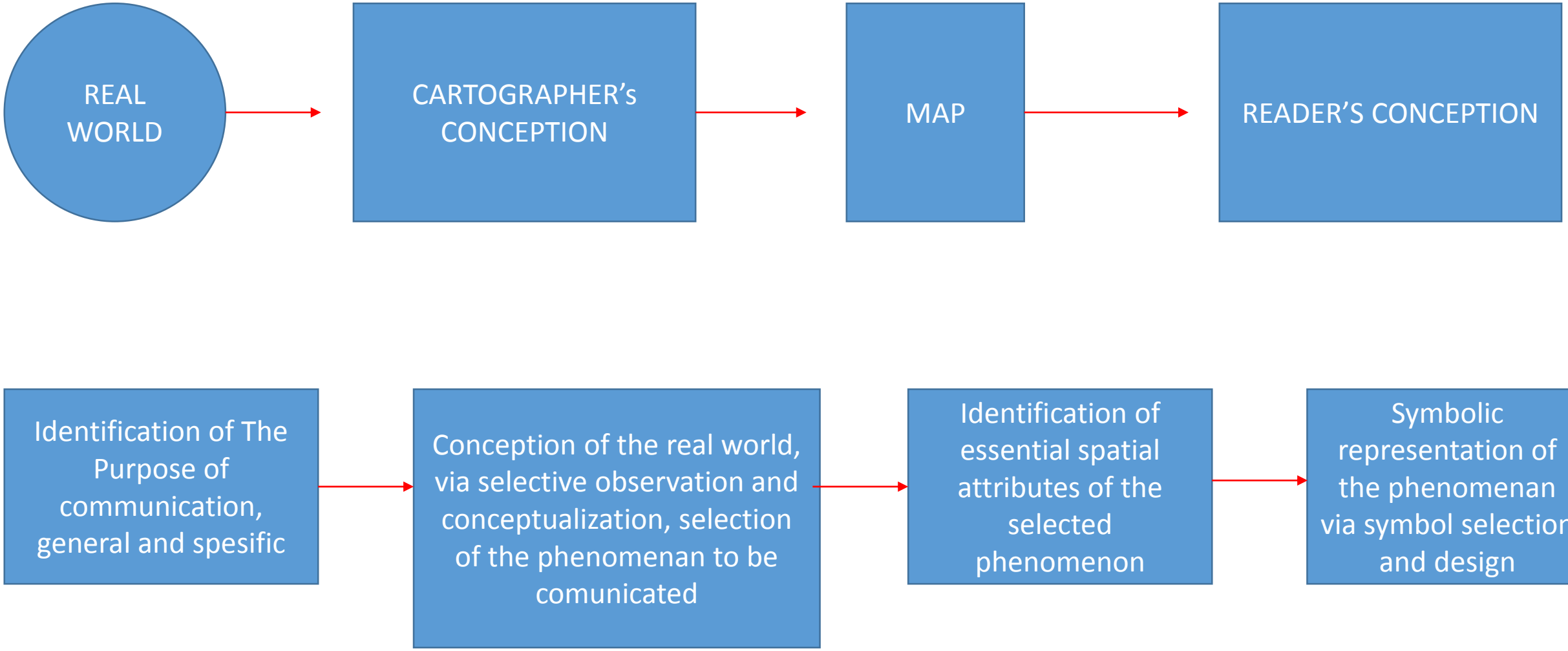
Konsep dan Dasar Simbolisasi


REAL WORLD
CARTOGRAPHER's CONCEPTION
MAP
READER'S CONCEPTION
Identification of The Purpose of communication, general and spesific
Conception of the real world, via selective observation and conceptualization, selection of the phenomenan to be comunicated
Identification of essential spatial attributes of the selected phenomenon
Symbolic representation of the phenomenan via symbol selection and design

	nominal	ordinal	interval	ratio
dimensions of the plane	+	+	+	+
size		+	+	+
(grey) value		+	+	
grain/texture		+	+	
colour hue	+			
orientation	+			
shape	+			

Figure 5.7 Relation of graphical variables to perceptual characteristics (based on Bertin's *Semiology of Graphics*, 1983)

