

BREVE HISTORIA DE LA VISUALIZACIÓN DE DATOS... Y LOS MAPAS TEMÁTICOS

**Cartografía temática: desde sus
orígenes hasta el presente**

2008

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Por qué la visualización de datos?

Desarrollo de la visualización de datos tuvo (tiene) una influencia considerable en el desarrollo de la cartografía temática

Representación gráfica
(diagramas)



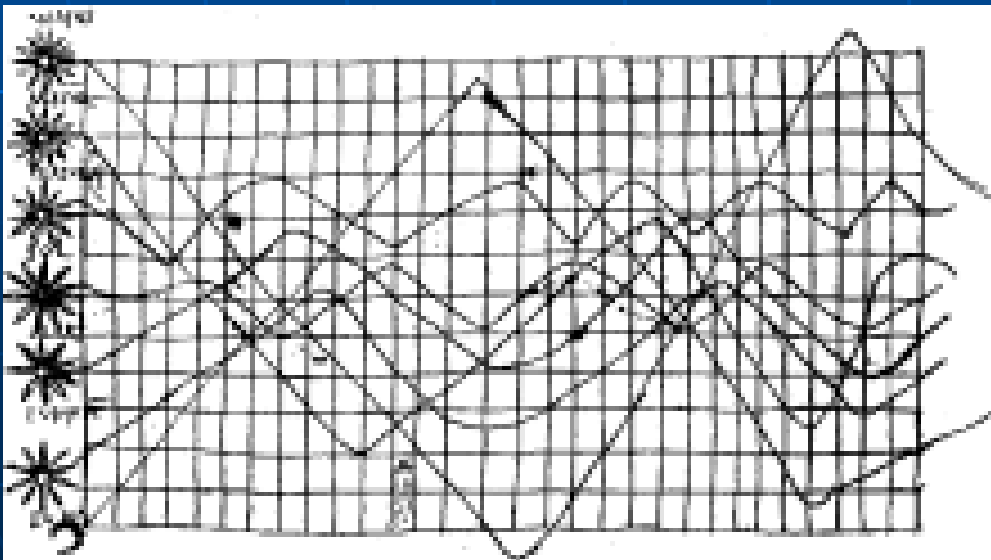
MAPAS TEMÁTICOS

Búsqueda de datos
(Anuales – bases de datos)

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Aprox. 950

Tal vez el primer diagrama hecho para representar el cambio de posición del Sol, la Luna y los planetas. Original en Bayersiche Staats Bibliothek (Münich). Sigmund Günther (Profesor de Matemáticas, Technischen Hochschule München) lo encontró en 1877. Apéndice de un manuscrito que contiene la crítica de Macrobius a Cicerón, titulada „In Somnium Scipionis”. Su autor es desconocido.



Tufte, E. R. (1983). *The Visual Display of Quantitative Information*. Cheshire, CT: Graphics Press.

Funkhouser, H. Gray: A Note on a Tenth Century Graph. *Osiris*, Vol. 1, (Jan., 1936), pp. 260-262. Saint Catherines Press

<http://www.jstor.org/pss/301609>

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1375

Atlas Catalán, Abraham Cresques (1325-1387)



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Visualización de datos en los primeros atlas:

1375

Atlas Catalán, Abraham Cresques (1325-1387)

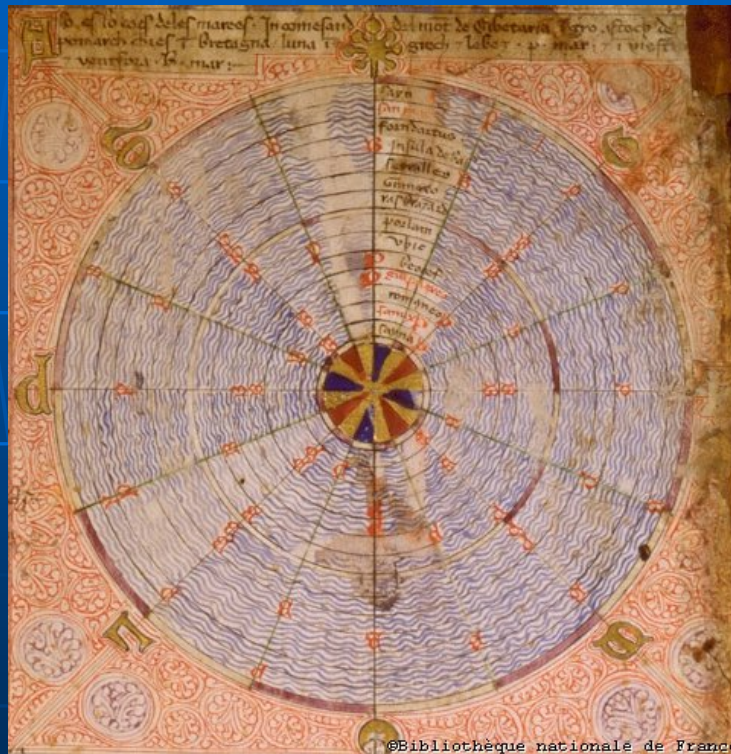


Diagrama sobre las mareas



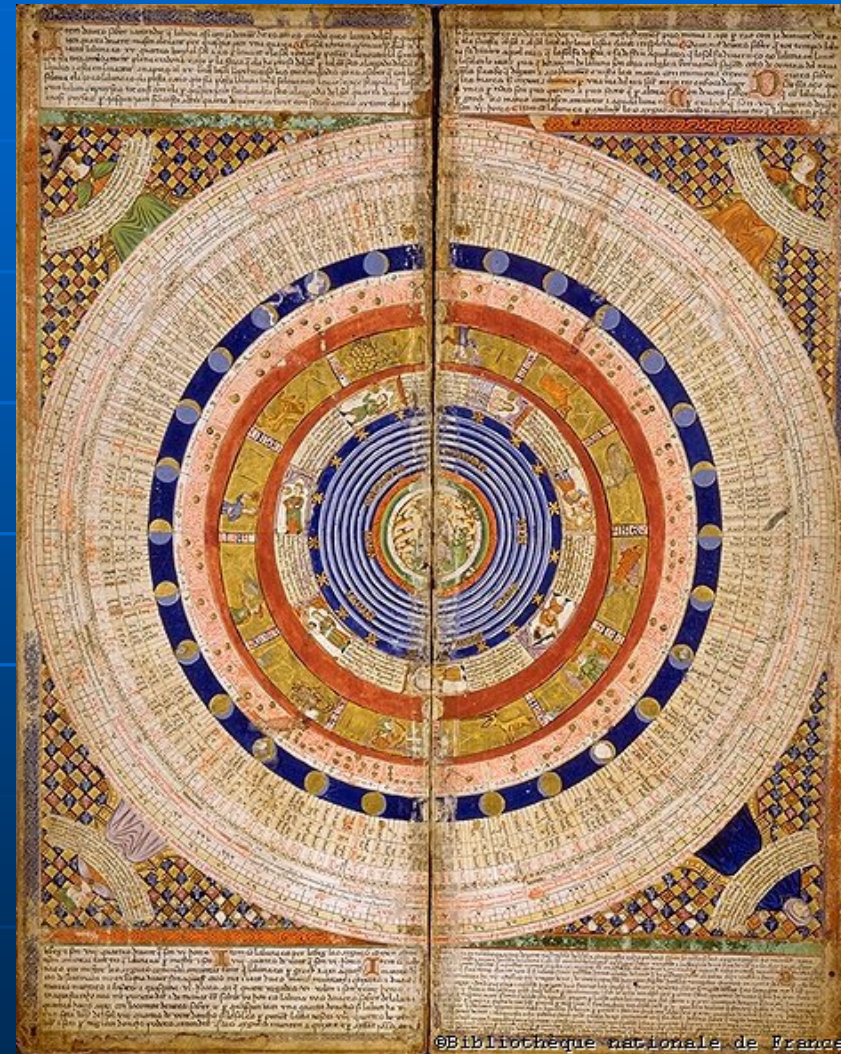
Calendario eterno

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Visualización de datos en los primeros atlas:

1375

Atlas Catalán,
Abraham Cresques
(1325-1387)



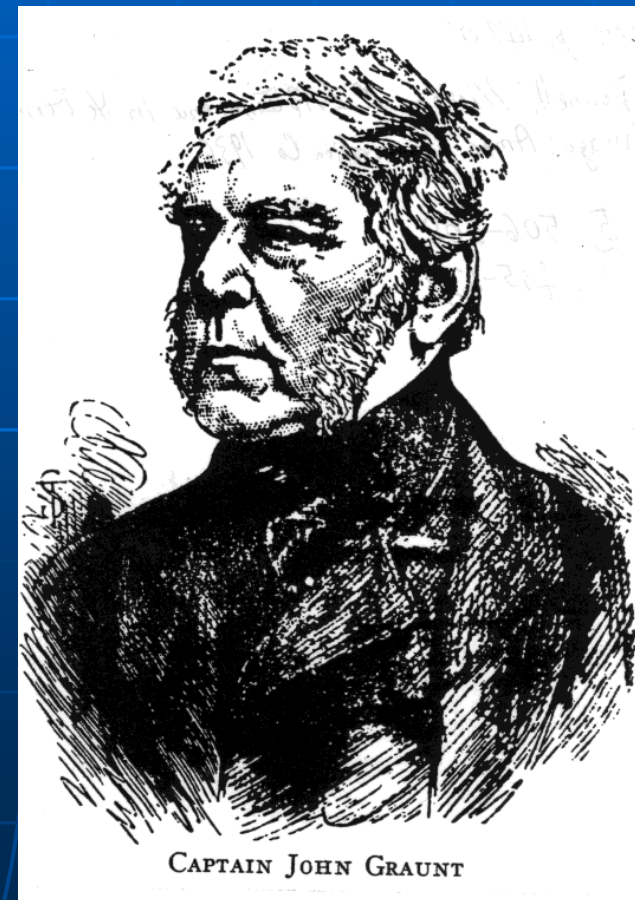
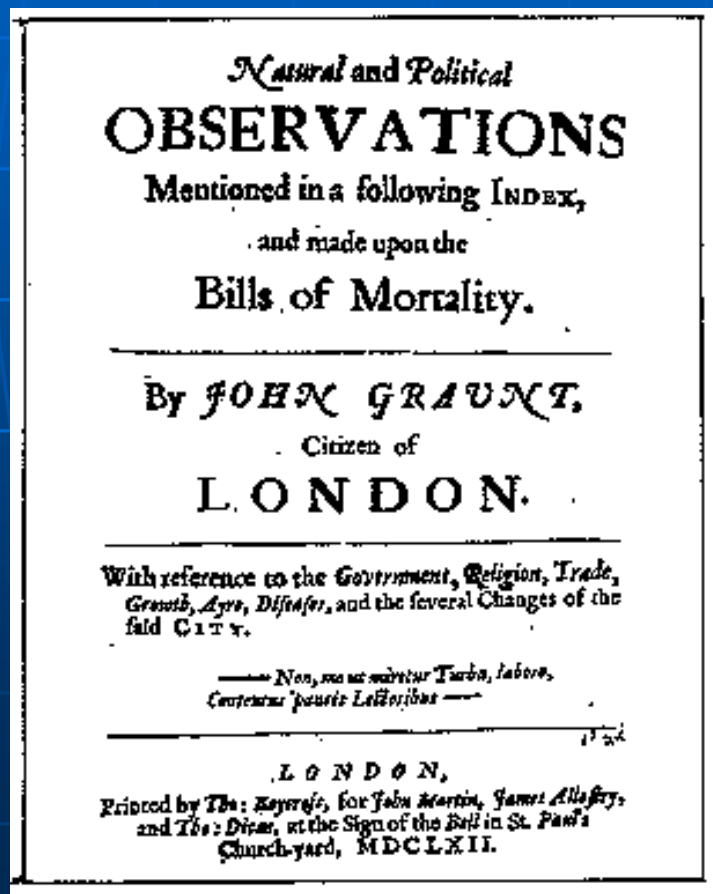
Estos diagramas eran independientes de los mapas del atlas

Diagrama cosmográfico

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Las primeras estadísticas demográficas:
John Graunt (1620-1674), Inglaterra (Londres)

Observations on the Bills of Mortality (1662)



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

A Table¹ shewing how many died weekly, as well of all Diseases, as of the Plague, in the Years 1592, 1603, 1625, 1630, 1636; and this present Year 1665.

Buried of all Diseases in the Year 1592 ² .		Buried of all Diseases in the Year 1603 ³ .		Buried of all Diseases in the Year 1625 ⁴ .		Buried of all Diseases in the Year 1630 ⁵ .		Buried of all Diseases in the Year 1636 ⁶ .		Buried of all Diseases in the Year 1665 ⁷ .										
Total	Pla.	Total	Plag.	Total	Plag.	Total	Pl.	Total	Pla.	Total	Plag.									
March 17	230	3	March 17	108	3	March 17	262	4	June 24	205	19	April 7	119	2	December 27	291				
March 24	351	31	March 24	60	2	March 24	226	8	July 1	209	25	April 14	205	4	January 3	349				
March 31	219	29	March 31	78	6	March 31	243	11	8	217	43	April 21	290	37	10	394				
April 7	307	27	April 7	66	4	April 7	239	10	15	250	50	April 28	310	41	17	415				
April 14	203	33	April 14	79	4	April 14	256	24	22	229	40	May 5	350	29	24	474				
April 21	290	37	April 21	98	8	April 21	230	25	29	279	77	May 12	339	38	31	409				
April 28	310	41	April 28	109	10	April 28	305	26	August 5	250	56	May 19	300	42	February 7	393				
May 5	350	29	May 5	90	11	May 5	292	30	12	246	65	May 26	450	58	14	461	1			
May 12	339	38	May 12	112	18	May 12	423	45	19	269	54	June 2	410	62	21	393				
May 19	300	42	May 19	122	22	May 19	379	71	26	270	67	June 9	441	81	28	396				
May 26	450	58	May 26	122	32	May 26	401	78	September 2	230	66	June 16	399	99	May 5	251	10	March 7	441	
June 2	410	62	June 2	114	30	June 2	395	69	9	259	63	May 12	308	55	14	433				
June 9	441	81	June 9	131	43	June 9	434	91	16	264	68	May 19	299	35	21	365				
June 16	399	99	June 16	144	51	June 16	510	161	23	274	57	May 26	330	62	28	353				
June 23	401	108	June 23	182	72	June 23	640	239	30	269	56	June 2	339	77	April 4	344				
June 30	850	118	June 30	267	158	June 30	942	390	October 7	236	66	9	345	87	11	382				
July 7	1440	927	July 7	445	263	July 7	1222	593	14	261	73	16	381	103	18	344				
July 14	1510	893	July 14	612	424	July 14	1781	1004	21	248	60	23	304	79	25	390	2			
July 21	1491	258	The Out-Parishes this Week were joined with the City.			21	2850	1819	28	214	34	30	352	104	May 2	388				
July 28	1507	852	July 21	1186	917	August 4	3583	2471	August 4	242	20	July 7	215	81	9	347	9			
August 4	1503	983	28	1728	1396	11	4517	3059	11	215	29	14	372	104	16	353	3			
August 11	1550	797	28	1728	1396	18	4855	4115	18	200	18	21	365	120	23	385	14			
August 18	1532	651	25	2256	1922	25	5205	4463	25	226	7	28	423	151	30	399	17			
August 25	1508	449	August 4	2256	1922	25	4841	4218	December 2	221	20	August 4	491	206	June 6	405	43			
September 1	1490	507	11	2077	1745	September 1	3897	3344	9	198	19	11	538	283	13	558	112			
September 8	1210	563	18	3054	2713	8	3157	2550	16	212	5	18	638	321	20	611	168			
September 15	621	451	25	2853	2539	15	2148	1672	Buried in the 97 Parishes without the walls			25	787	429	27	684	267			
September 22	629	349	September 1	3385	3035	22	1994	1551	Whereof of the Plague	2696		September 1	1011	638	July 4	1006	470			
September 29	450	330	8	3078	2724	29	4236	852	Buried in the 16 Parishes without the walls	4813		8	1069	650	11	1268	727			
October 6	408	327	15	3129	2818	October 6	833	538	Whereof of the Pl.	603		15	1306	865	18	1761	1089			
October 13	422	323	22	2456	2195	13	815	511	Buried in the 9 Out-Parishes in Middlesex and Surrey, and at the Pest-house	3045		22	1229	775	25	2785	1843			
October 20	330	308	29	1961	1732	20	651	331	Whereof of the Pl.	524		29	1403	928	August 1	3014	2010			
October 27	320	302	October 6	1831	1641	27	375	134	Buried in Westminster	566		October 6	1405	921	8	4030	2817			
November 3	310	301	13	1312	1149	November 3	357	89	Whereof of the Pl.	31		13	1302	792	15	5319	3880			
November 10	309	209	20	766	642	10	319	92	Buried in the 9 Out-Parishes in Middlesex and Surrey, and at the Pest-house	3045		20	1002	555	22	5568	4237			
November 17	301	107	27	625	508	17	274	48	Whereof of the Pl.	524		27	900	458	29	7496	6102			
November 24	321	93	November 3	737	594	24	231	27	Buried in Westminster	1		November 3	1300	838	September 5	8252	6988			
December 1	349	94	10	545	442	December 1	190	15	Whereof of the Pl.	566		10	1104	715	12	7690	6544			
December 8	331	86	17	384	251	8	181	15	Buried in Westminster	1		17	950	573	19	8207	7165			
December 15	329	71	24	198	105	15	168	6	Whereof of the Pl.	524		24	857	476	26	6460	5533			
December 22	386	39	December 1	223	102	22	157	1	Whereof of the Pl.	31		December 1	614	321	October 3	5720	4929			
The Total of all that have been buried is	25886		8	163	55	The Total of all is	51578		The Total of all the Burials this time	10545		8	459	167	10	5068	4327			
Whereof of the Plague	11503		15	200	96	Whereof of the Plague	35403		Whereof of the Pl.	1317		15	385	85	17	3219	2665			
			22	168	74				The Total of the Burials this year is	23359		December 1	15	385	85	24	1806	1421		
									Whereof of the Pl.	10400		8	459	167	31	1388	1031			
												19	525	281	November 7	1787	1414			
												21	905	652	14	1359	1050			
												28	544	333	21	905	652			
												December 5	428	210	28	544	333			
												12	442	243	12	442	243			
												19	525	281	19	525	281			
												The Total of the Burials this year is	97306		The Total of the Burials this year is	97306				
												Whereof of the Pl.	68596		Whereof of the Pl.	68596				

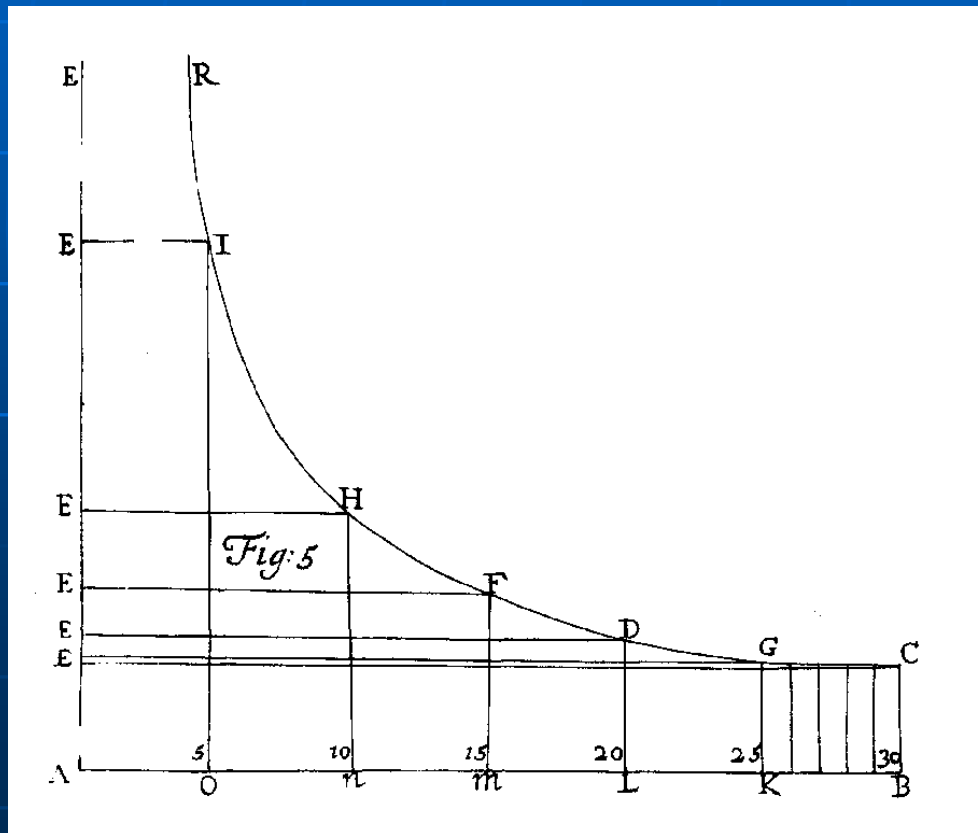
Place this Table at page 426.