Hirarki Visual

- Warna

Penggunaan Warna

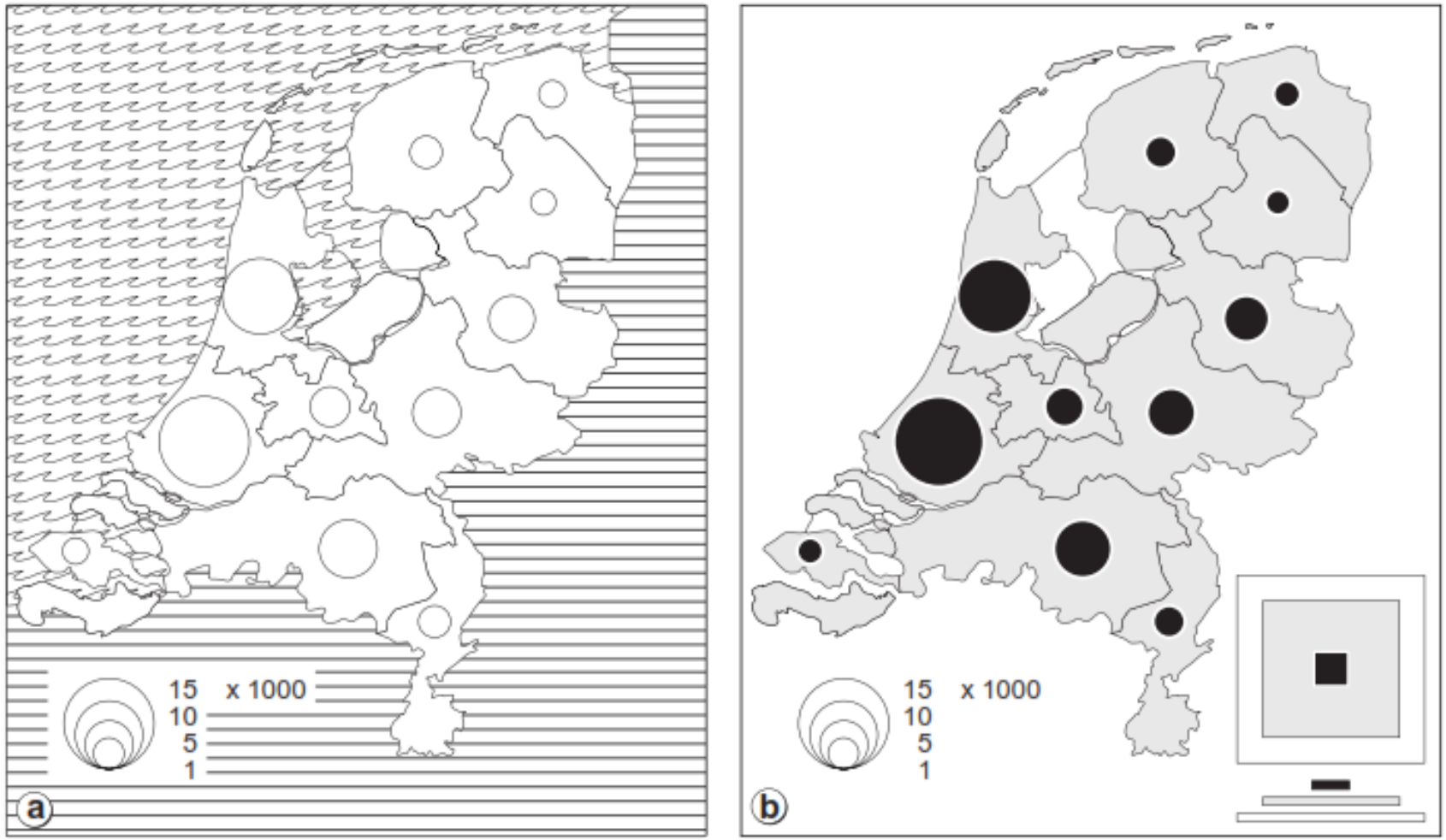


Figure 5.9 Graphical or visual hierarchy: (a) poor; (b) good (inspired by Dent, 2008)