Graunt
1662

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1686-1693

Edmund Halley (1656-1742), Inglaterra



1686

Cambios de presión en
dependencia de la altitud

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Edmund Halley
(1656-1742), Inglaterra

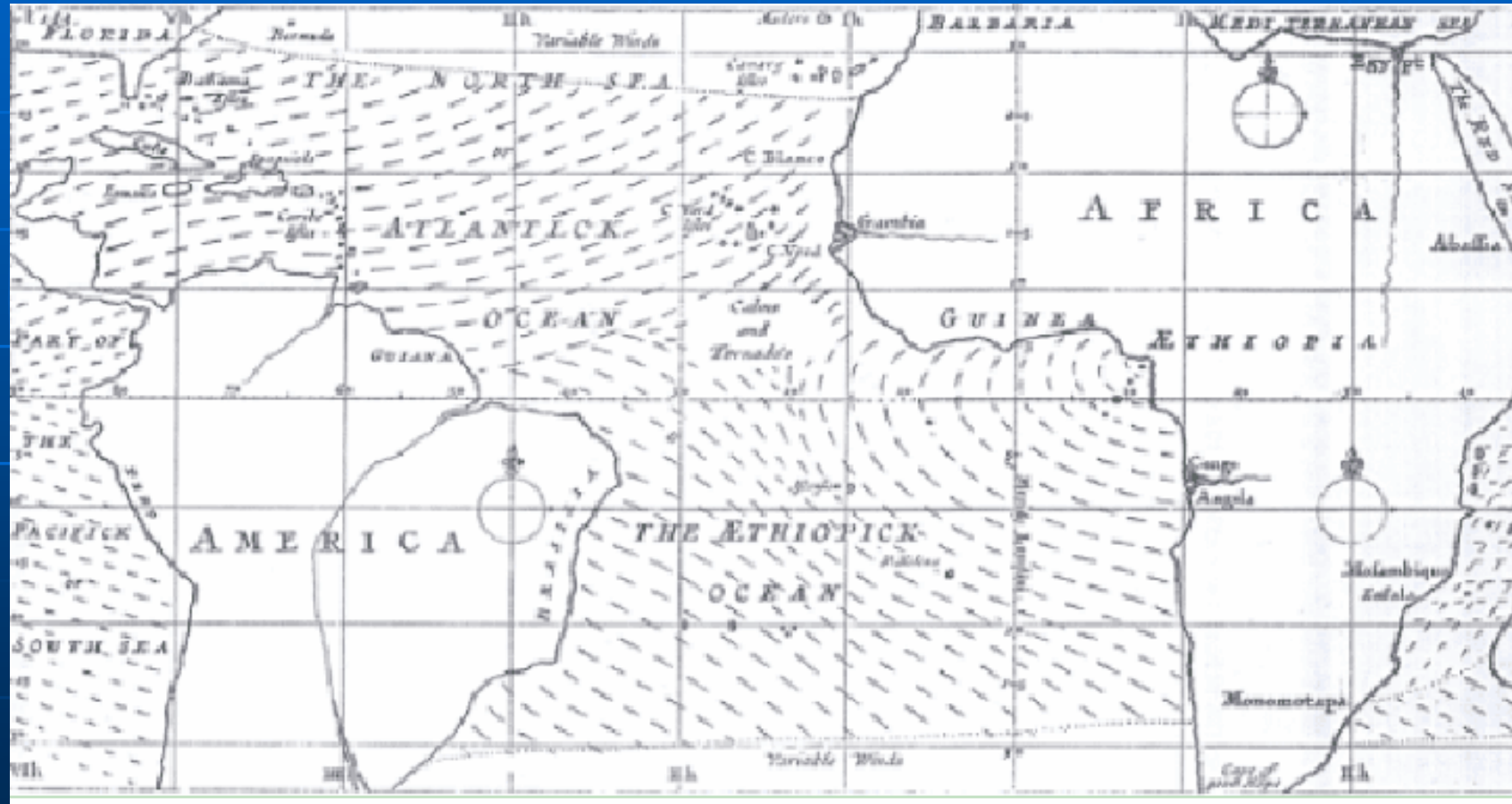


1701

Primer mapa temático: Mapa representando los cambios de la declinación magnética mediante isolíneas (isogonas)

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Detalle interesante: ya en 1686 Halley representó la ubicación y dirección de los vientos en otro mapa



<http://www.zevross.com/special/history/thematic.html>

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1752

Phillippe Buache (1700-1773), Francia:

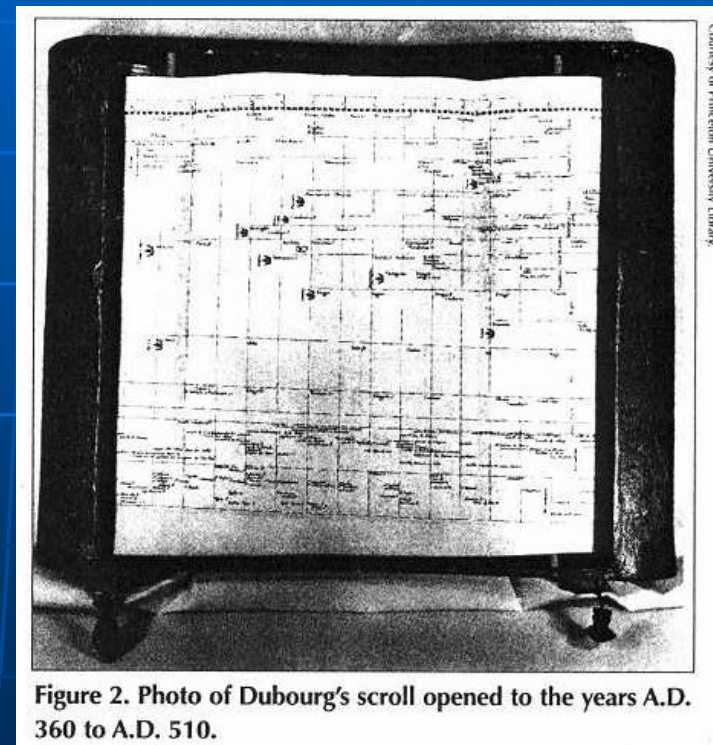
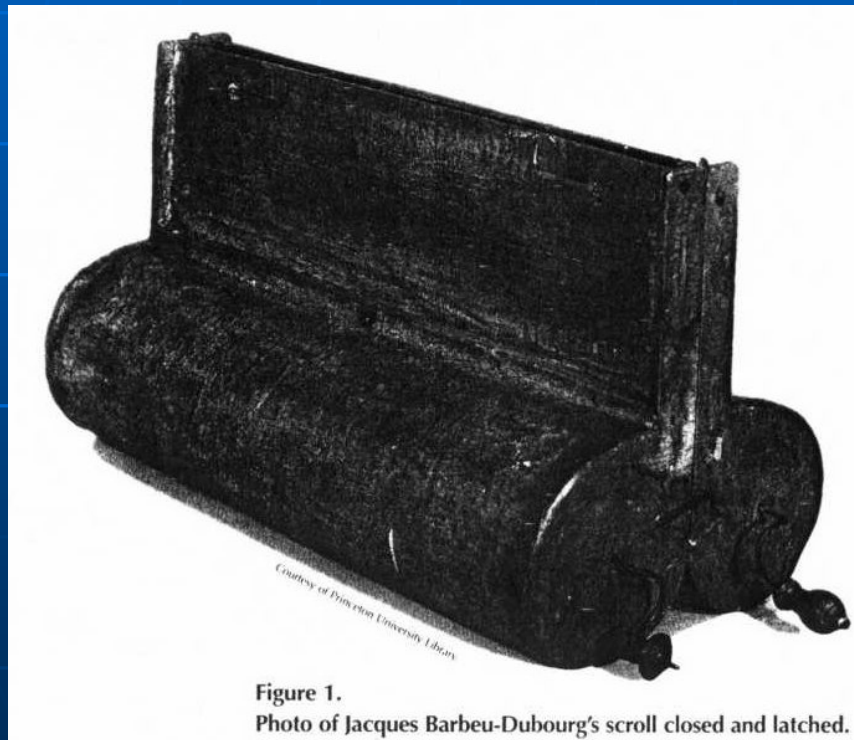
Es el primer cartógrafo en enfatizar el relieve y la hidrografía por encima de la división político administrativa.



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1753

Jacques Barbeu-Dubourg (1709-1779, botánico, Franklin), Francia: „Barra histórica ó cronológica” impresa (Carte chronologique). La información es clasificada en temas, uso de símbolos para representar la información.



Carte chronologique was an annotated timeline of history (from Creation) on a 54-foot scroll. It included names and descriptive events, grouped thematically, with symbols denoting character (martyr, tyrant, heretic, noble, upright, etc.) and profession (painter, theologian, musician, monk, etc.)

<http://www.math.yorku.ca/SCS/Gallery/timelines.html>

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

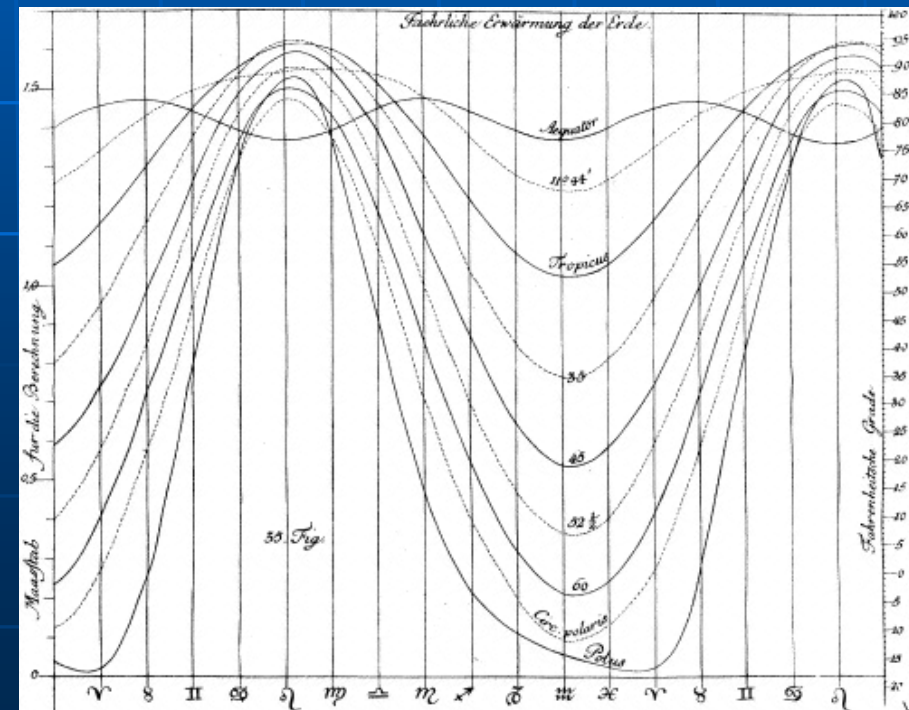


1779

- Variación de la temperatura del suelo
- Variación de la radiación solar en función de la latitud

Johann Heinrich Lambert
(1728-1777)

1735	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Jun.						1		4	8	9	4	4					
Jul.												21	7	3			
Aug.													9	10	5	1	
Sept.												1	15	8	5		
Oct.													6	16	7		
Nov.					-1	9	3	1	6	7	3						
Dec.				5	14	12											
1736																	
Jan.		3	4	12	10	2											
Febr.	1	4	8	11	4	1											
Mart			1	5	17	5	3										
Apr.				1	5	7	10	5	2								
May						1	2	5		13	3	7					
Jun.										1	6	18	2	3			
Jul.												4	4	7	7	8	1
Aug.													1	7	14	8	
Sept.														11	8		
Oct.							2	8	6	5	7						
Nov.				5	3	6	16										

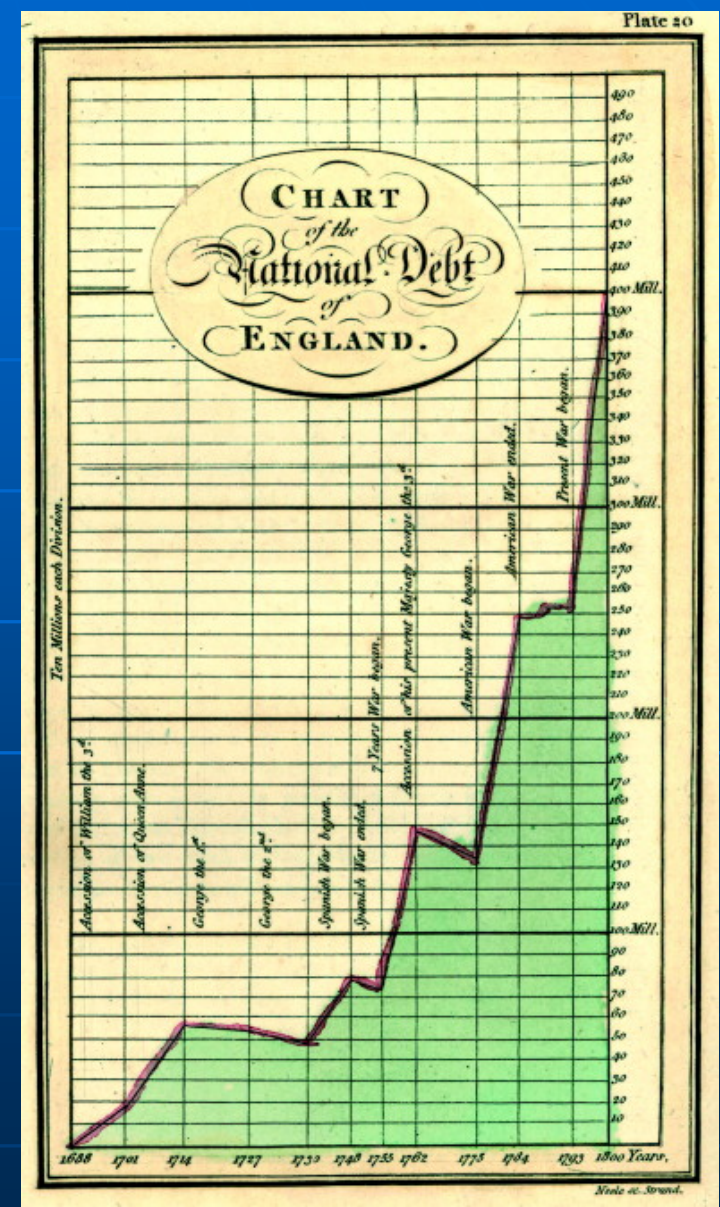
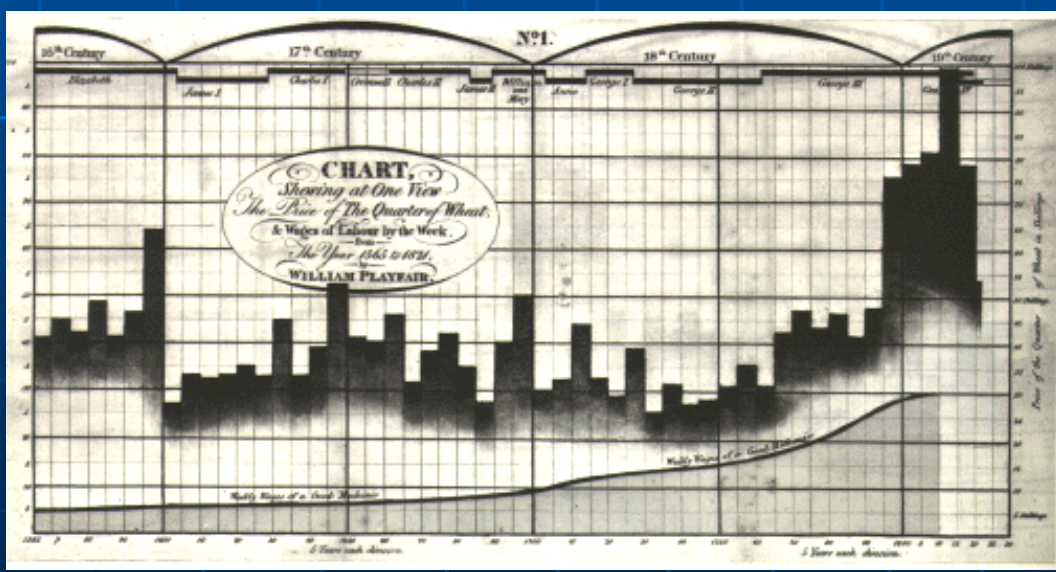


VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1786

William Playfair (1759-1823),
Inglaterra:

Representación de datos de carácter económico usando diagramas (línea, área, barras y pastel) en *The Commercial and Political Atlas*



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1798

Valentin Seaman
(1770-1817),
USA:
Primer mapa
„sanitario” ó
médico (fiebre
amarilla en New
York)

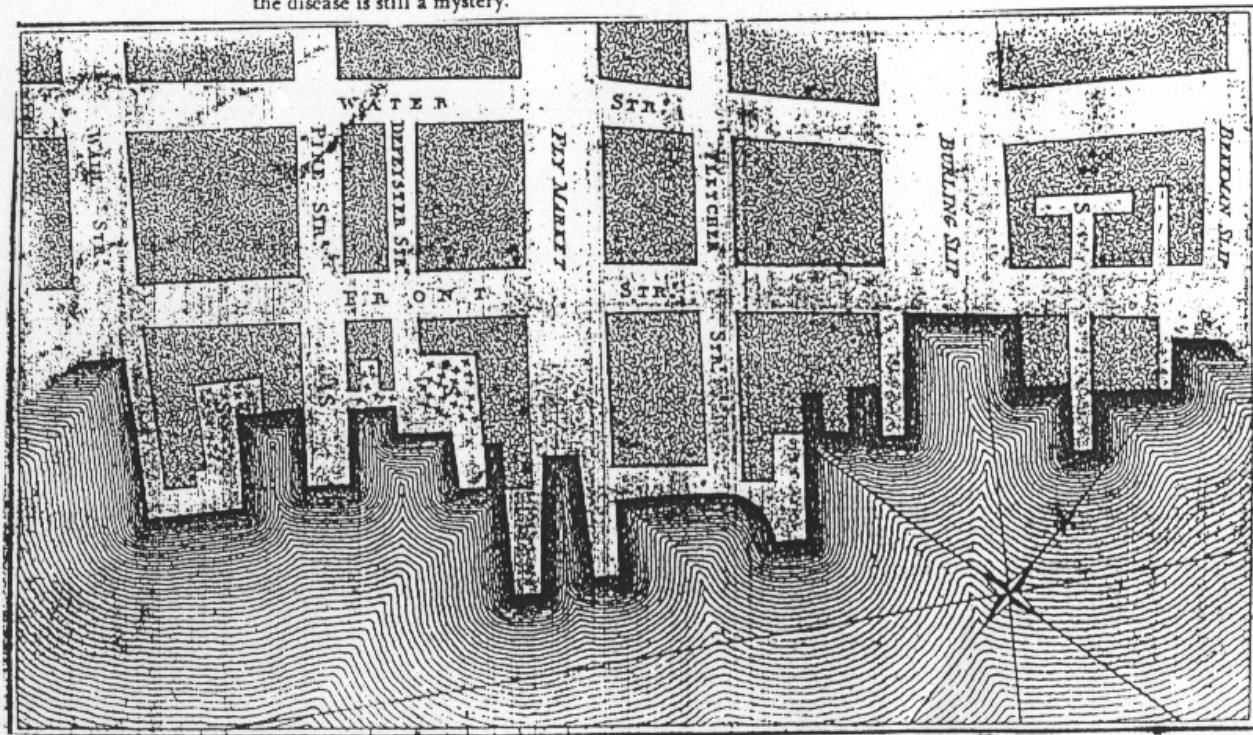
El primer mapa
SIG!?

Yellow fever in New York, 1797. (*Med. Reposit.*, 1798, 1, opp. 317; cf. n. 30).

"The south-eastern end of Pine-street, (S on plate II.) lies considerably lower than the dock which is continued from it; so that it there keeps a constant puddle of stagnant filthy water and mud. . . . The slips (SS) on each side of this central spot, have been left, during the summer, to be fortuitously filled up by the free contributions of the neighbourhood. . . . But beside all this, the spaces . . . marked S with crosses, particularly that to the north-eastward of the dock, has [sic], from its being open and so contiguous to the Market, become the common convenience to a multitude of people. . . ."

Cases of yellow fever were too numerous "to get an accurate history of them all." This and "the want of proper marks to identify it where it is slight" led Seaman to note only the fatal cases. Ten cases, listed by name, "appear to have originated in East George-street," all but two residing "within the small compass of seventeen houses, in the lower part of the street." Three more cases are listed in Chestnut, Roosevelt, and Water Streets respectively.

Then follow the cases numbered on the map: .1 Kelly/ .2 Wiggins/ .3 Van Deventer/ .4 Hitchcock/ .5 Hamilton/ .6 Comstock/ .7 Rogers/ .8 Beers. One more case (Mowatt) "resided in a healthy, cleanly part of the town: and how or where he could have taken the disease is still a mystery."



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1801

William Smith (1769-1839):
Geological Map of England
and Wales and part of Scotland
(1815)

*Primer mapa basado en la
estratigrafía*

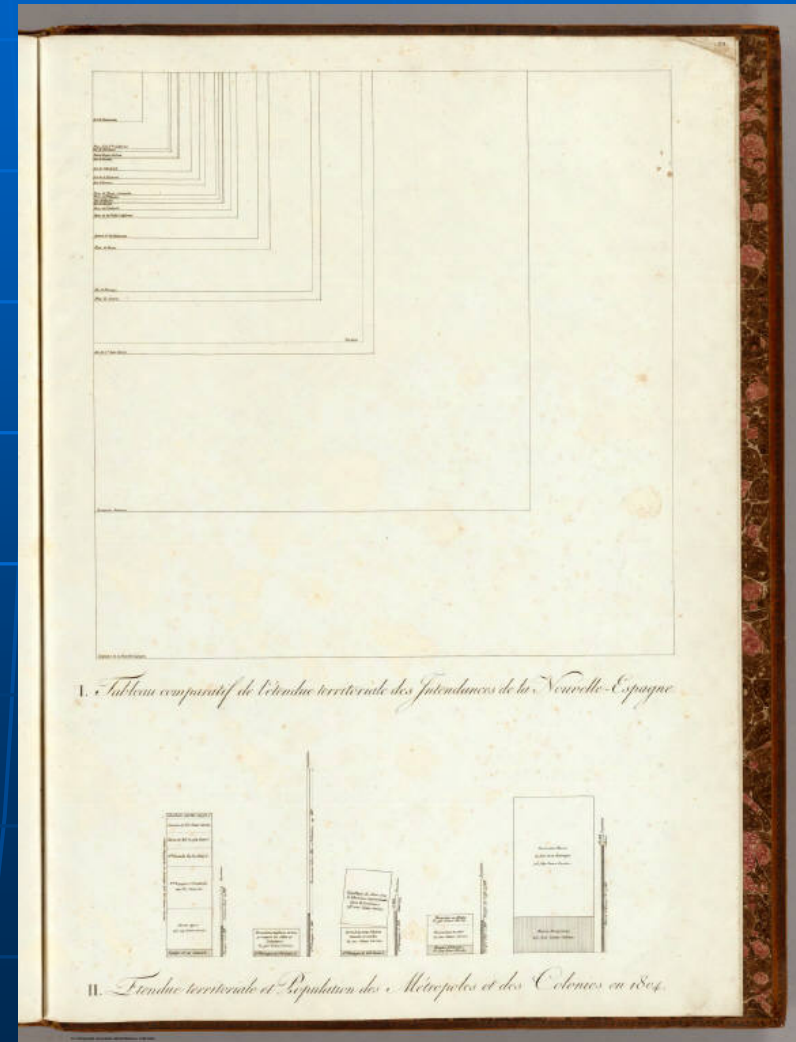


VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Alexander von Humboldt (1769-1859), Alemania:

1811

- Diagramas de barra
- Comparación de territorios y población de México usando cuadrados...



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

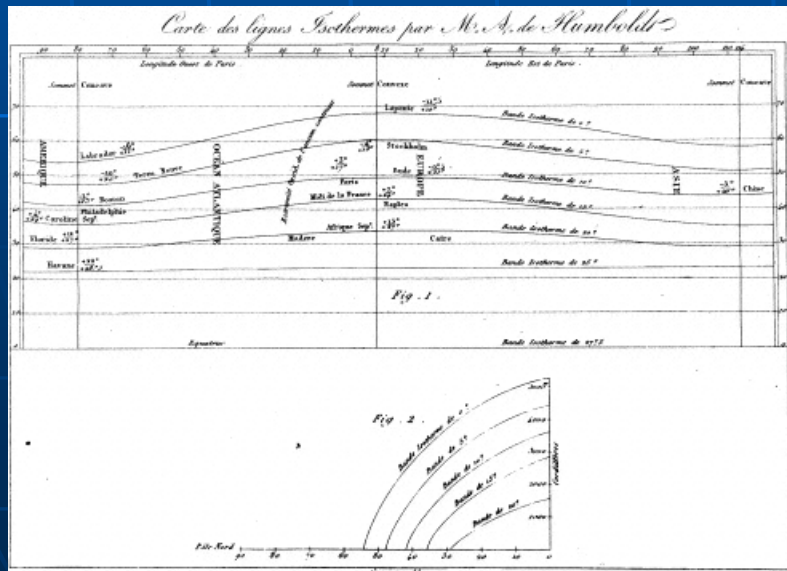
Alexander von Humboldt (1769-1859), Alemania:

1817

Primer mapa y diagrama de isotermas

Cambios de temperatura dependiendo de la latitud y longitud.

Publicado por primera vez en el atlas de Berghaus en 1849.



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Alexander von Humboldt (1769-1859), Alemania:
1817 - Primer mapa y diagrama de isotermas



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

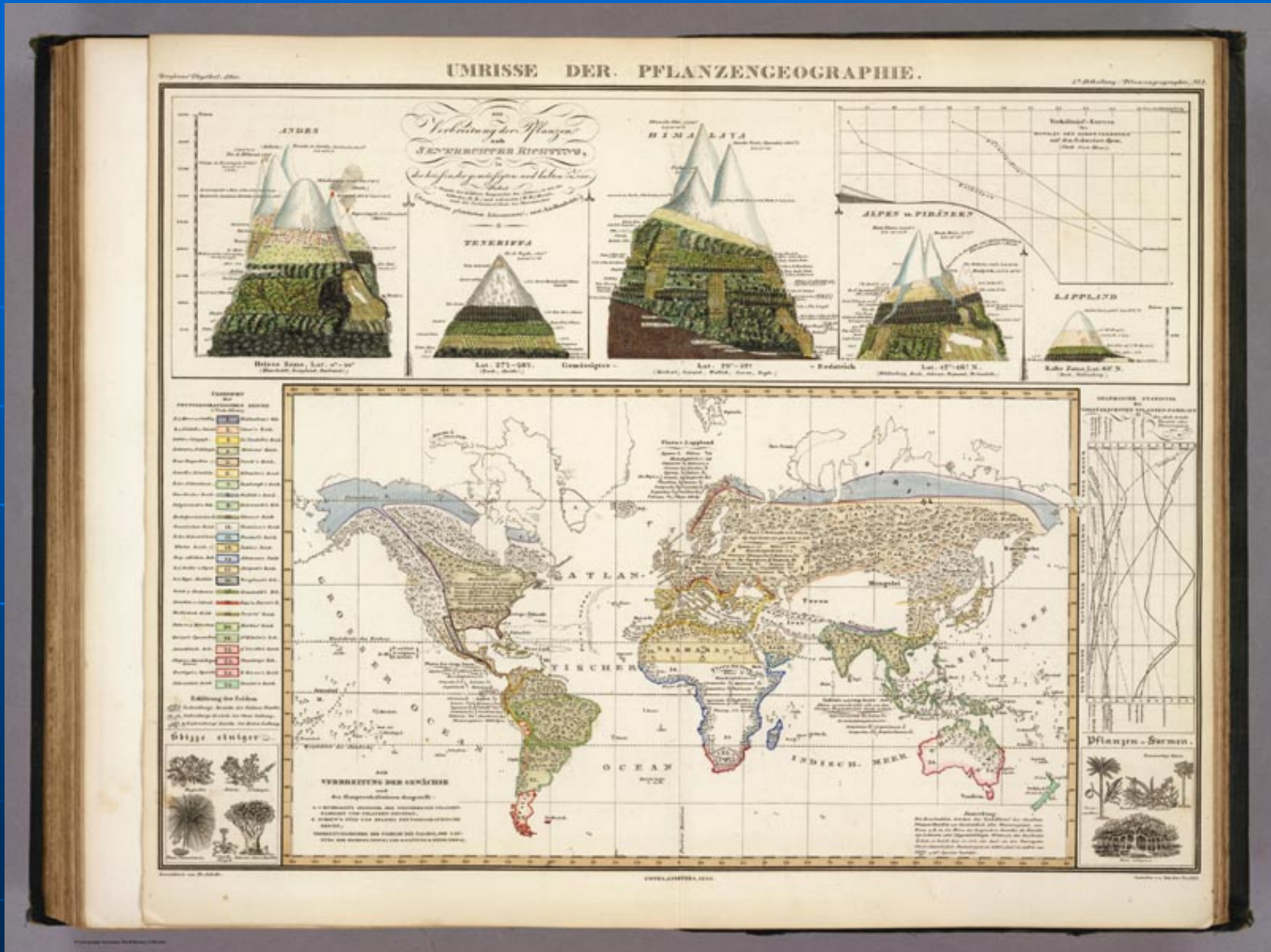
1843

Heinrich Berghaus (1797-1884), Alemania:
El primer atlas (temático) de Geografía Física



Direcciones
del viento

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



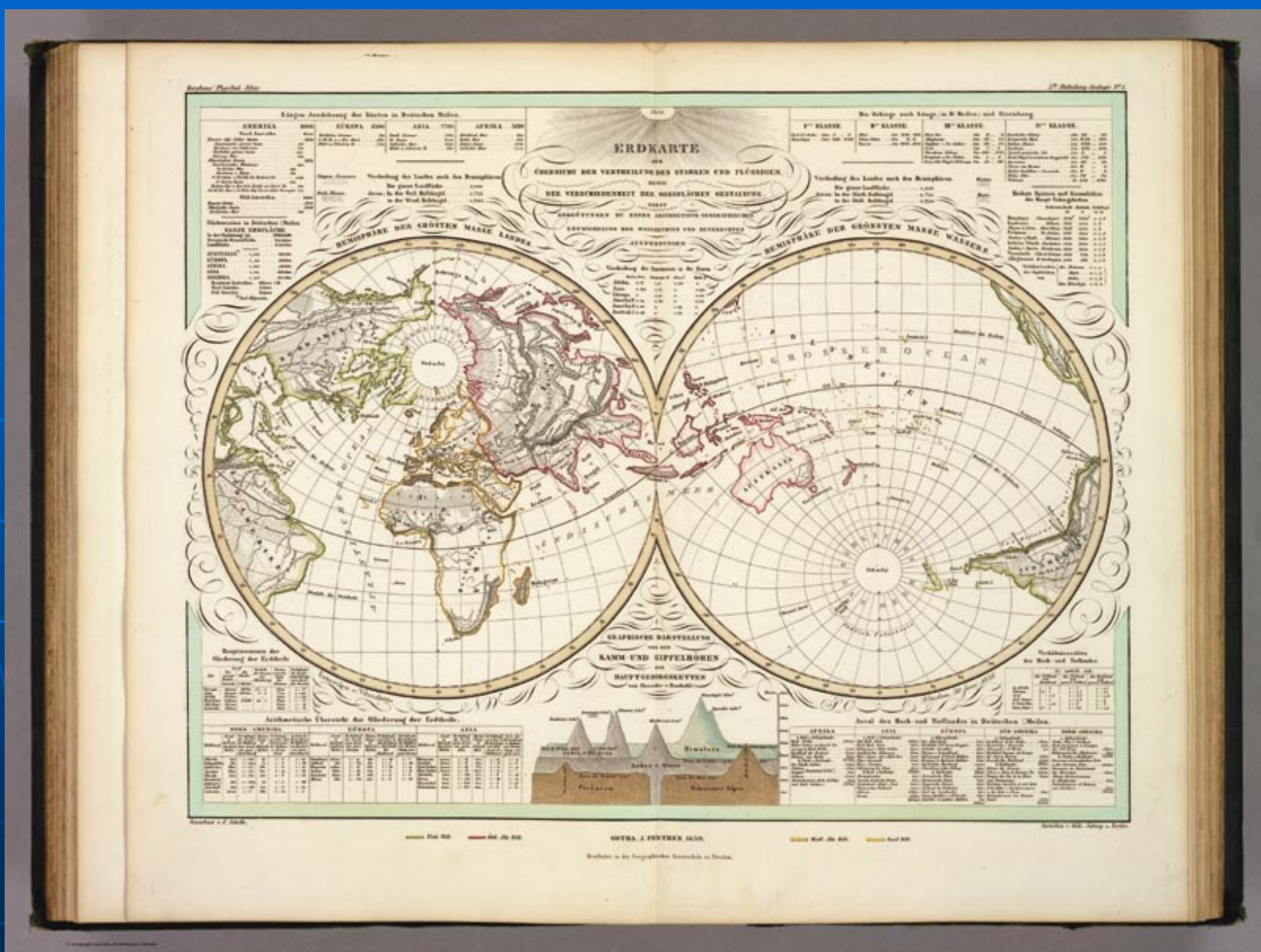
Vegetación

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



Isothermas del hemisferio Norte

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



Mapamundi

<http://www.humboldt-portal.de/cd/index.htm>

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



América Central y volcanes de Guatemala

<http://www.humboldt-portal.de/cd/index.htm>

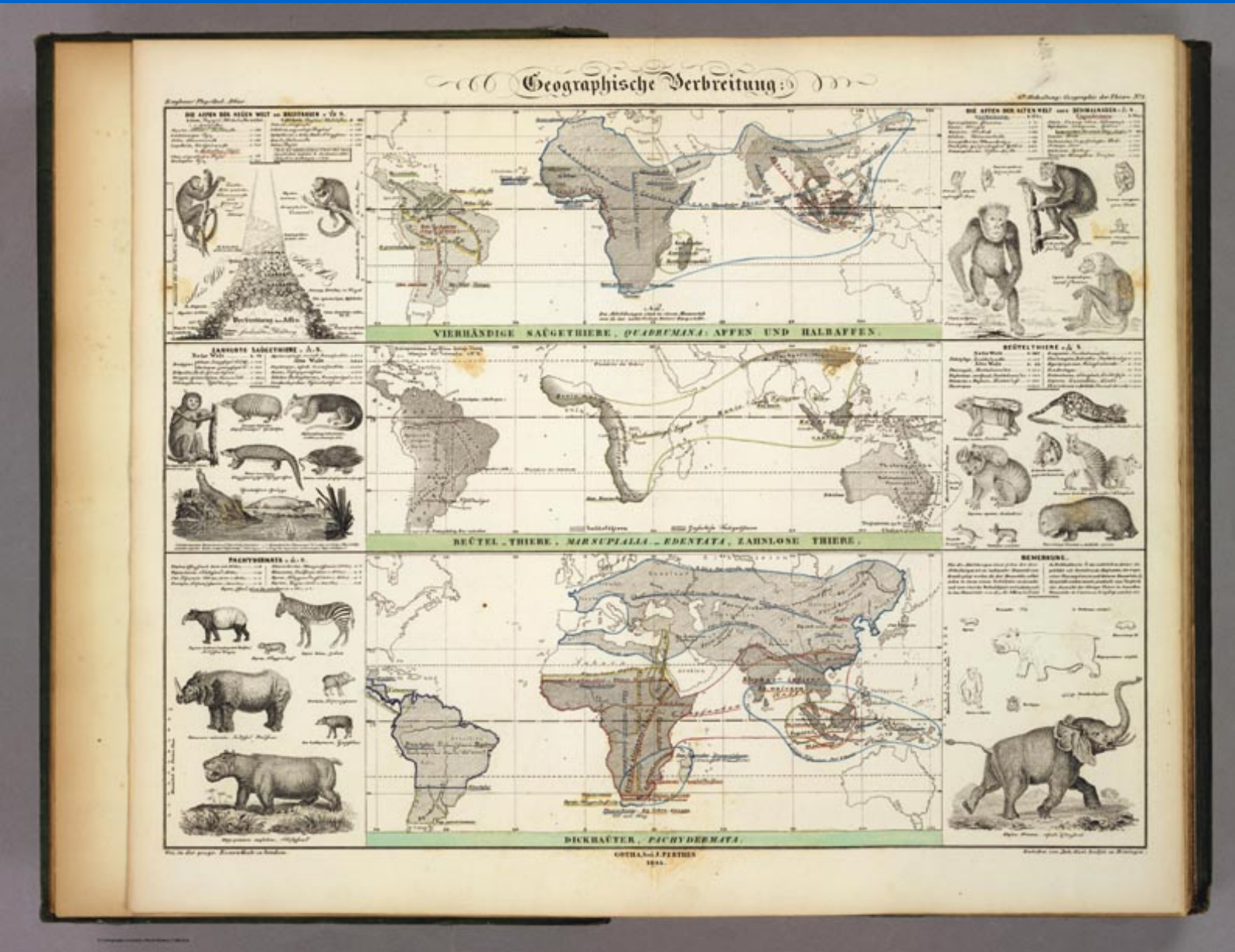
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



Relieve y geología (Quito)