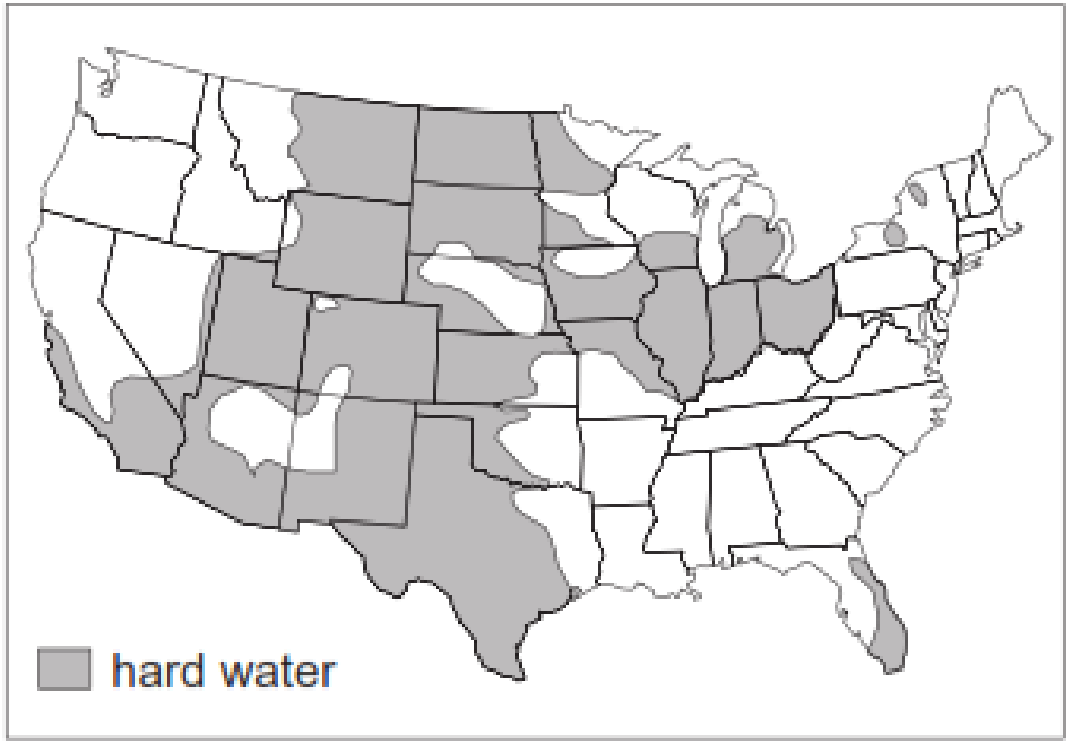


Figure 5.10 Binary map: water hardness in the United States

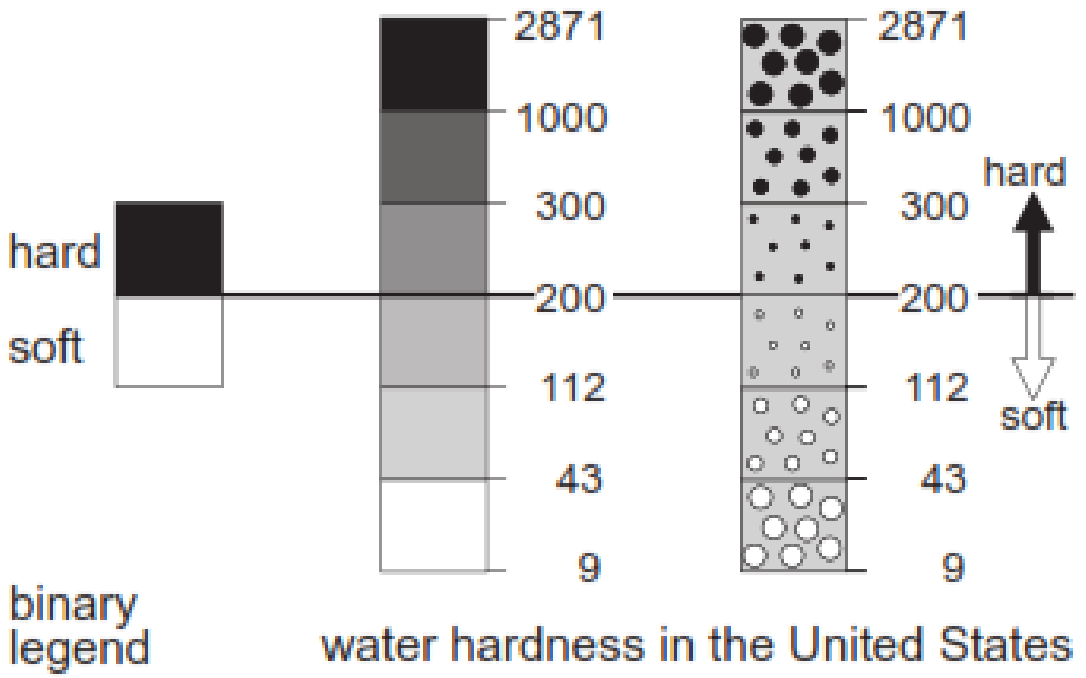