<http://www.humboldt-portal.de/cd/index.htm>

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



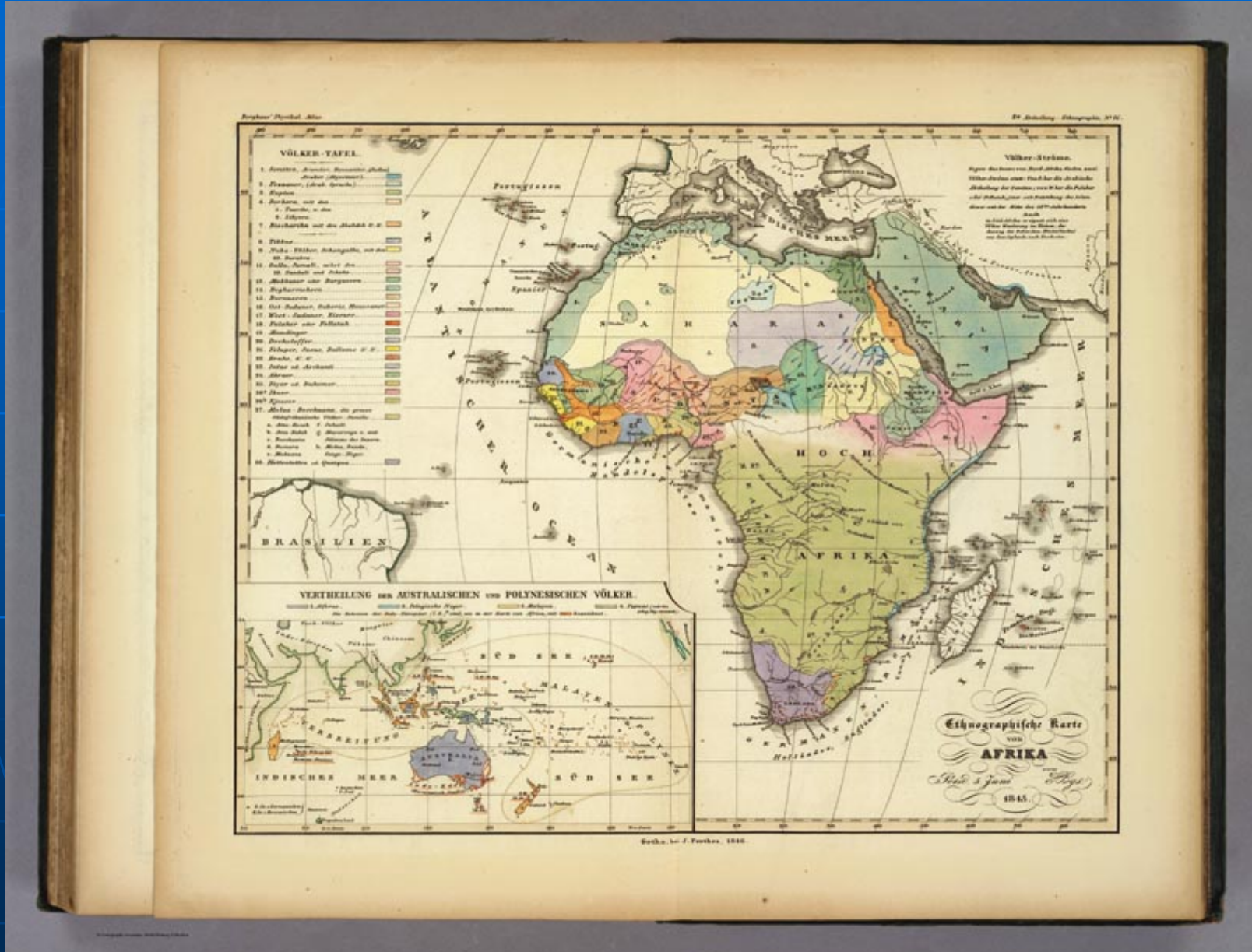
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



Razas humanas (pueblos)

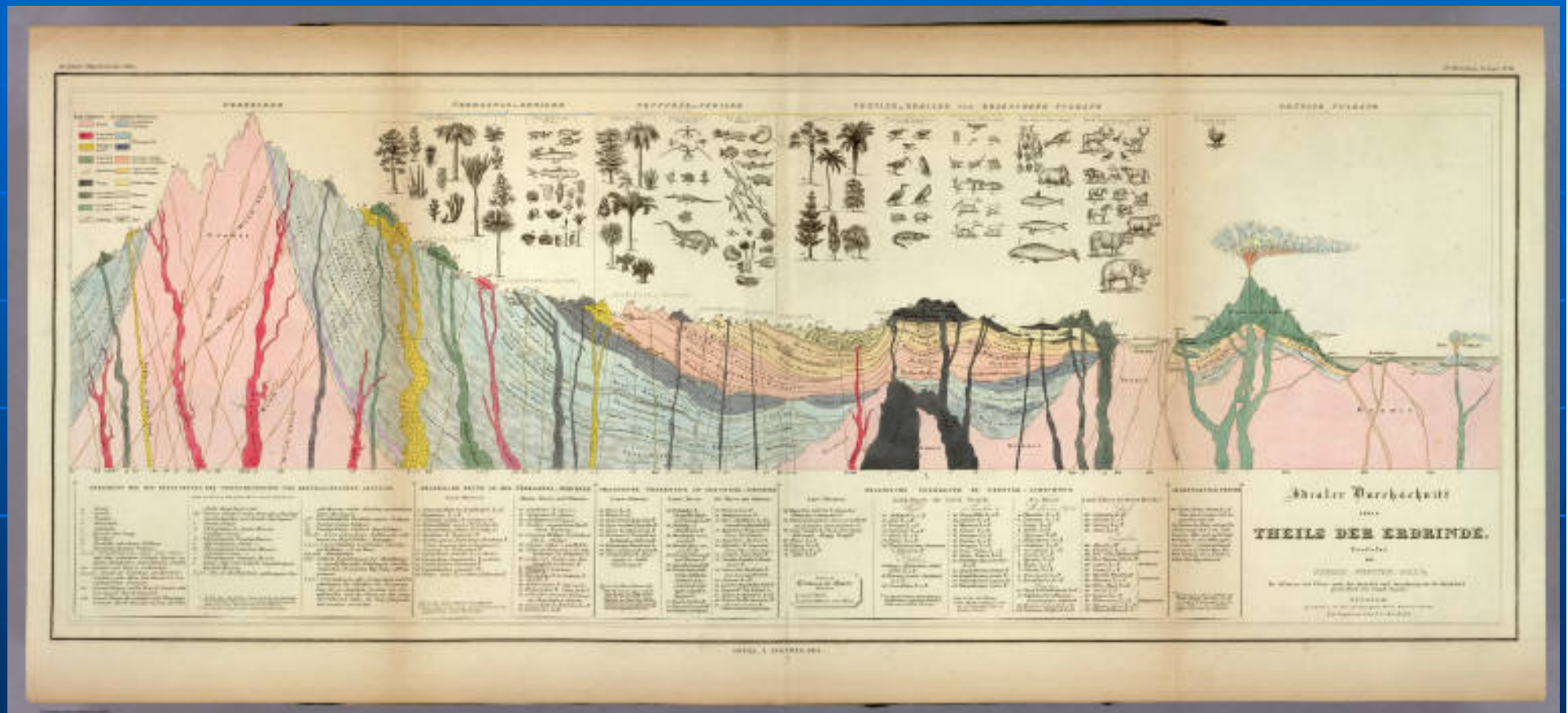
<http://www.humboldt-portal.de/cd/index.htm>

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



Etnografía de Africa

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



Corte transversal geológico

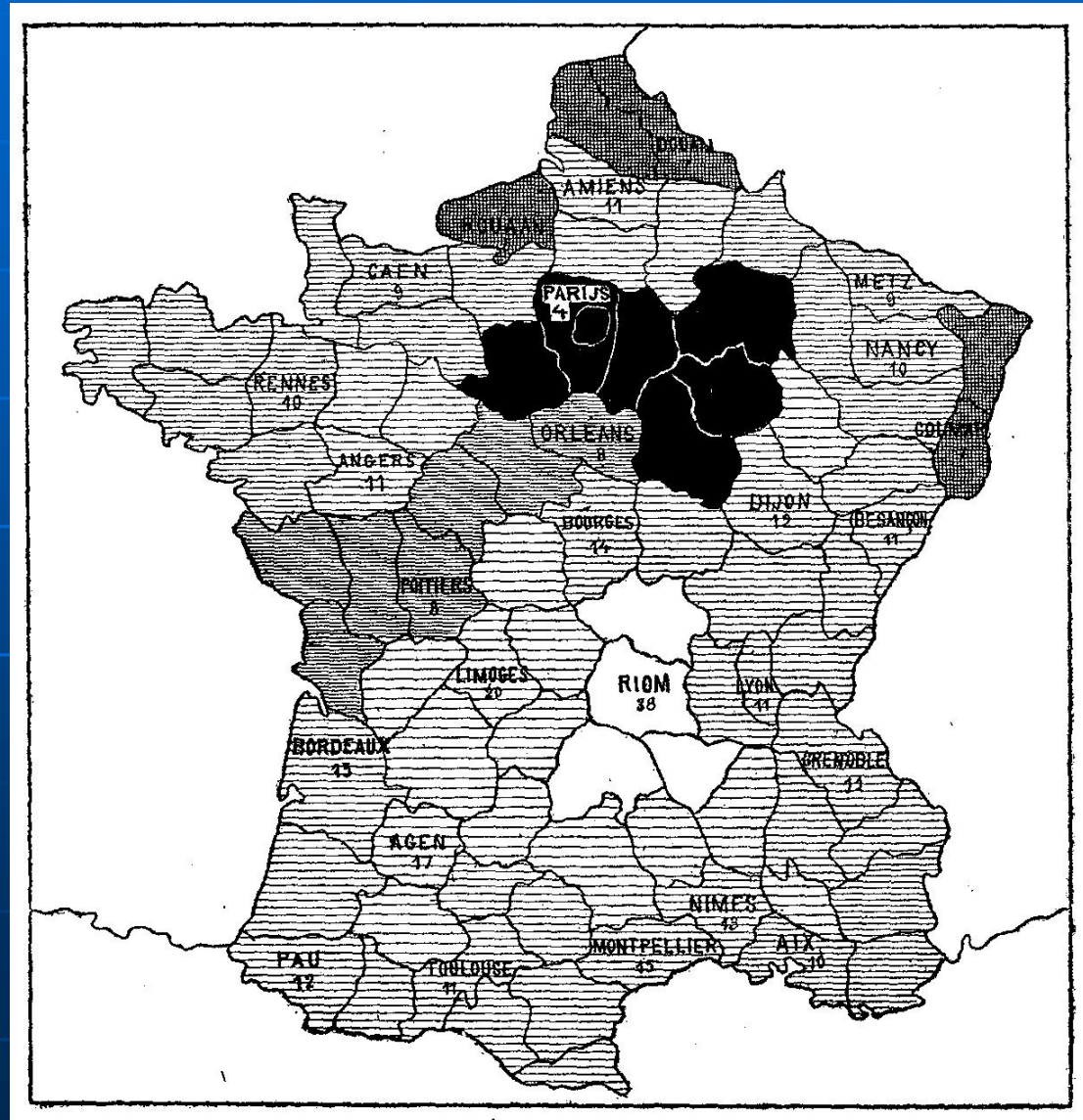
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Baron Pierre Charles Dupin (1784-1873), Francia:

1819

Primer mapa de coropletas en blanco y negro

Esta imagen es una copia hecha posiblemente en 1826...

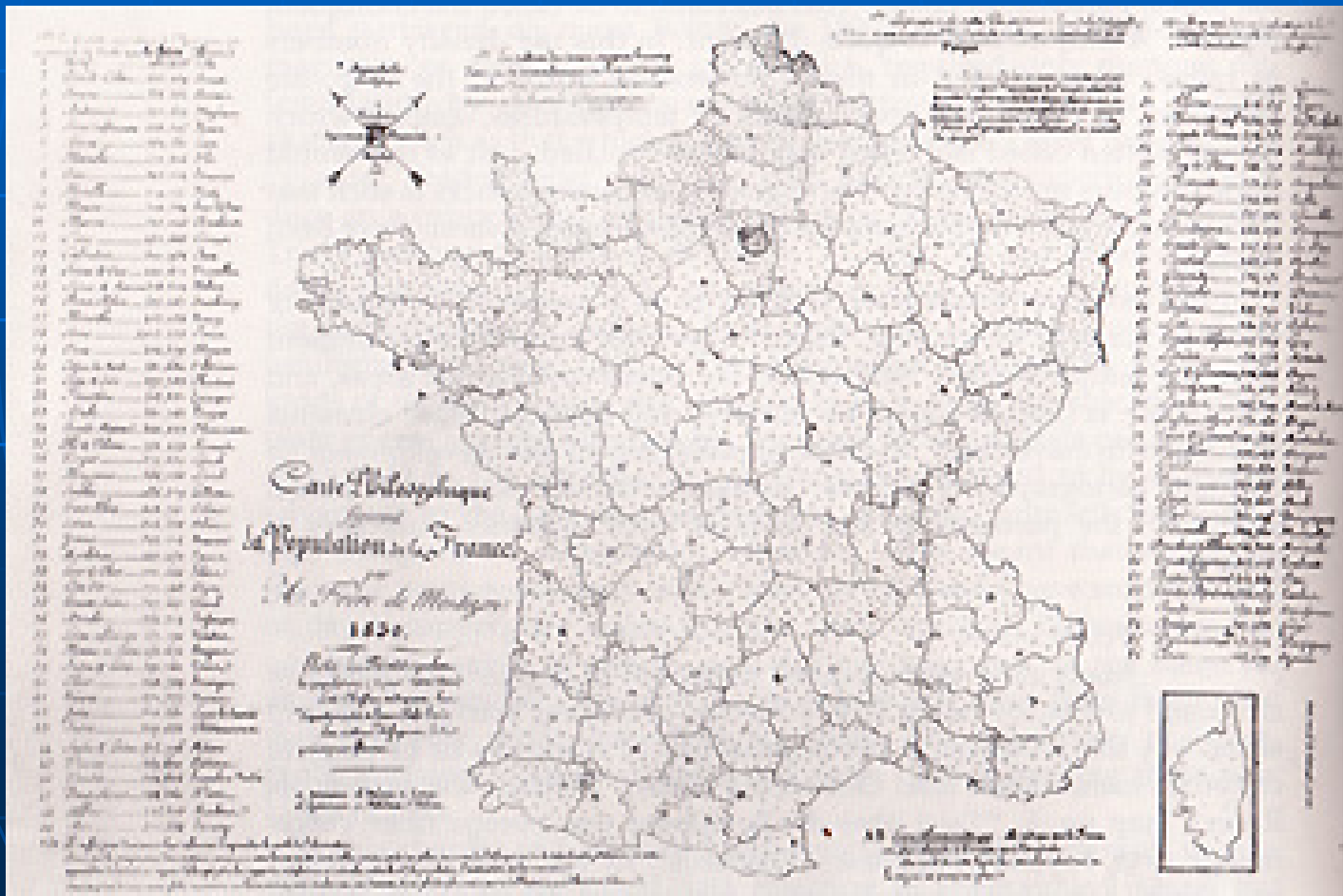


VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1830

Frère de Montizon, Francia:

Primer mapa de puntos – Población total de Francia
(1 punto=10 000 habitantes)



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Charles Joseph Minard (1781-1870), Francia:

1851

Uso de círculos proporcionales a la producción de carbón en mapas temáticos (publicado en 1861)

1869

Representación de los resultados desastrosos de la campaña (marcha) de Napoleón a Moscú: „historia visual(izada)”

Moscú

Partida y regreso del ejército

Temperaturas

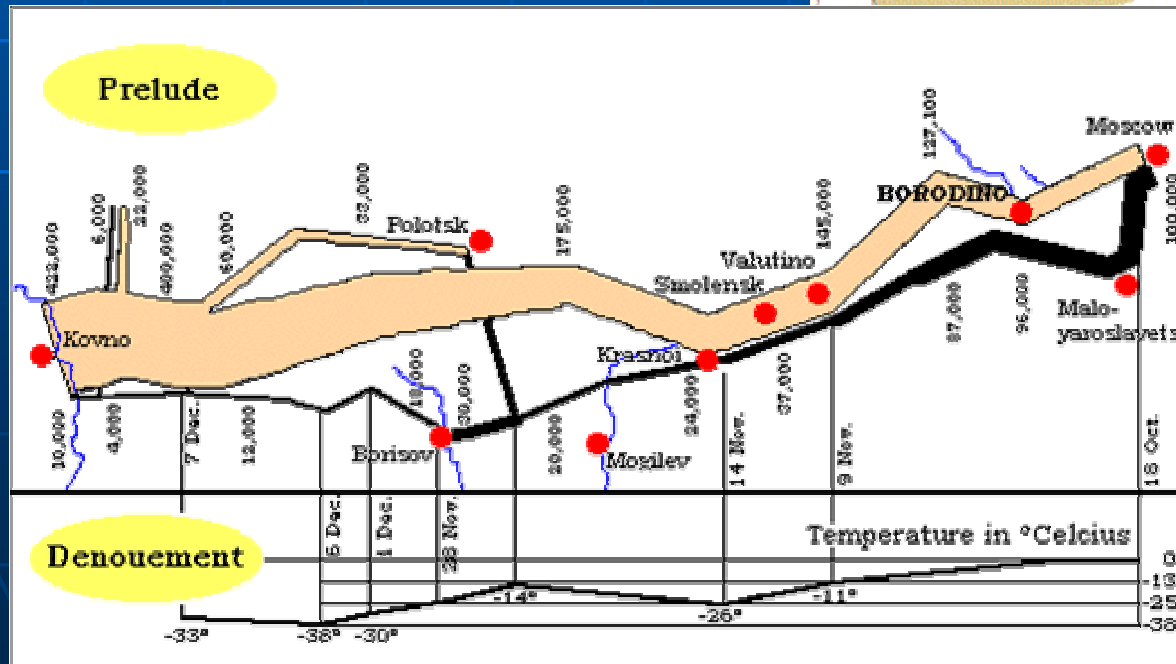
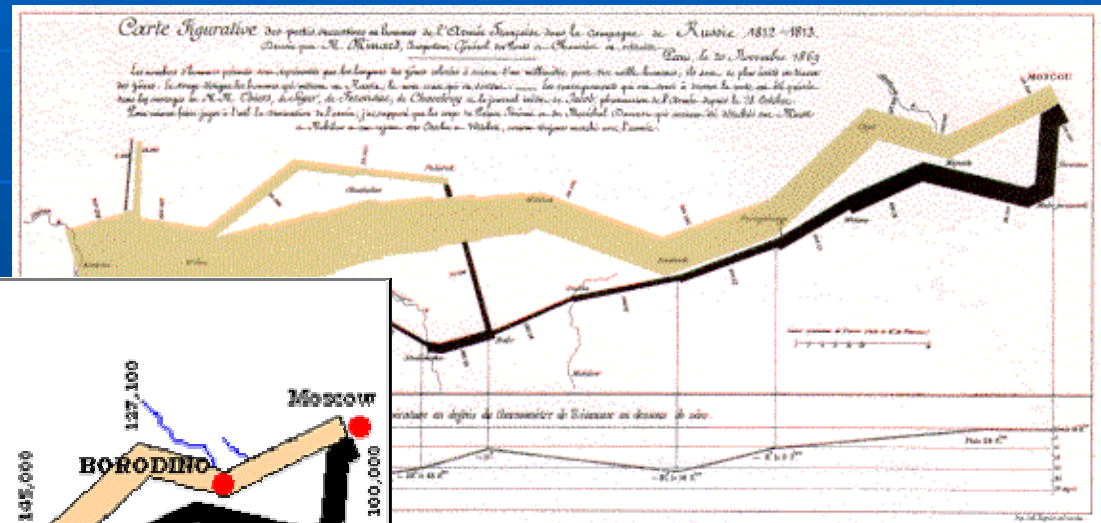


VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Charles Joseph Minard (1781-1870), Francia:

1869

Representación de los resultados desastrosos de la campaña (marcha) de Napoleon a Moscú: „historia visual(izada)”

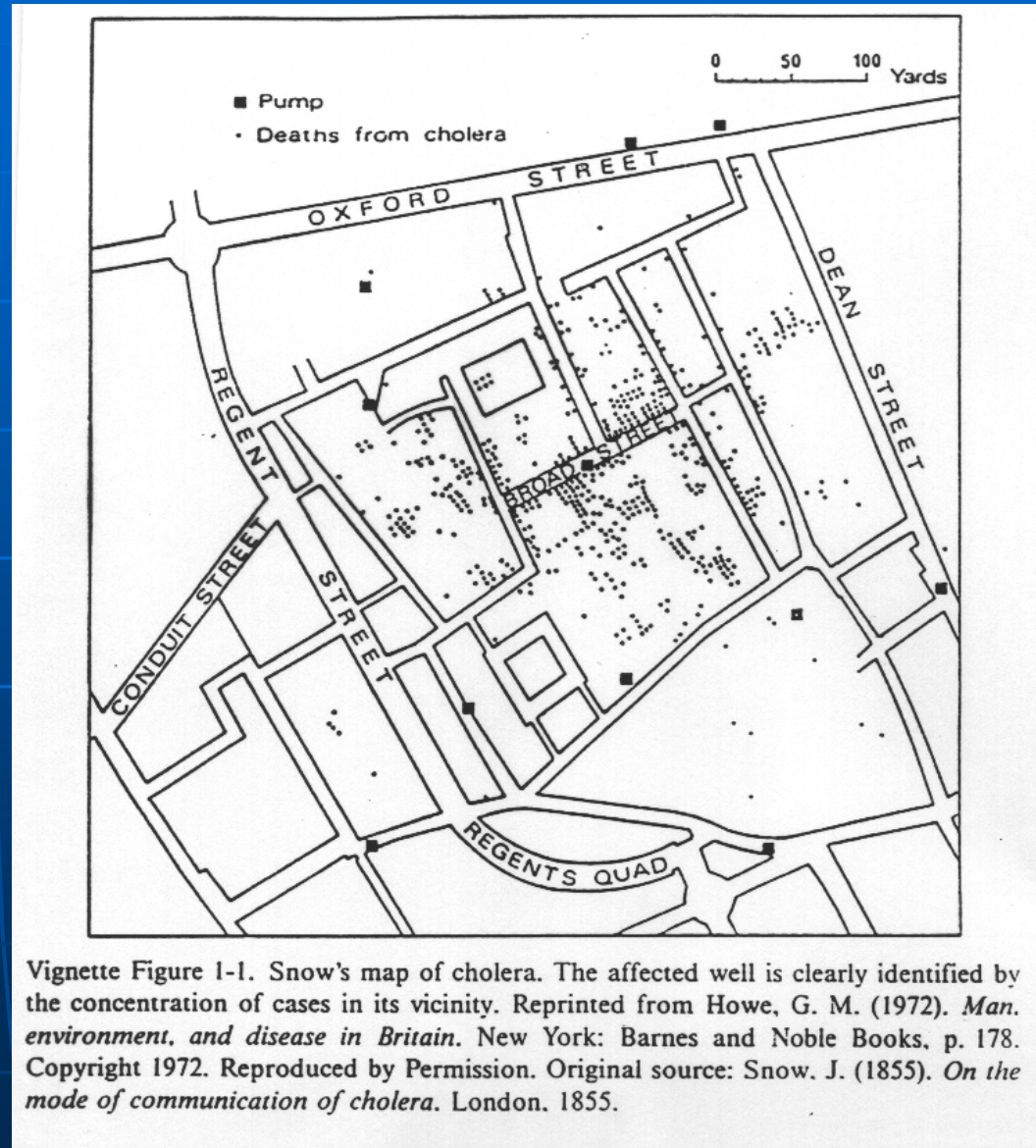
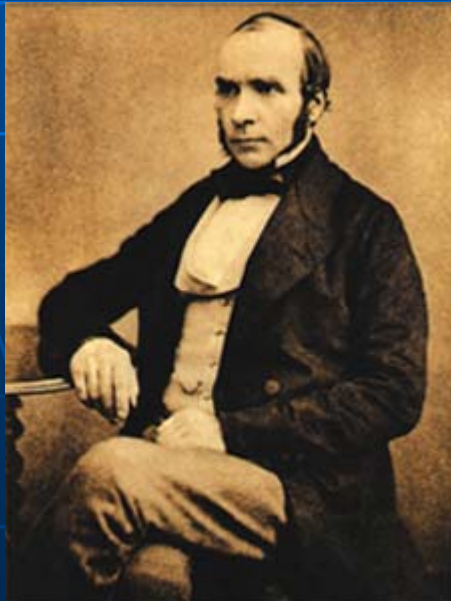


VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1855

John Snow (1813-1858),
Inglaterra:

Mapa de focos de cólera,
mapa de símbolos „con
efecto de puntos”.

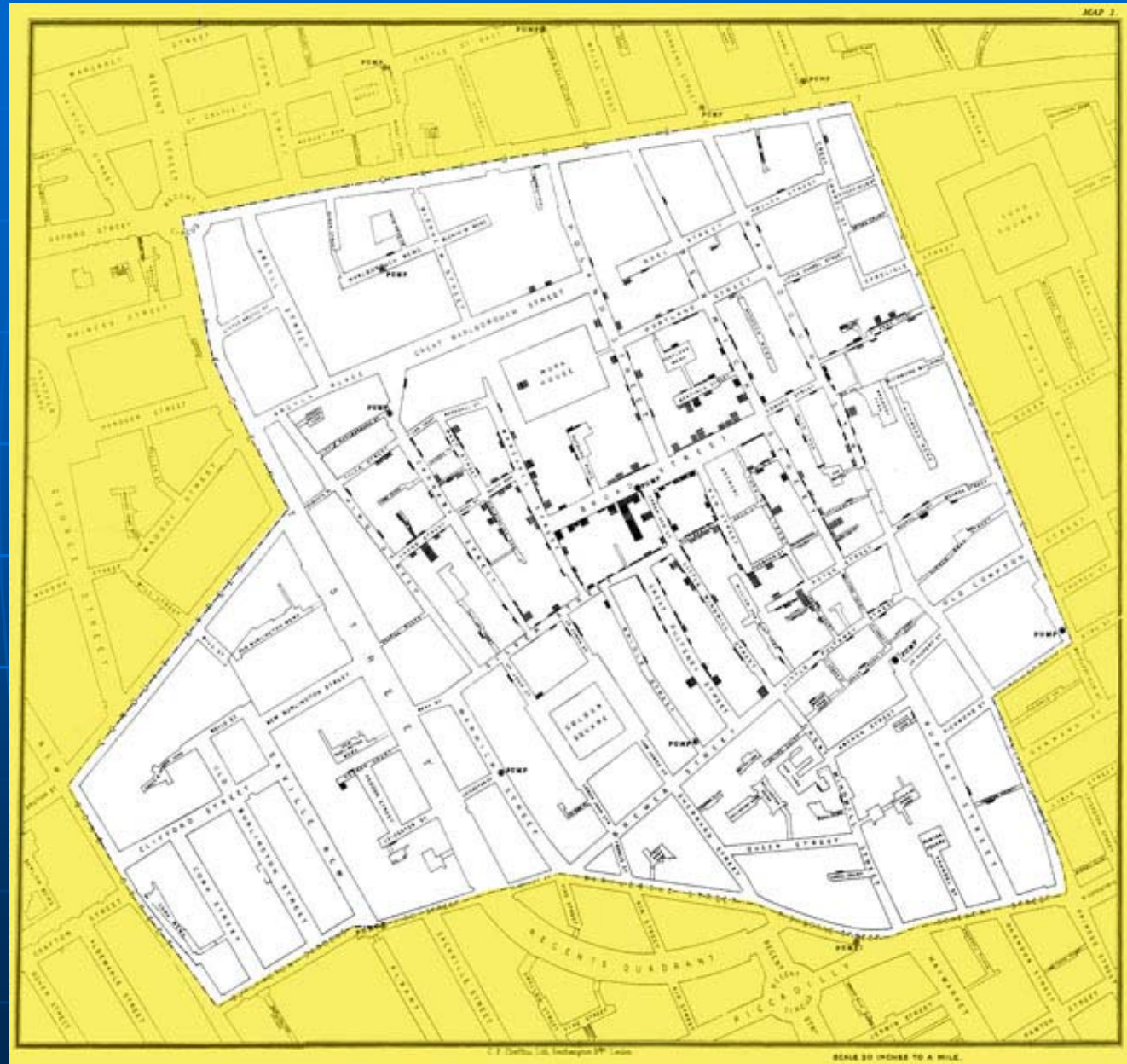


VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1855

John Snow
(1813-1858),
Inglaterra:

Mapa de focos
de coléra



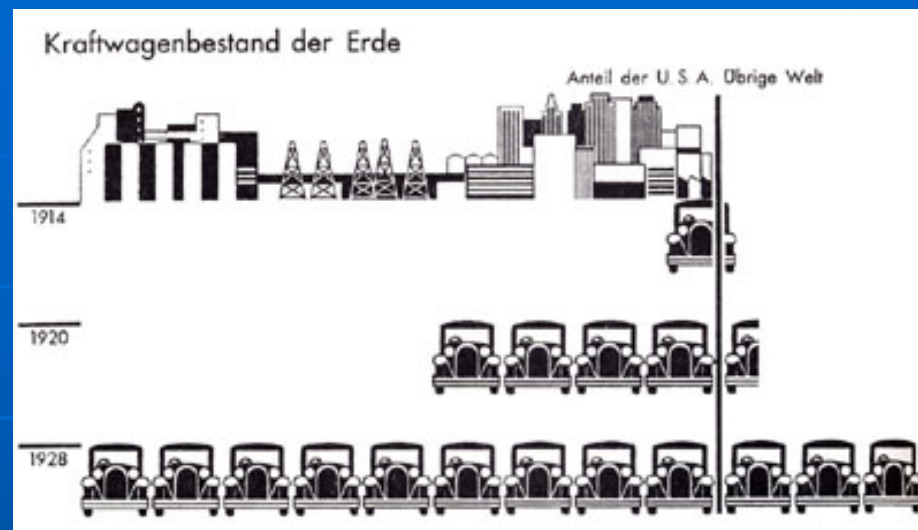
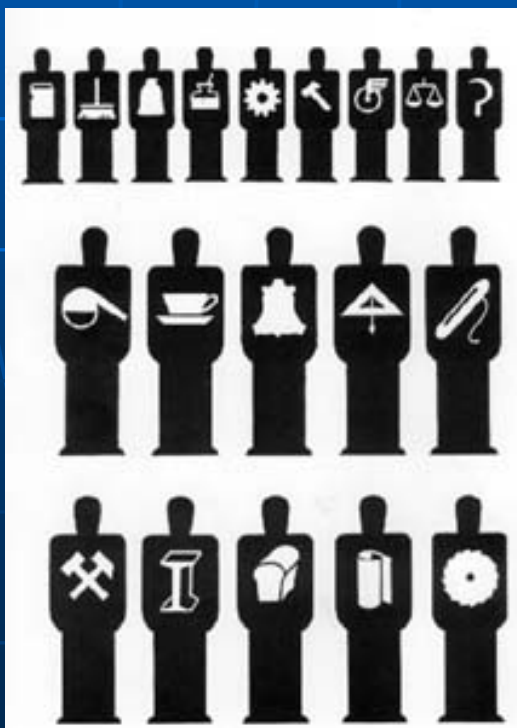
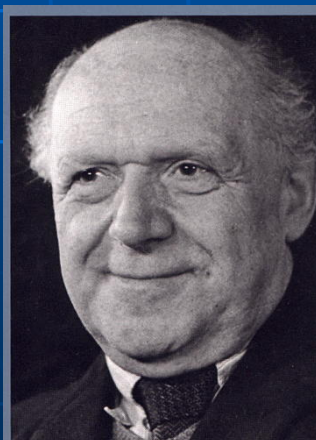
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1924

Otto Neurath (1882-1945),

Austria:

Diagramas de isotipos
(pictogramas)



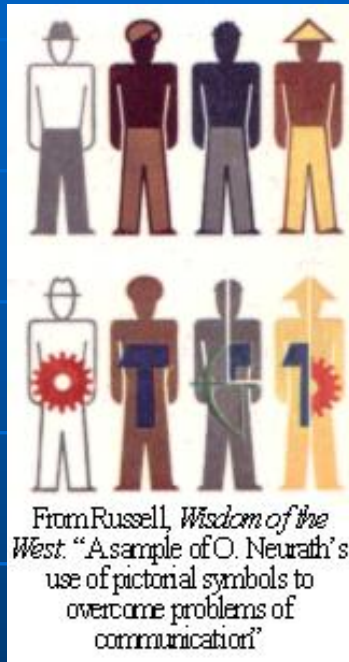
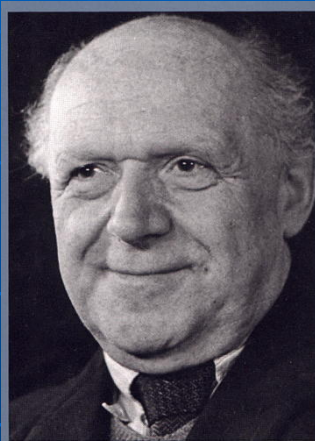
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1924

Otto Neurath (1882-1945),

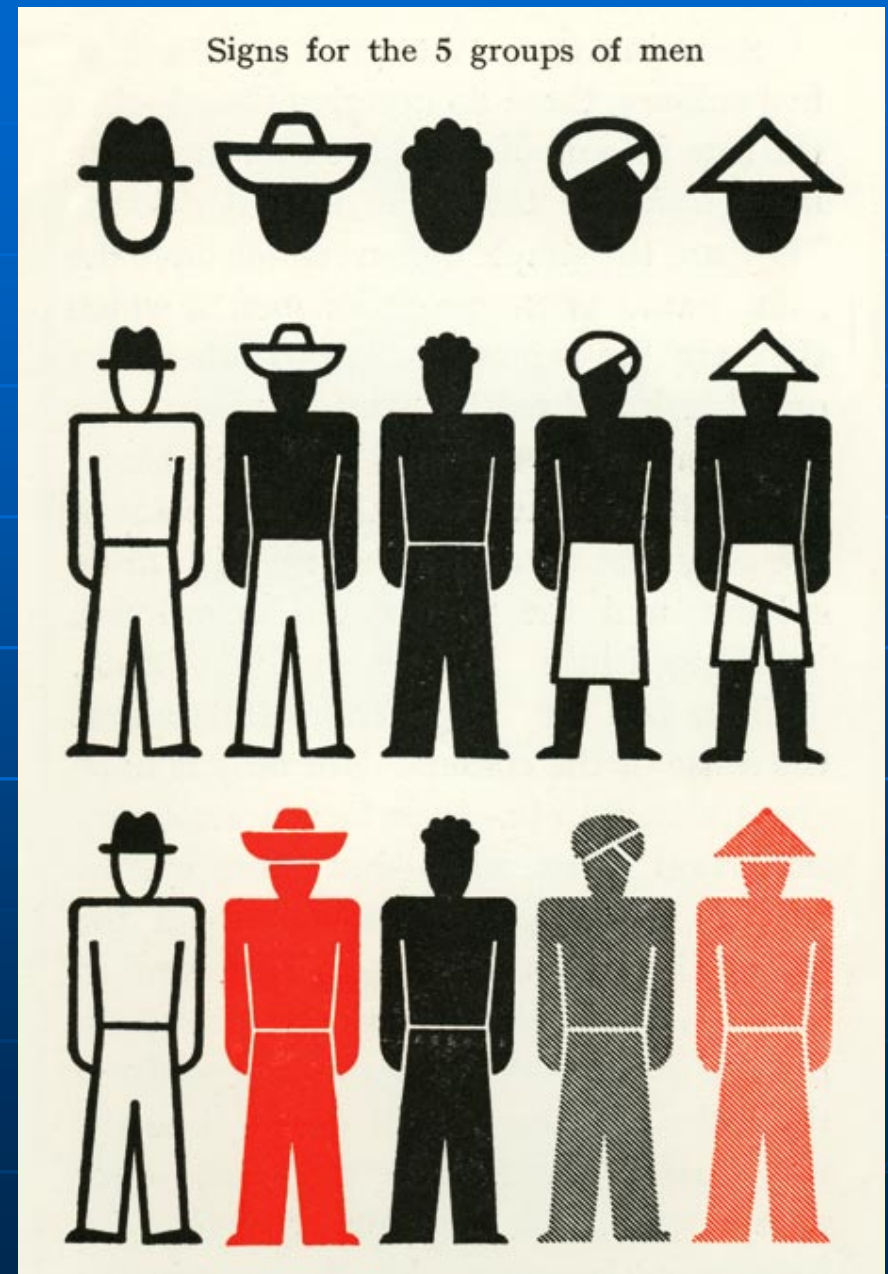
Austria:

Diagramas de isotipos
(pictogramas)

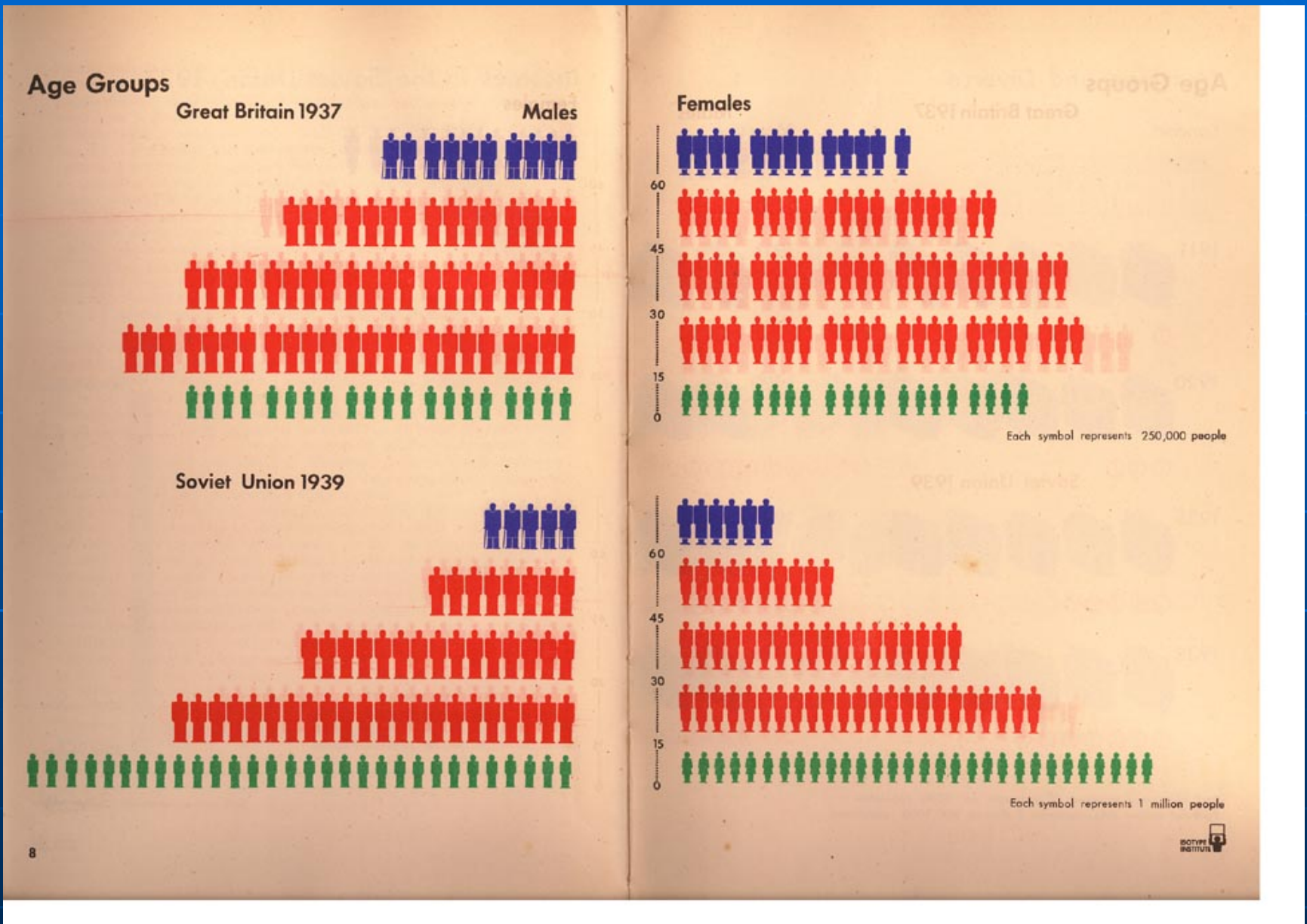


Otto Neurath: *International Picture Language* (1936),
presenando diferentes iconos para diferentes pueblos o razas humanas

www.cabinetmagazine.org/issues/24/pendle.php

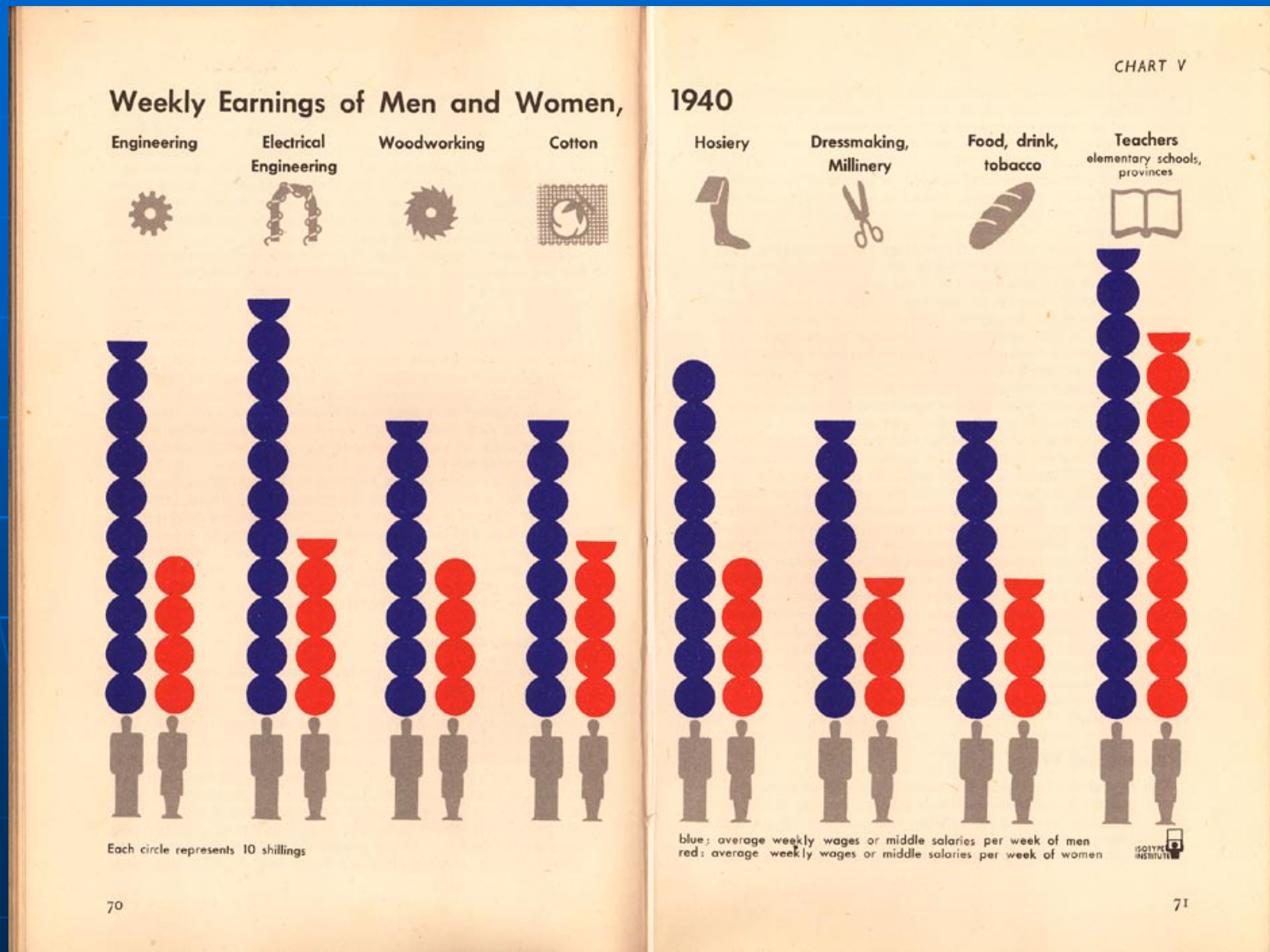


VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



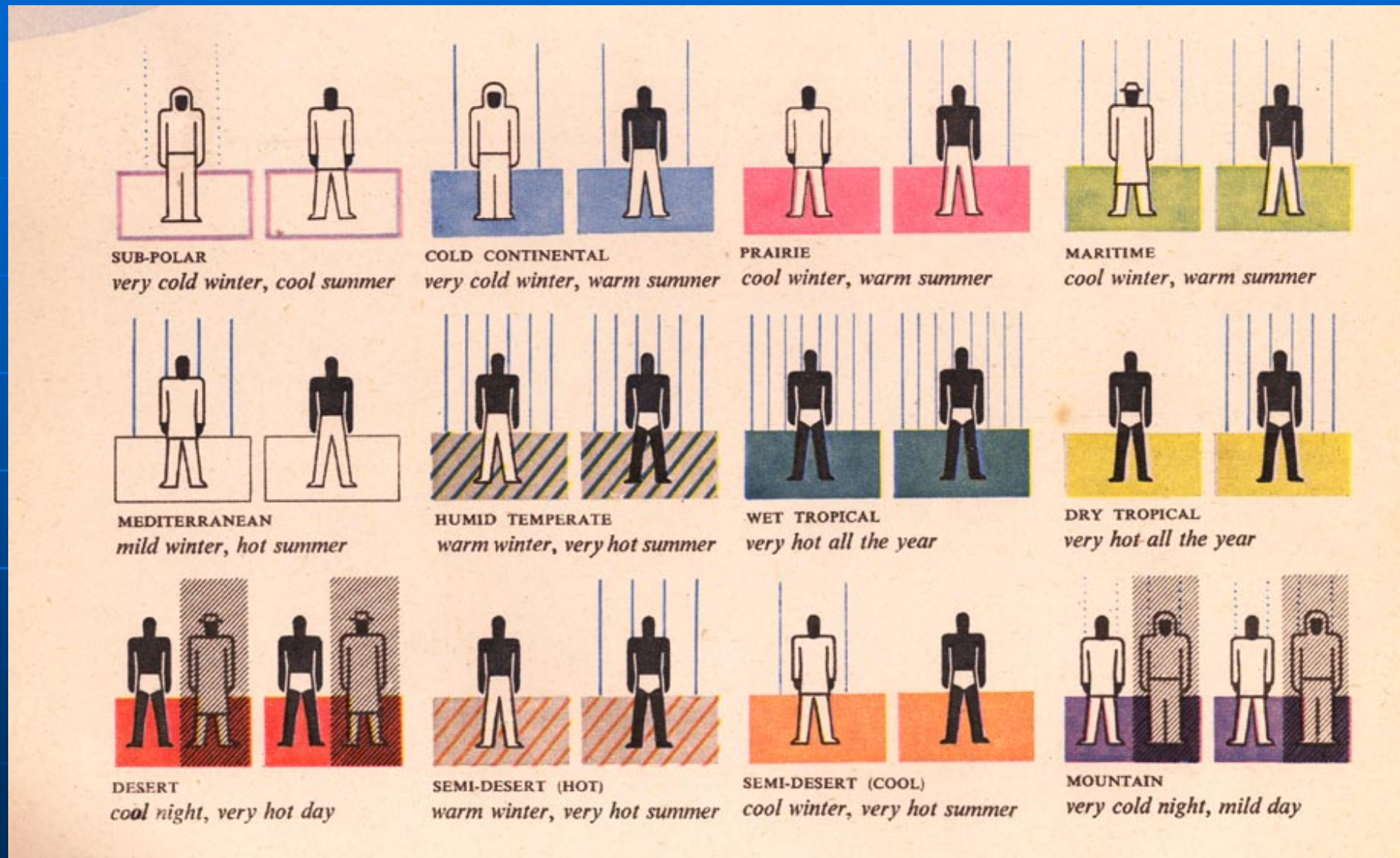
Isotipos como diagramas (<http://www.fulltable.com/iso/images01/16.jpg>)

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



Isotipos como diagramas (<http://www.fulltable.com/iso/images01/15.jpg>)

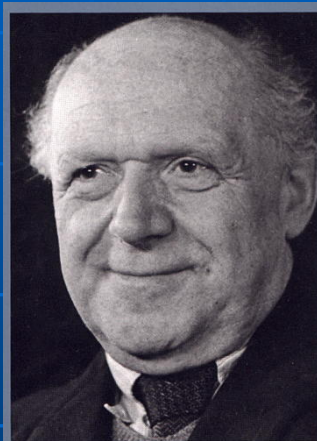
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

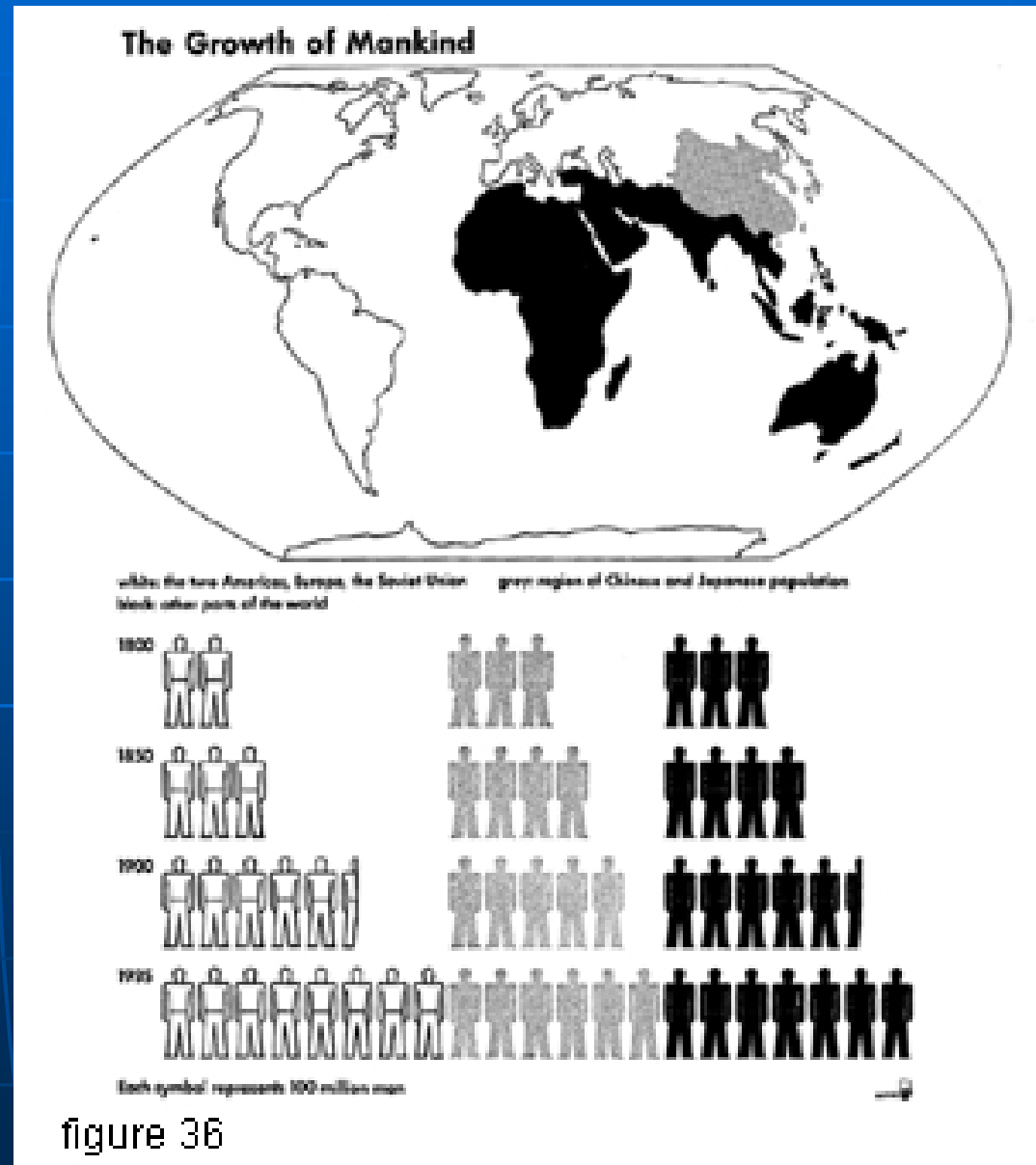
1924

Otto Neurath (1882-1945),
Austria:
Diagramas de isotipos



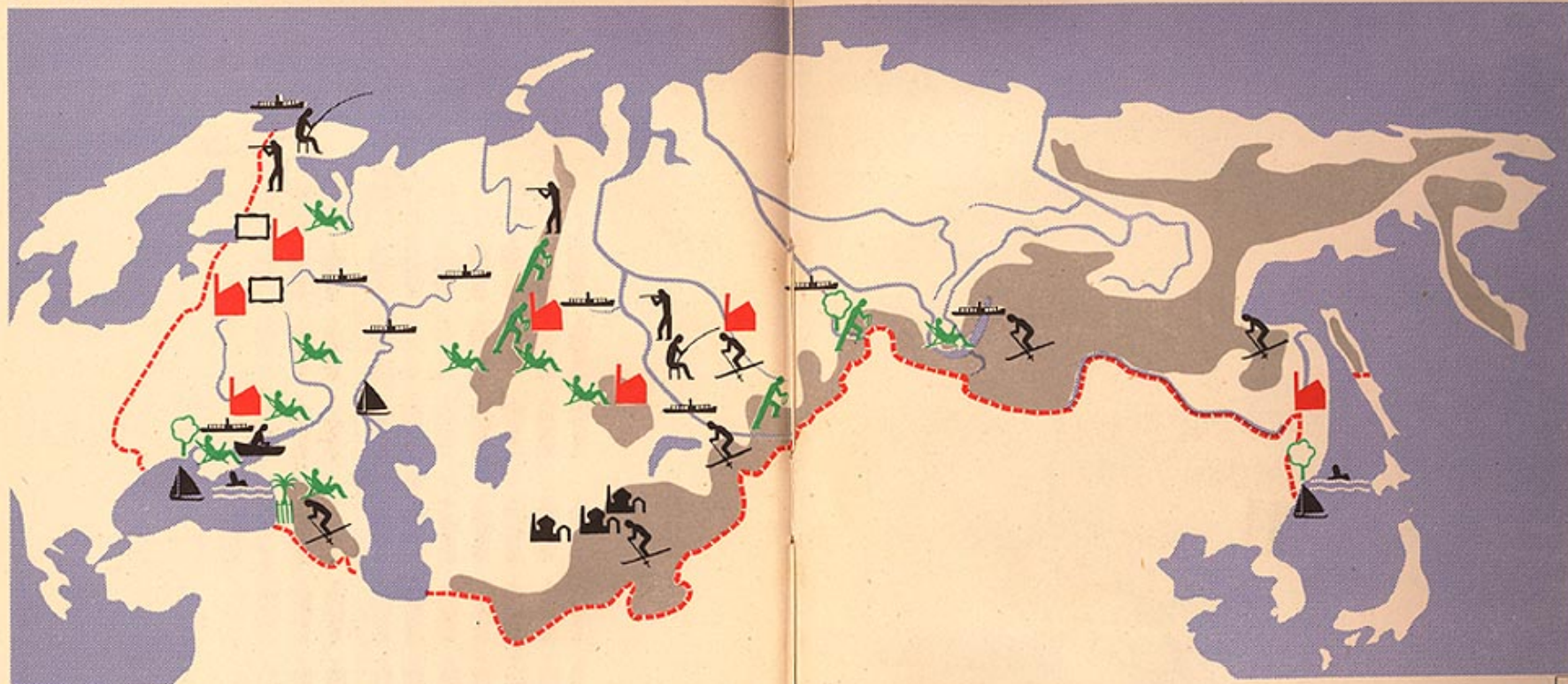
Complementación de mapa
con pictograma isotipo

www.agglutinations.com



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Industrial and Holiday Centres

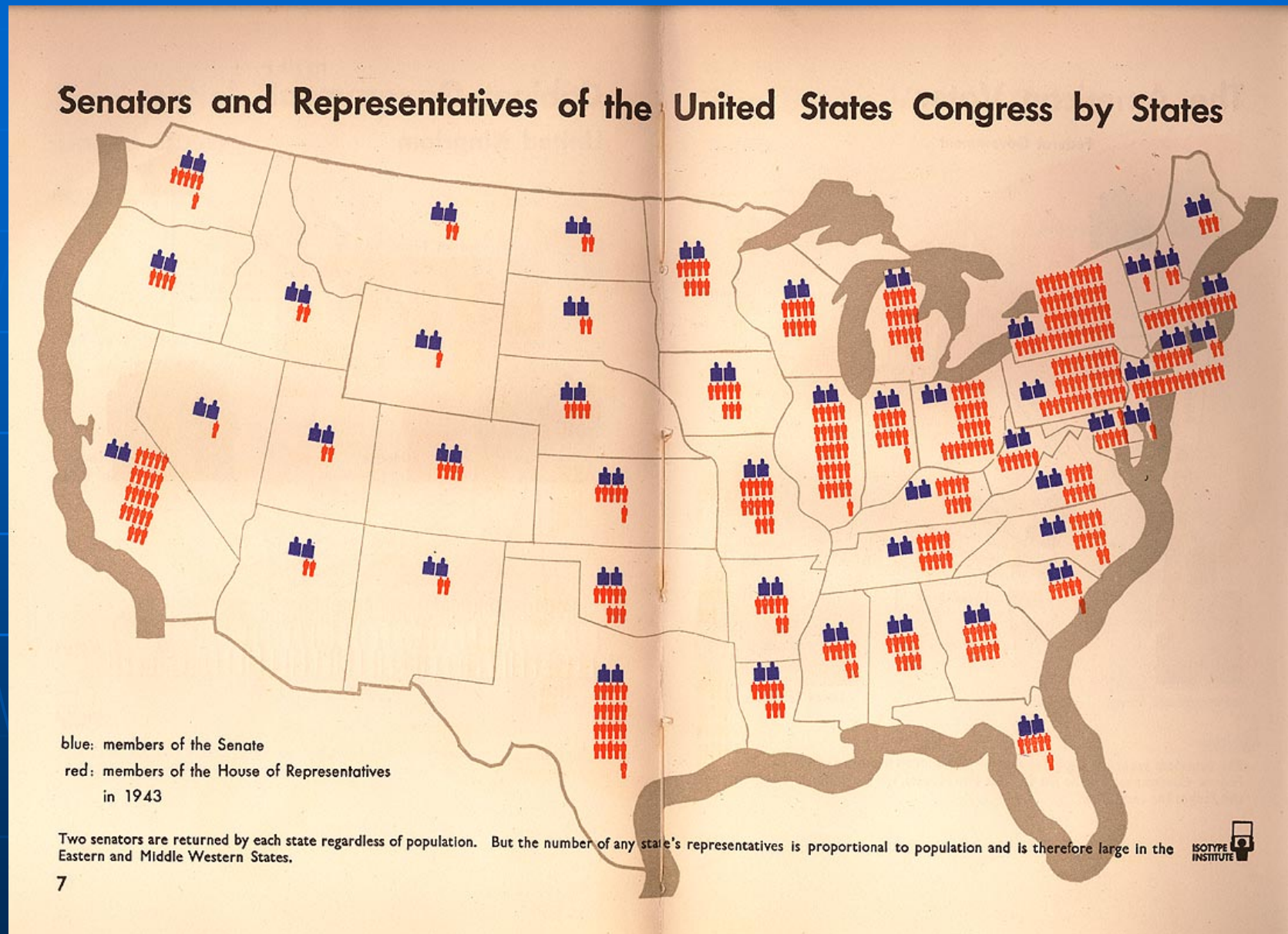


- red : main industrial areas
- blue : rivers, lakes, coasts
- green : wild life preserves, botanical garden, spas, health centres, etc., climbing
- black : swimming, hunting, fishing, skiing, museums, architecture, steamers, sailing, and rowing
- grey : mountains