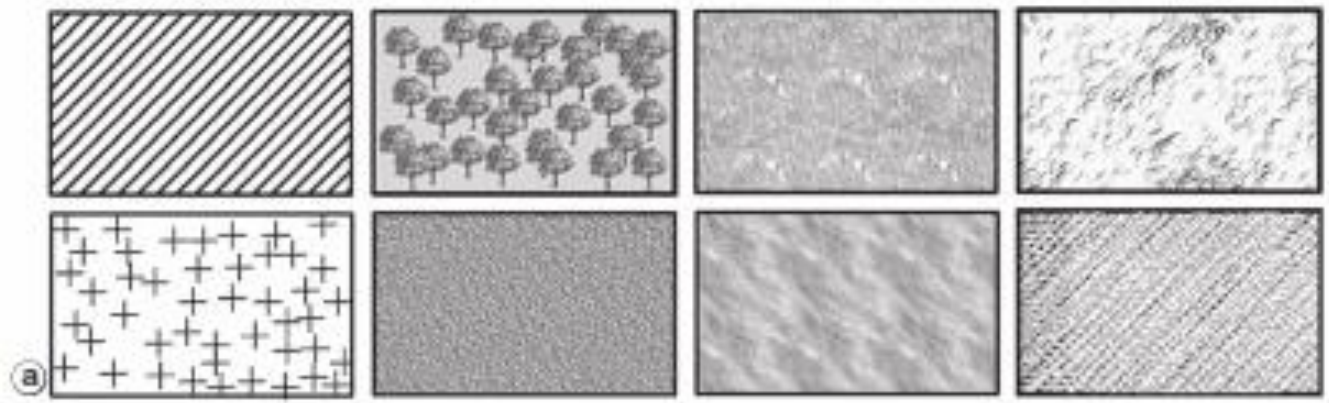
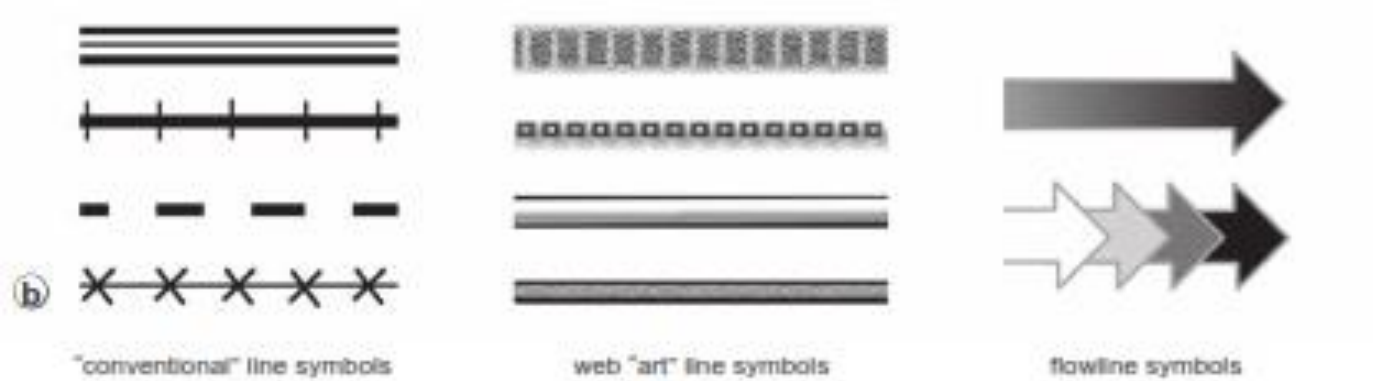
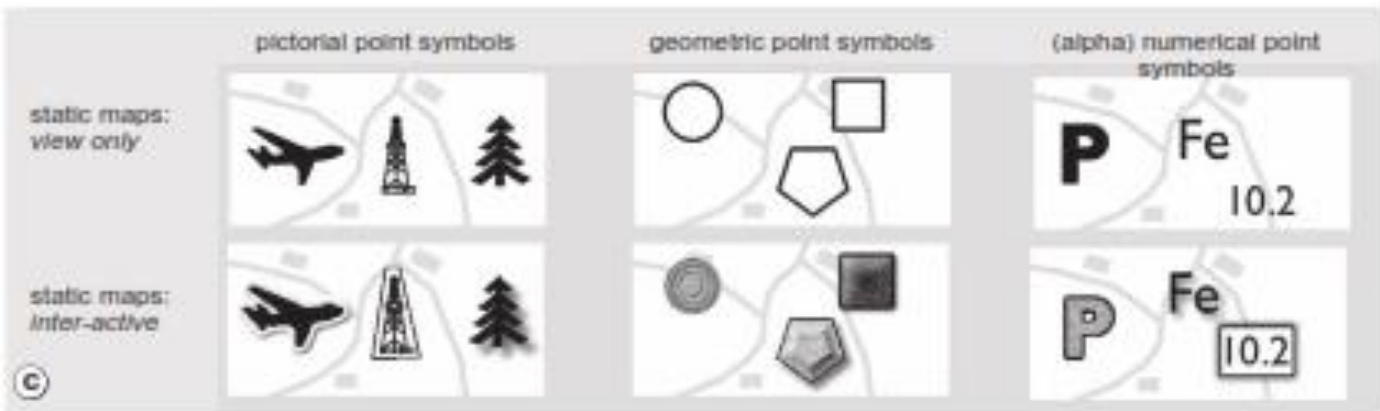