Pictogramas isotipos en los mapas
(<http://www.fulltable.com/iso/images01/03.jpg>)

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

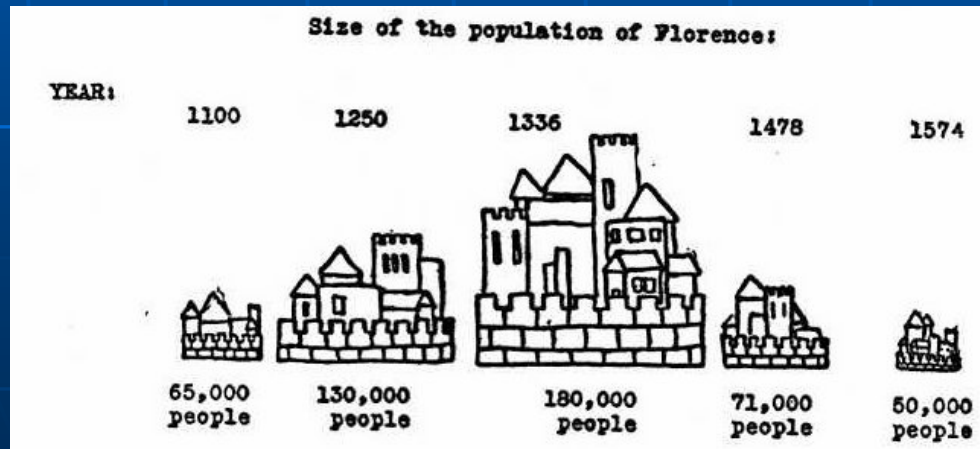


Pictogramas isotipos en los mapas
(<http://www.fulltable.com/iso/images01/05.jpg>)

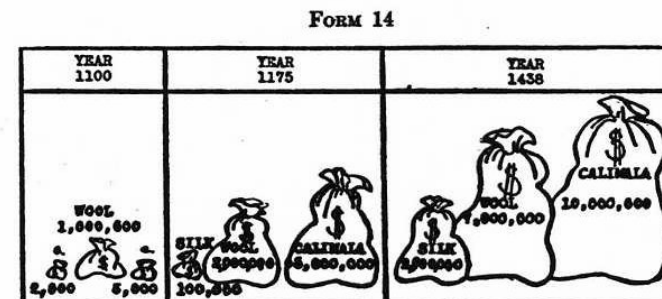
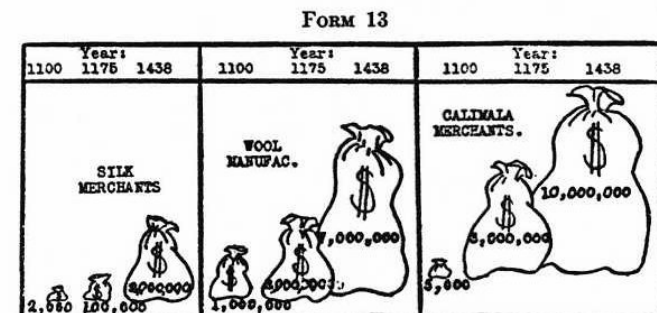
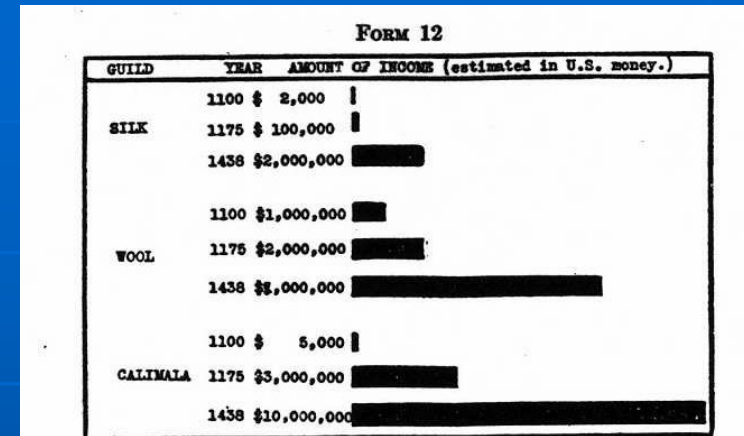
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1927-1932

R. von Huhn, F. E. Croxton, J. N. Washburne:
Continúan los trabajos de Neurath

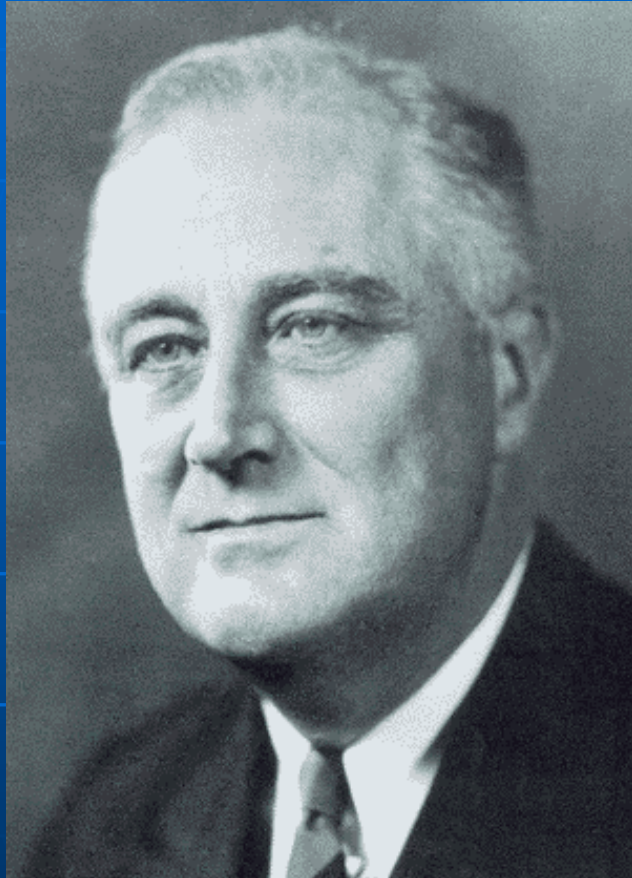


Diagramas de Washburne



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1942-1945: Primeros mapas hechos con técnicas de animación



Franklin D. Roosevelt



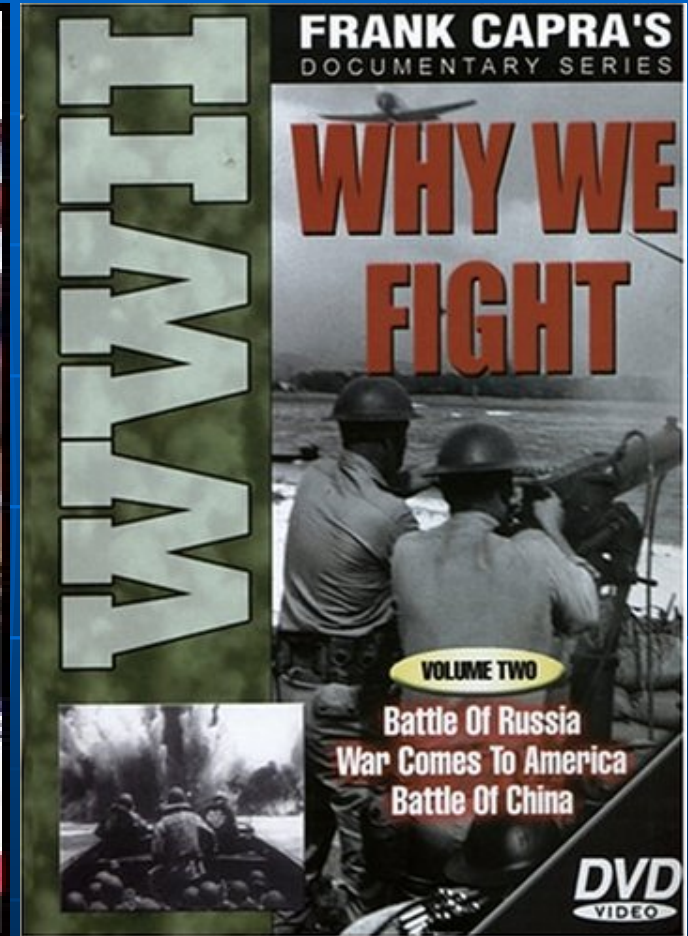
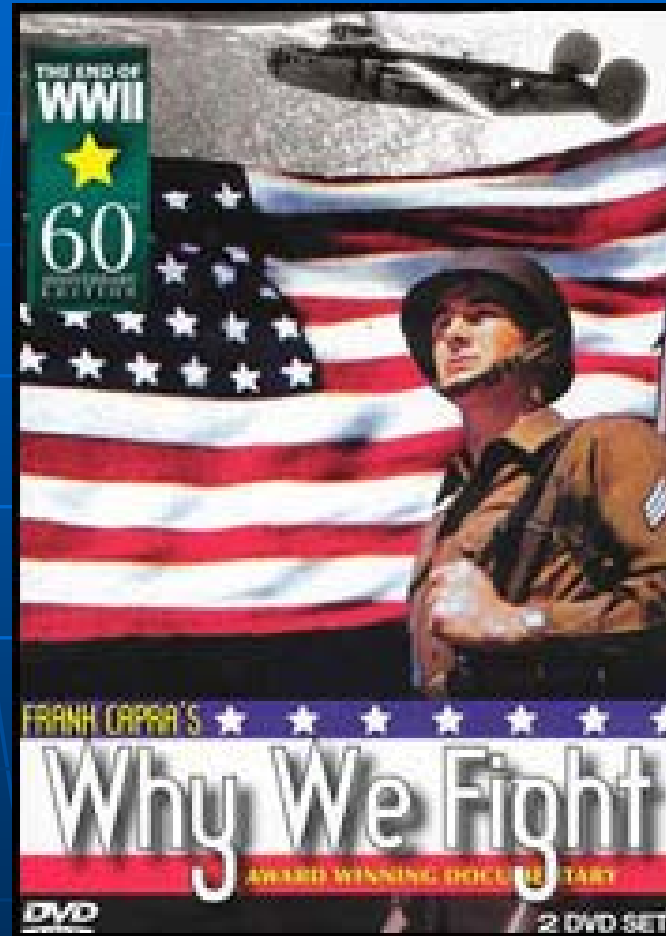
Walt Disney



Frank Capra

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1942-1945: Primeros mapas hechos con técnicas de animación



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1942-1945: Primeros mapas hechos con técnicas de animación



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1944

Howard H. Aiken (1900-1973) y Grace Hopper (1906-1992),
USA:

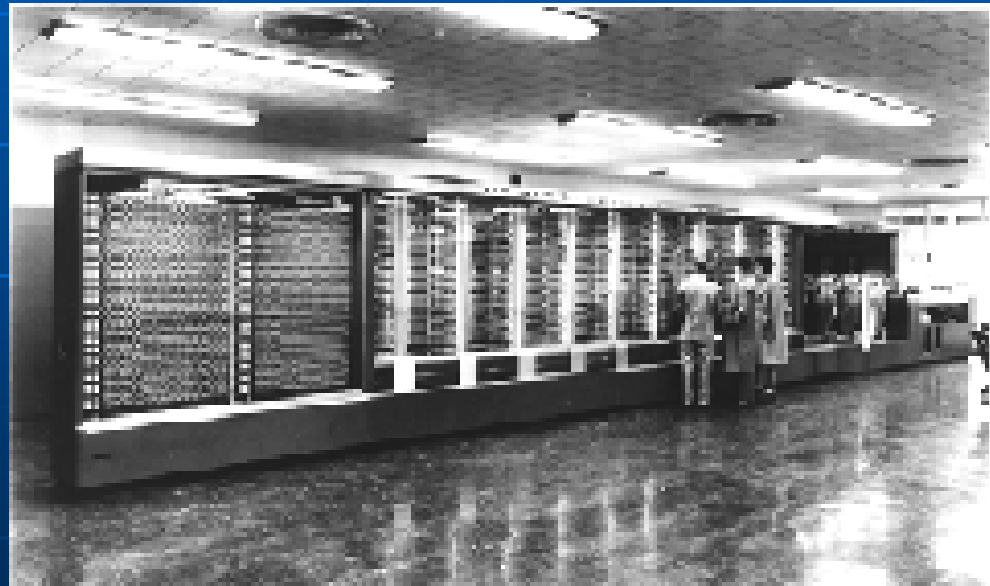
Creación de la computadora Mark-1 en Harvard. Nombre
„oficial”: „IBM Automatic Sequence Controlled Calculator
(ASCC)”, ~ 16 m de longitud y peso de 50 toneladas.



Howard H. Aiken



Grace Hopper con la
Mark-1



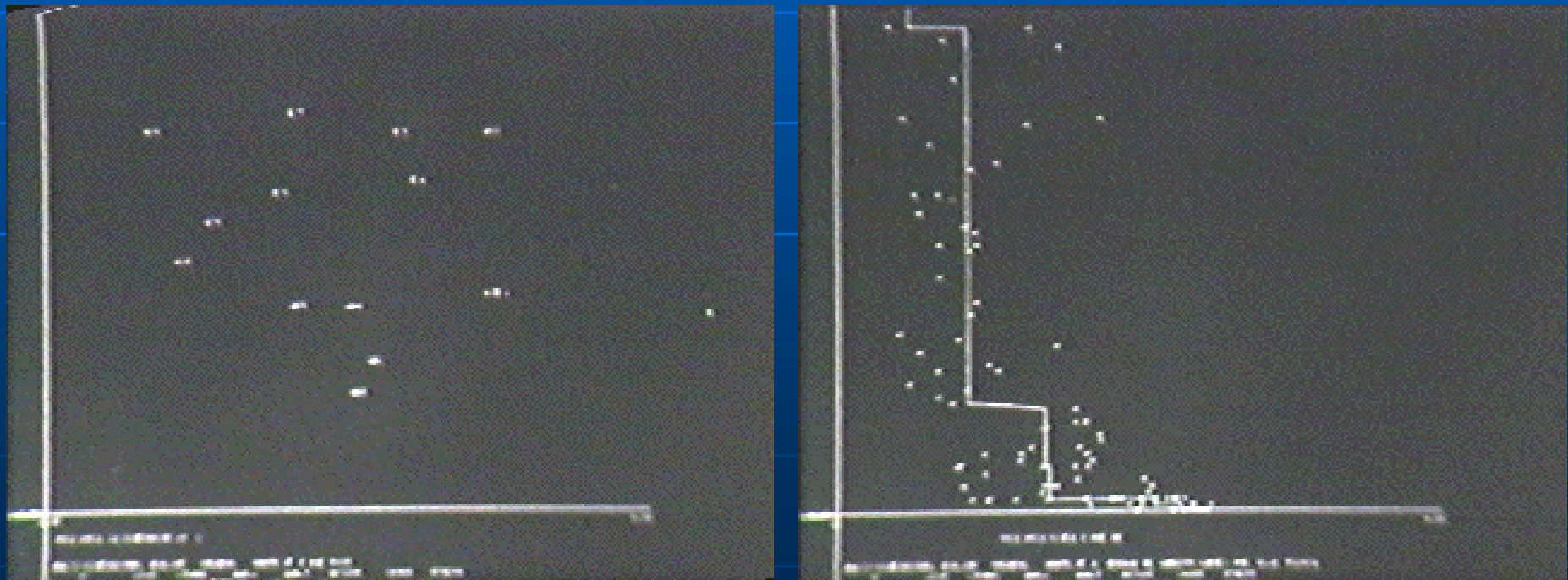
La computadora Mark-1

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1962

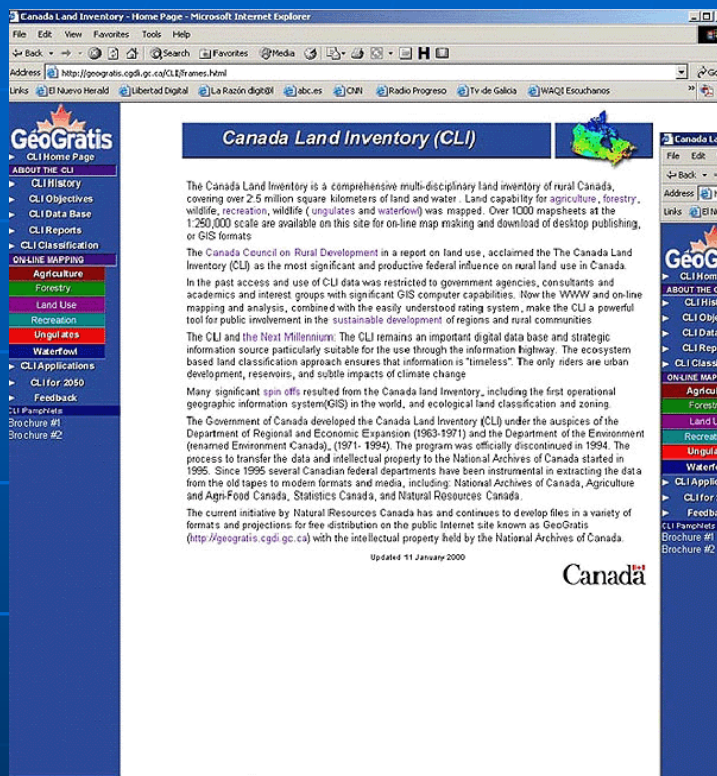
Primer diagrama animado (AT&Bell Labs)

Duración: ~ 1 minuto



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

A partir de 1962-1964: SISTEMAS DE INFORMACIÓN GEOGRÁFICA (GIS, SIG)



GeoGratis
Canada Land Inventory (CLI)

The Canada Land Inventory is a comprehensive multi-disciplinary land inventory of rural Canada, covering over 2.5 million square kilometers of land and water. Land capability for agriculture, forestry, wildlife, recreation, wildlife (ungulates and waterfowl) was mapped. Over 1000 mapsheets at the 1:250,000 scale are available on this site for on-line map making and download of desktop publishing, or GIS formats.

The Canada Council on Rural Development in a report on land use, acclaimed the The Canada Land Inventory (CLI) as the most significant and productive federal influence on rural land use in Canada.

In the past access and use of CLI data was restricted to government agencies, consultants and academics and interest groups with significant GIS computer capabilities. Now the WWW and on-line mapping and analysis, combined with the easily understood rating system, make the CLI a powerful tool for public involvement in the sustainable development of regions and rural communities.