Figure 5.11 Legend of water hardness maps


a


b
"conventional" line symbols
web "art" line symbols
flowline symbols


pictorial point symbols
geometric point symbols
(alpha) numerical point symbols
static maps:
view only
static maps:
infer-active
P
Fe
10.2
P
Fe
10.2
c

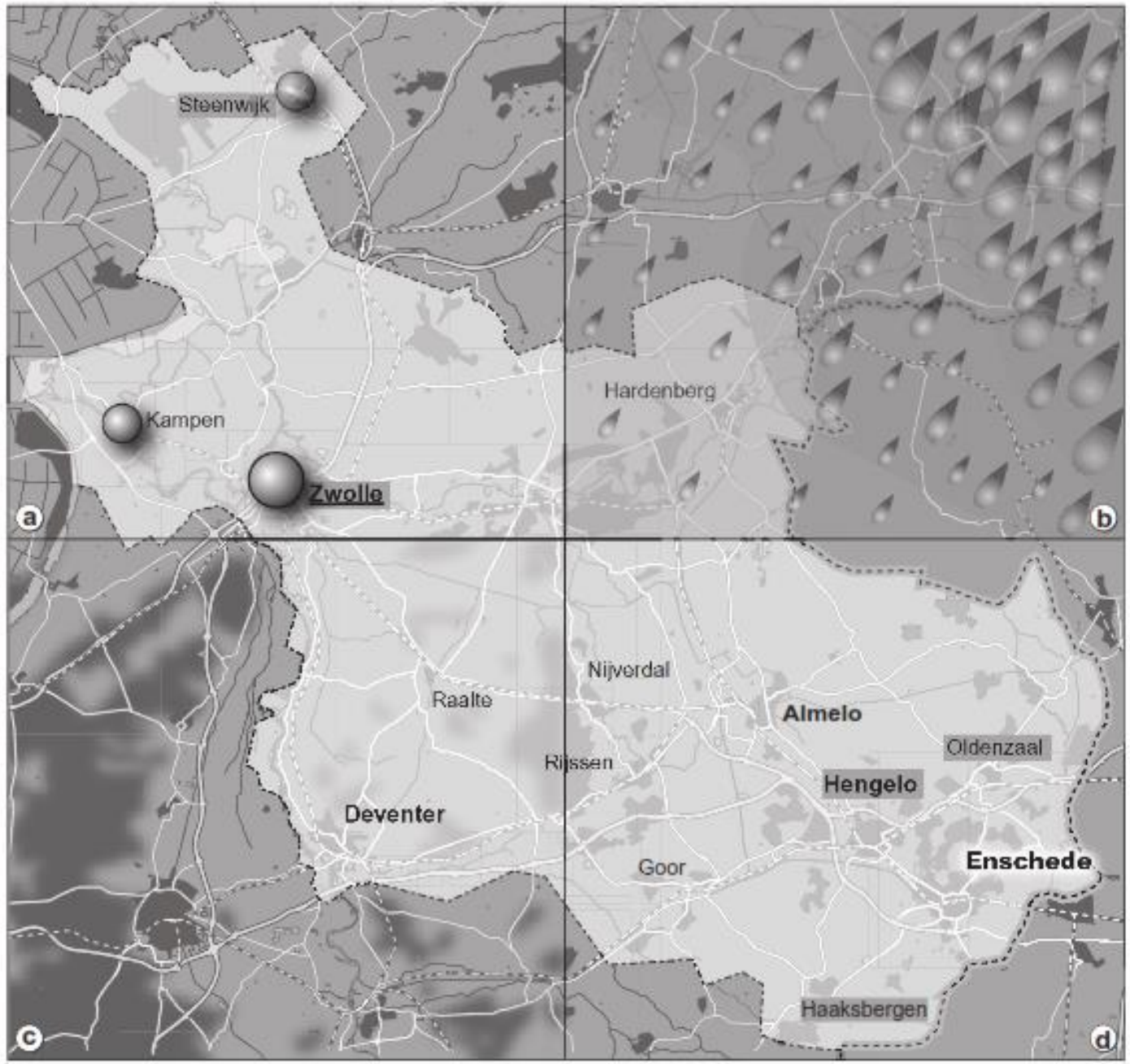
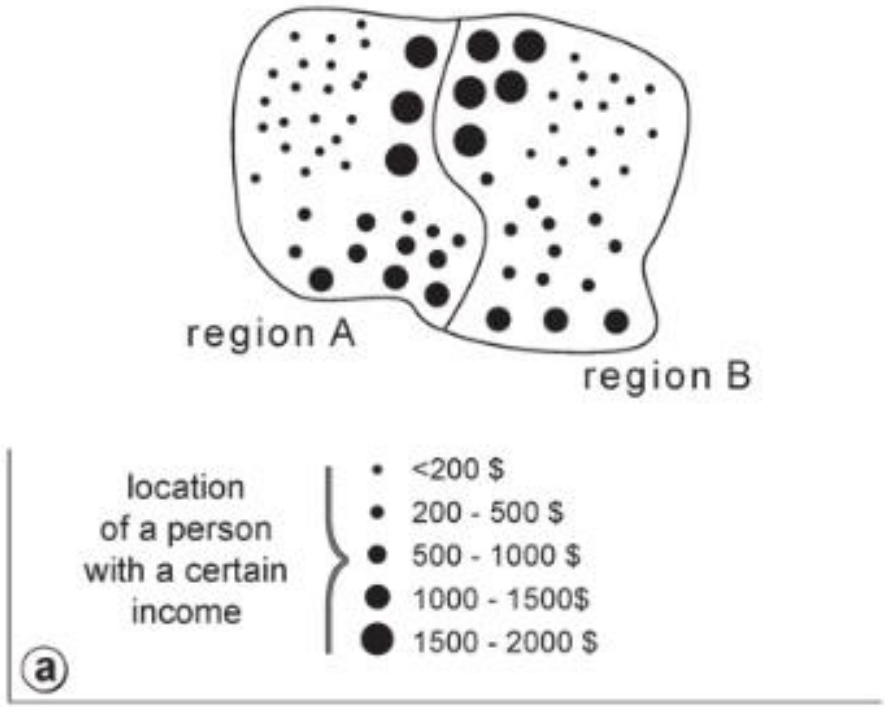


Figure 5.22 Additional graphic variables: (a) shadow/shading; (b) blur; (c) transparency; (d) blinking (focus)


region A
region B
location of a person with a certain income
<200 $
200 - 500 $
500 - 1000 $
1000 - 1500$
1500 - 2000 $
a

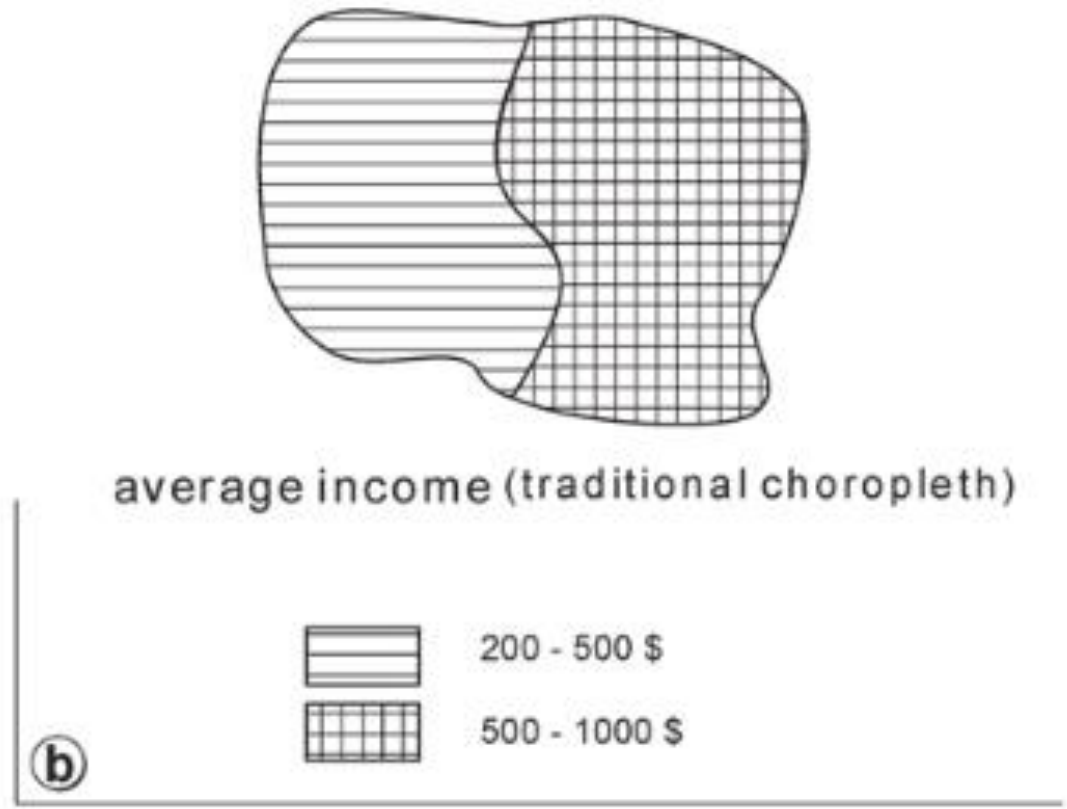
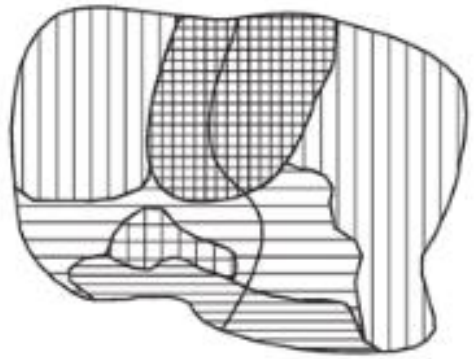

average income (traditional choropleth)
200 - 500 $
500 - 1000 $
b

TABLE 1. Geographical Phenomena and Their Conventional Symbolization.

Spatial Dimension	Distributional Form		Spatial Message and Emphasis	Symbolization
Point	Discrete	Dispersed	Patterns of point phenomena	Nominal point symbol
				Ordinal point symbol
			Density patterns of point phenomena	Interval/ratio point symbol (e.g., uniform dots)
		Concentrated	Total quantities at points or centers of unit areas	Interval/ratio point symbol (e.g., graduated circles)
Line	Sequential		Pattern of linear phenomena	Nominal line symbol
				Ordinal line symbol
			Interactions among places	Interval/ratio line symbol
Area	Continuous		Patterns of areal phenomena	Nominal area symbol
				Ordinal area symbol
			(Areal phenomena cannot be mapped with interval/ratio symbols)	
Volume	Continuous		(Volumetric phenomena cannot be mapped with nominal symbols)	
			Relative variations of volumetric phenomena	Ordinal area symbol (e.g., dot pattern to show slopes)
			Spatial form and gradient of volumetric phenomena	Interval/ratio line or area symbol (e.g., isarithms with or without shaded patterns)
			Variations of volumetric phenomena	Interval/ratio area symbol (e.g., choropleth)

Spatial Dimension of the Phenomenon	Type of Geographical Data	
	Complete Data (Primary Sources)	Sample Data (Primary / Secondary Sources)
Point	P1 Point data obtained from large scale maps[1] or remote sensing imageries[2] (hereafter denoted as RS) P2 Point data directly observer at all points P3 Areal data enumerated within all unit areas[3] and assigned to centers of units P4 Point data derived from models or theories (e.g., potential urban centers generated by central place theory)	Primary: Point data sampled from P1, P2, P3 or P4, and from field observations[4]. Secondary: Point data obtained from maps or other archival sources.
Line	L1 Linear data obtained from RS or large scale maps L2 Point data observed at all points (to be used as end points of an abstract linear phenomenon) L3 Areal data enumerated within all unit areas (to be used as end points of an abstract linear phenomenon)[3] L4 Linear data derived from models or theories	Primary: Point data sampled from L1, L2, L3 or L4, and from field observations. Secondary: Point or linear data obtained from maps or other archival sources.
Area	A1 Areal data obtained from RS or large scale maps A2 Areal data obtained from direct observations (e.g., flooded areas) A3 Areal data derived from models or theories	Primary: Areal data derived from A1, A2 or A3; areal data enumerated within all unit areas[3]; areal or point data based on samples taken within each unit area. Secondary: Areal data derived from maps or other archival sources.
Volume	V1 Volumetric data obtained from RS V2 Volumetric data derived from models or theories	Primary: Point or areal data sampled or derived from V1 or V2; areal data enumerated within all unit areas[3]; areal data based on samples taken within each unit area. Secondary: Point or areal data sampled or derived from maps or other archival sources.



average income

<200 $

200 - 500 $

500 - 1000 $

1000 - 1500$

1500 - 2000 $

Penggunaan Huruf

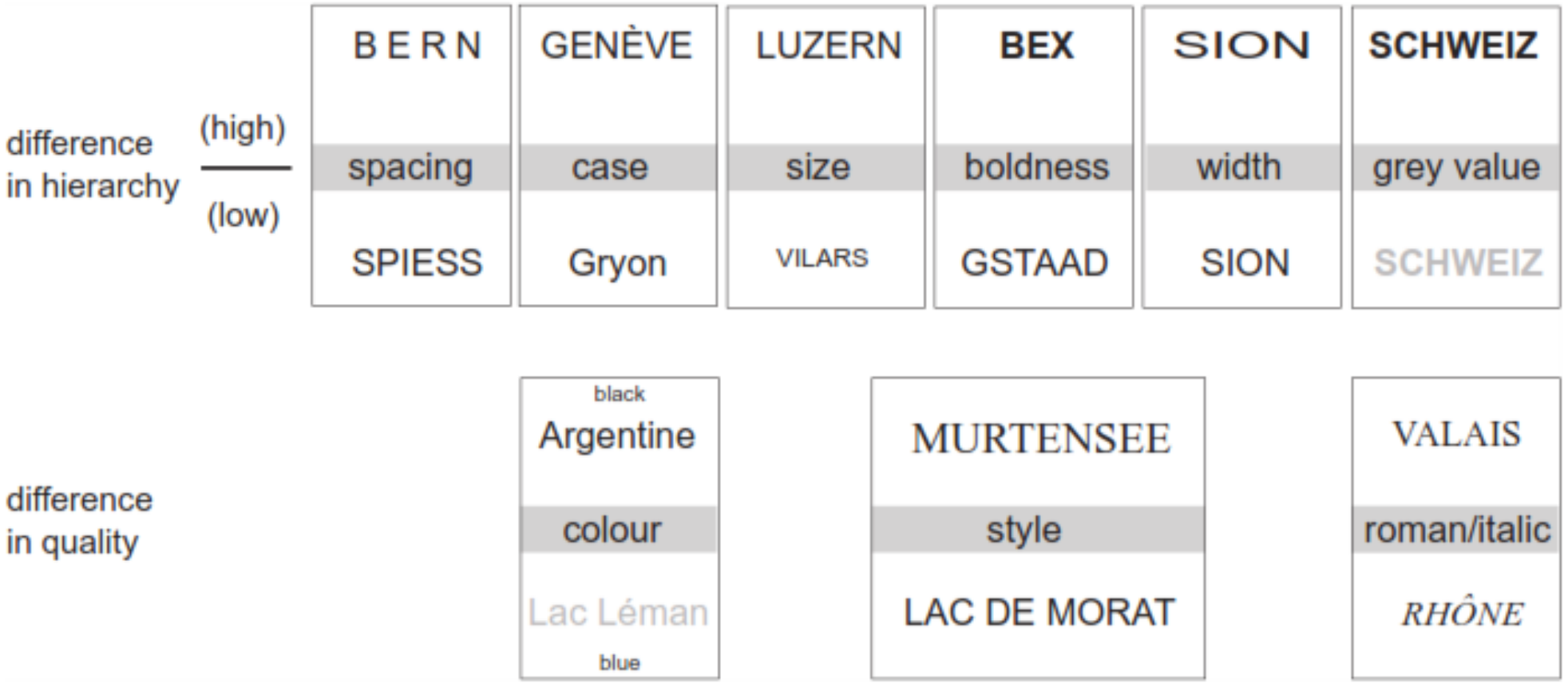


Figure 5.12 Variation of map scripts in order to show hierarchical and/or nominal differences

Kelas Interval

1. Luas persebaran data yang hendak dikelompokkan dari data yang terkecil sampai yang terbesar (diurutkan), sehingga data tidak ada yang terlewatkan;
2. Jumlah individu atau keadaan yang hendak dikelompokkan; jumlah data = n.
3. Jenis-jenis atau keterangan yang hendak dikelompokkan tegantung permintaan pengguna peta.

- Pemilihan kelas interval harus meliputi semua data;
- Kelas interval tidak boleh berulang (*overlap*);
- Semua kelas interval harus terpenuhi (tidak ada yang terlewat);
- Pembagian data diatur sedemikian rupa melalui pengamatan yang relatif sama;
- Mempunyai hubungan matematik yang sederhana.

Susunan Kelas Interval

- Kelas interval teratur (tingkatan sama);
- Kelas interval berdasarkan hitungan;
- Kelas interval tidak teratur.

Metode Klasifikasi data statistik

- Sistem kelas interval teratur,

$$I = range/K$$

- Sistem kelas interval aritmatik,

$$A + X + 2X + 3X + \ldots = B$$

- Sistem kelas interval geometrik,

$$B = Ax^n$$

- Sistem kelas interval kuantiles,

$$X = \sum DATA / \sum KELAS$$