The CLI and the Next Millennium: The CLI remains an important digital data base and strategic information source particularly suitable for the use through the information highway. The ecosystem based land classification approach ensures that information is "timeless". The only riders are urban development, reservoirs, and subtle impacts of climate change.

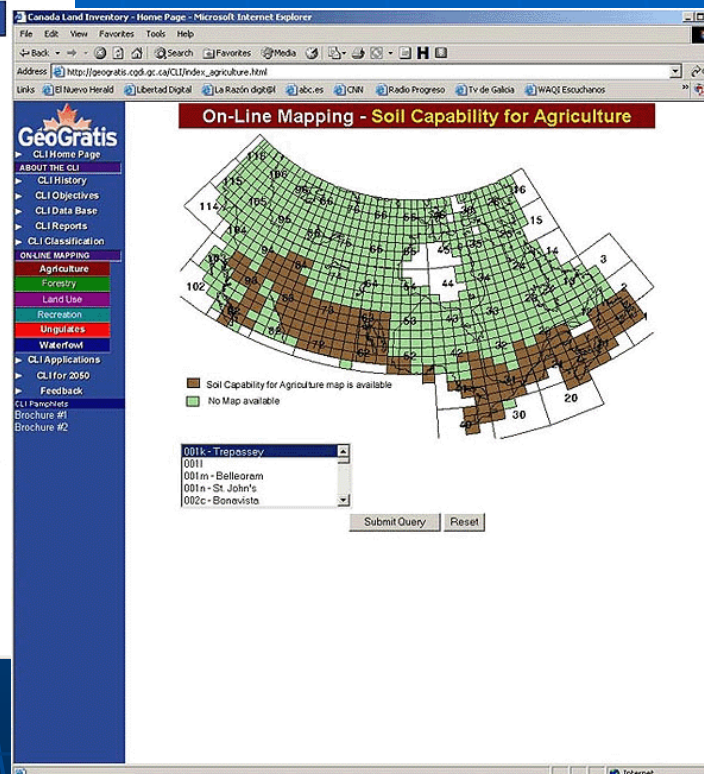
Many significant spin offs resulted from the Canada Land Inventory, including the first operational geographic information system (GIS) in the world, and ecological land classification and zoning.

The Government of Canada developed the Canada Land Inventory (CLI) under the auspices of the Department of Regional and Economic Expansion (1963-1971) and the Department of the Environment (renamed Environment Canada), (1971-1994). The program was officially discontinued in 1994. The process to transfer the data and intellectual property to the National Archives of Canada started in 1995. Since 1995 several Canadian federal departments have been instrumental in extracting the data from the old tapes to modern formats and media, including: National Archives of Canada, Agriculture and Agri-Food Canada, Statistics Canada, and Natural Resources Canada.

The current initiative by Natural Resources Canada has and continues to develop files in a variety of formats and projectors for free distribution on the public Internet site known as GeoGratis (<http://geoGratis.cgdi.gc.ca>) with the intellectual property held by the National Archives of Canada.

Updated 11 January 2000

Canada



GeoGratis
On-Line Mapping - Soil Capability for Agriculture

Soil Capability for Agriculture map is available
No Map available

001k - Trepassay
001l - Belleoram
001m - St. John's
002c - Benevista

Submit Query Reset

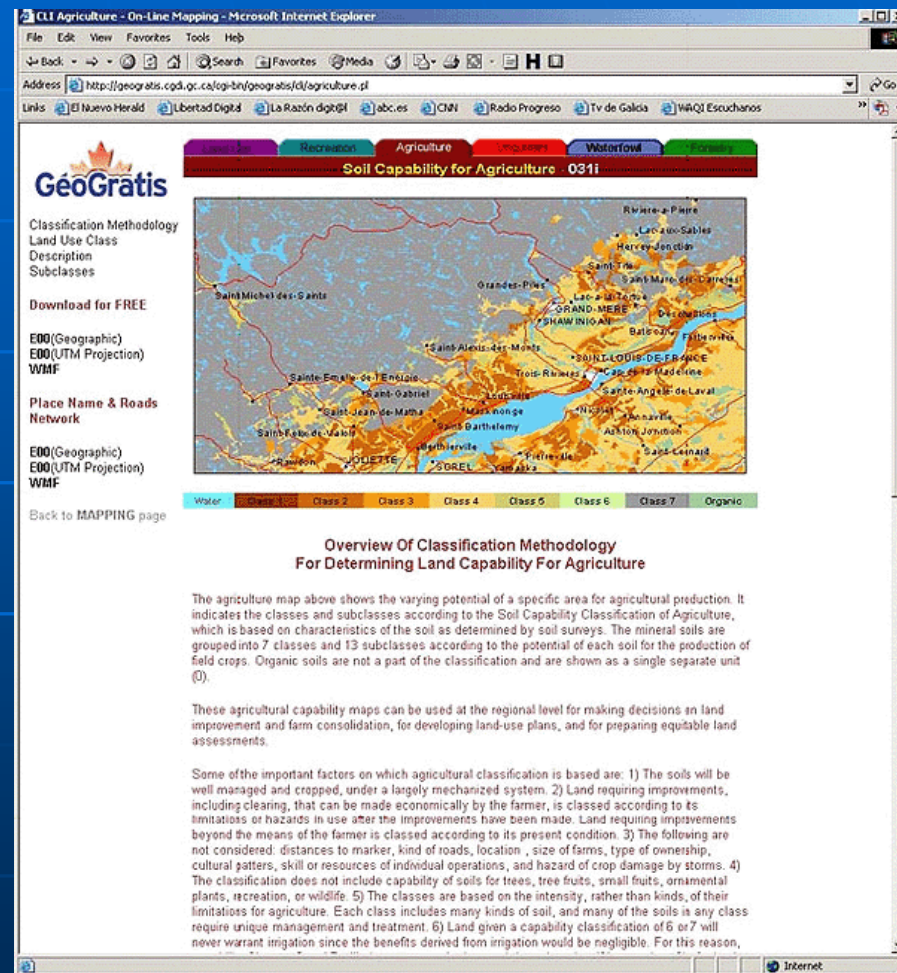
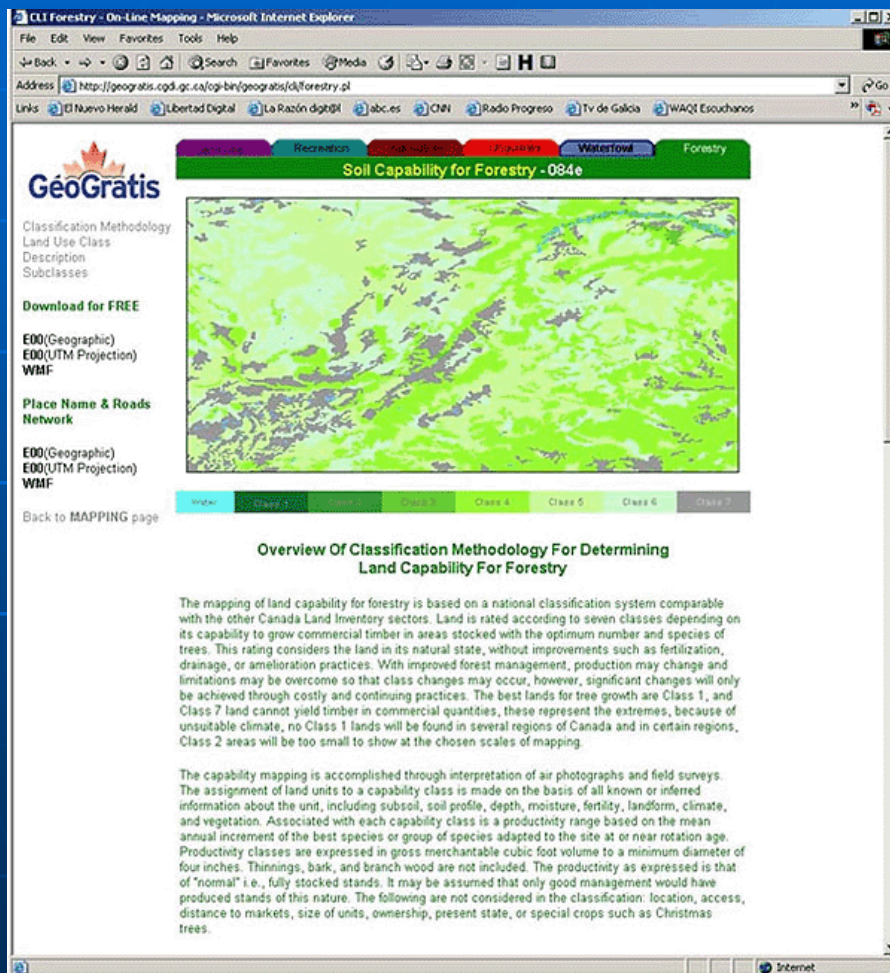


Canada Land Inventory

Roger Tomlinson

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

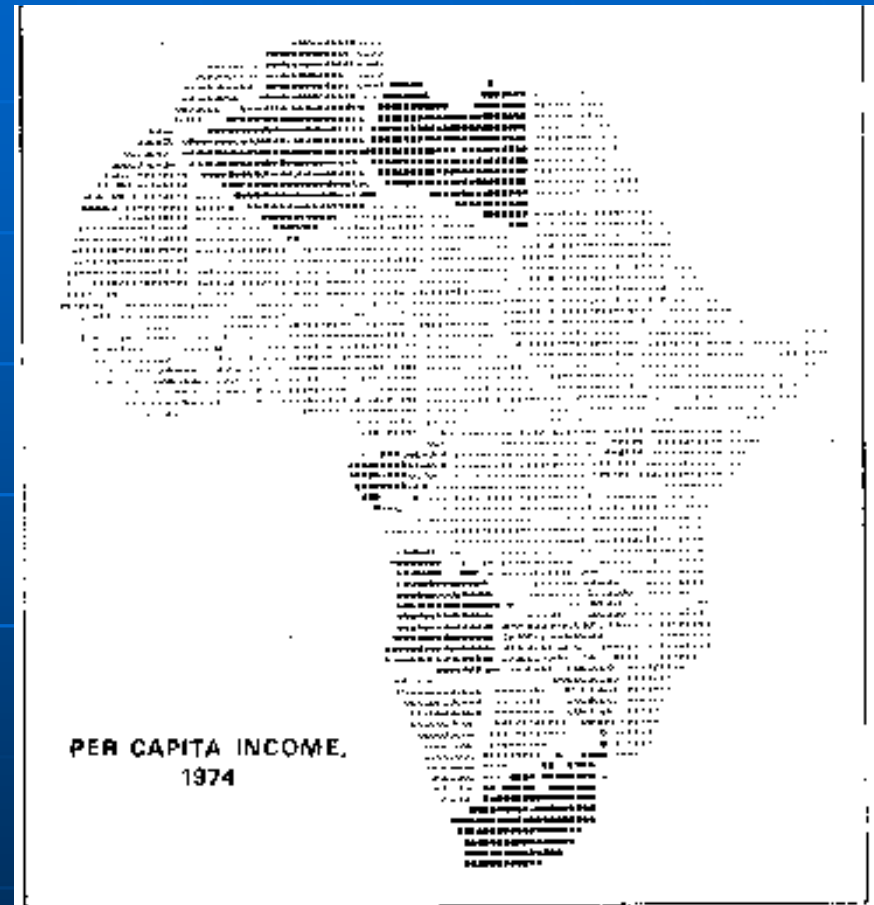
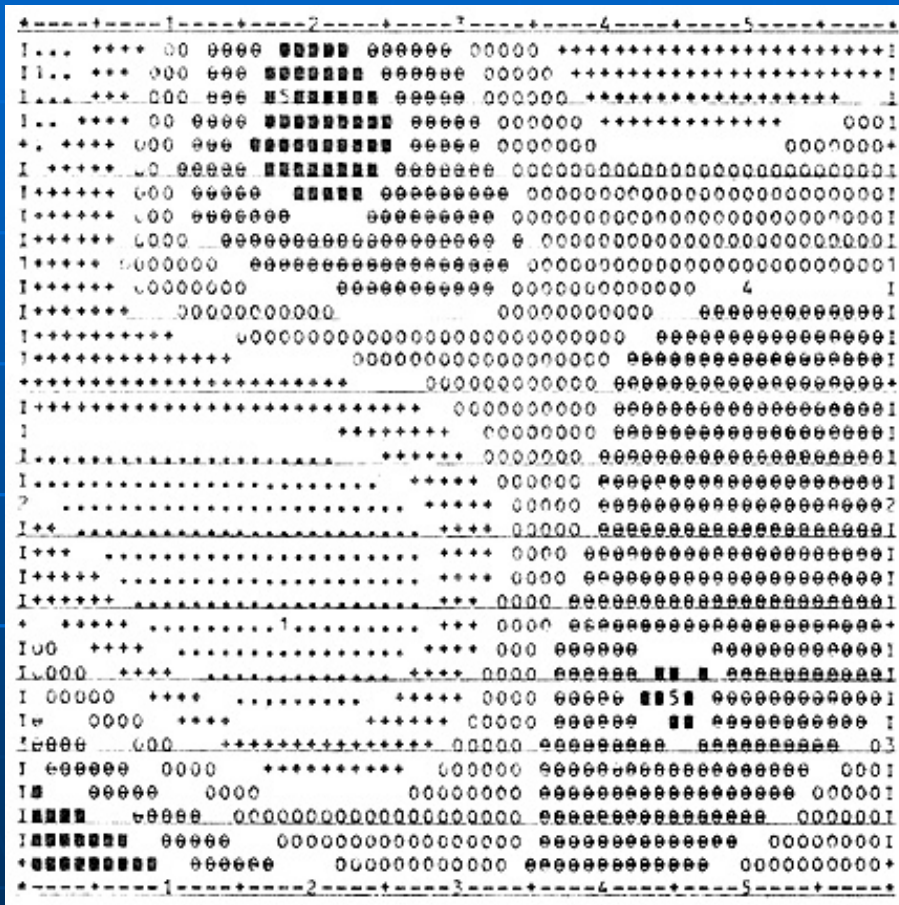
A partir de 1962-1964: SISTEMAS DE INFORMACIÓN GEOGRÁFICA (GIS,SIG)



Canada Land Inventory

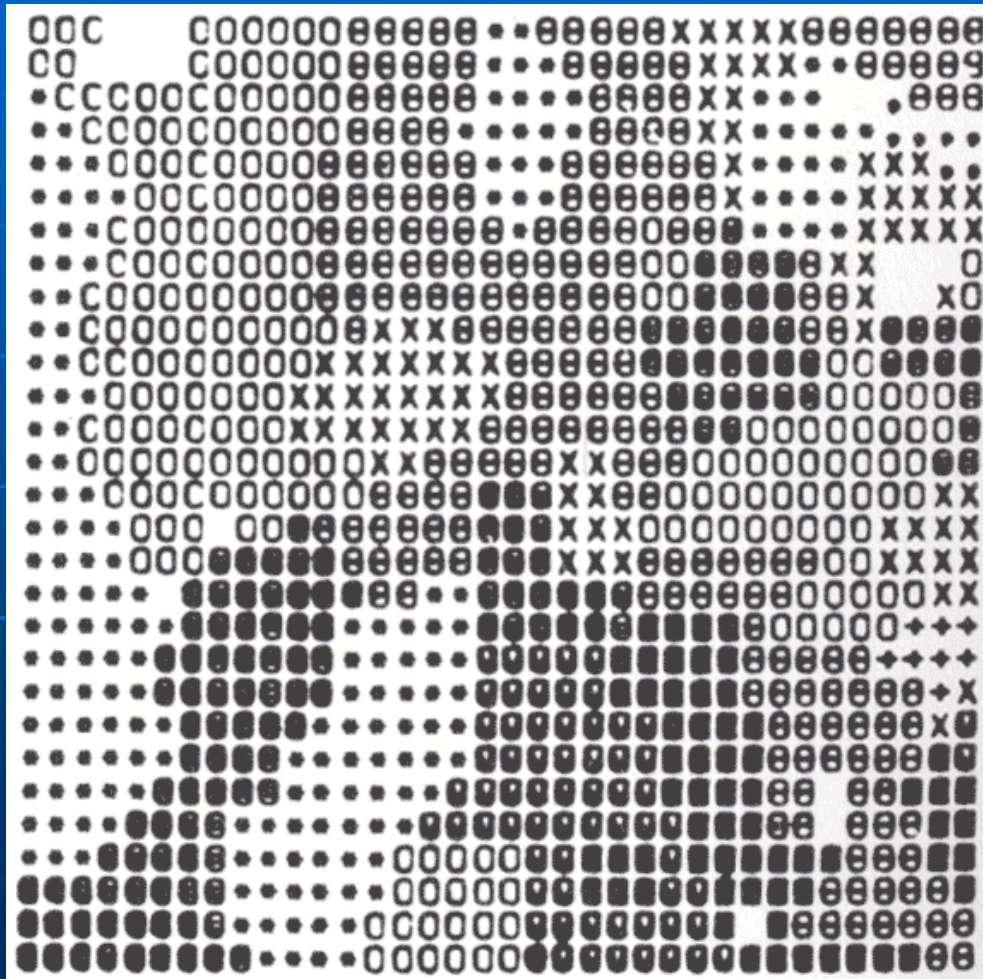
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

A partir de 1962-1964: SISTEMAS DE INFORMACIÓN GEOGRÁFICA (GIS, SIG)

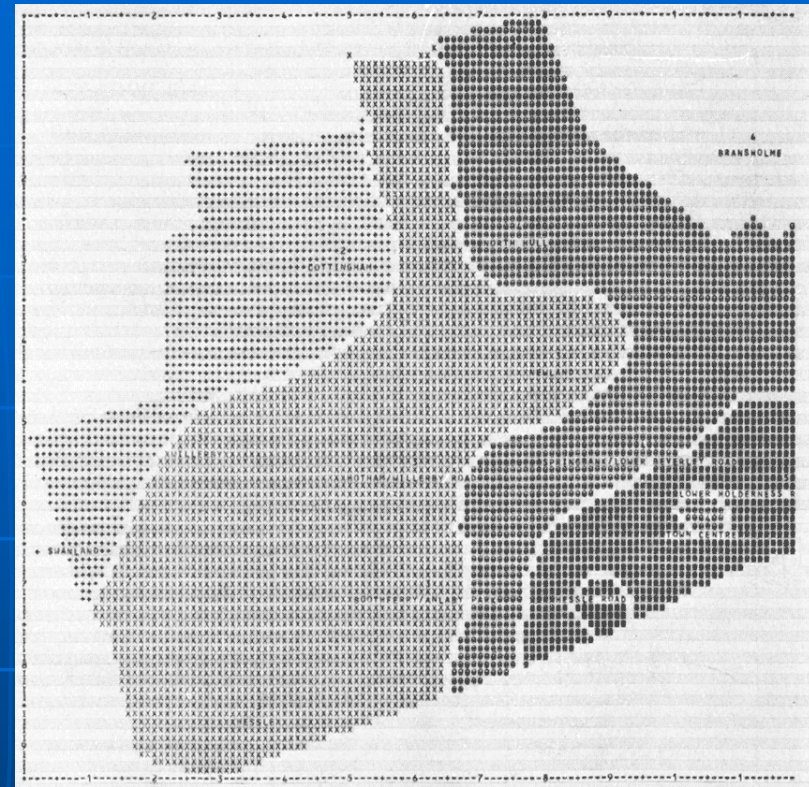


SYMAP (Harvard Laboratory)

1962-1964: Sistemas de Información Geográfica (GIS, SIG)



SYMAP (Harvard Laboratory)

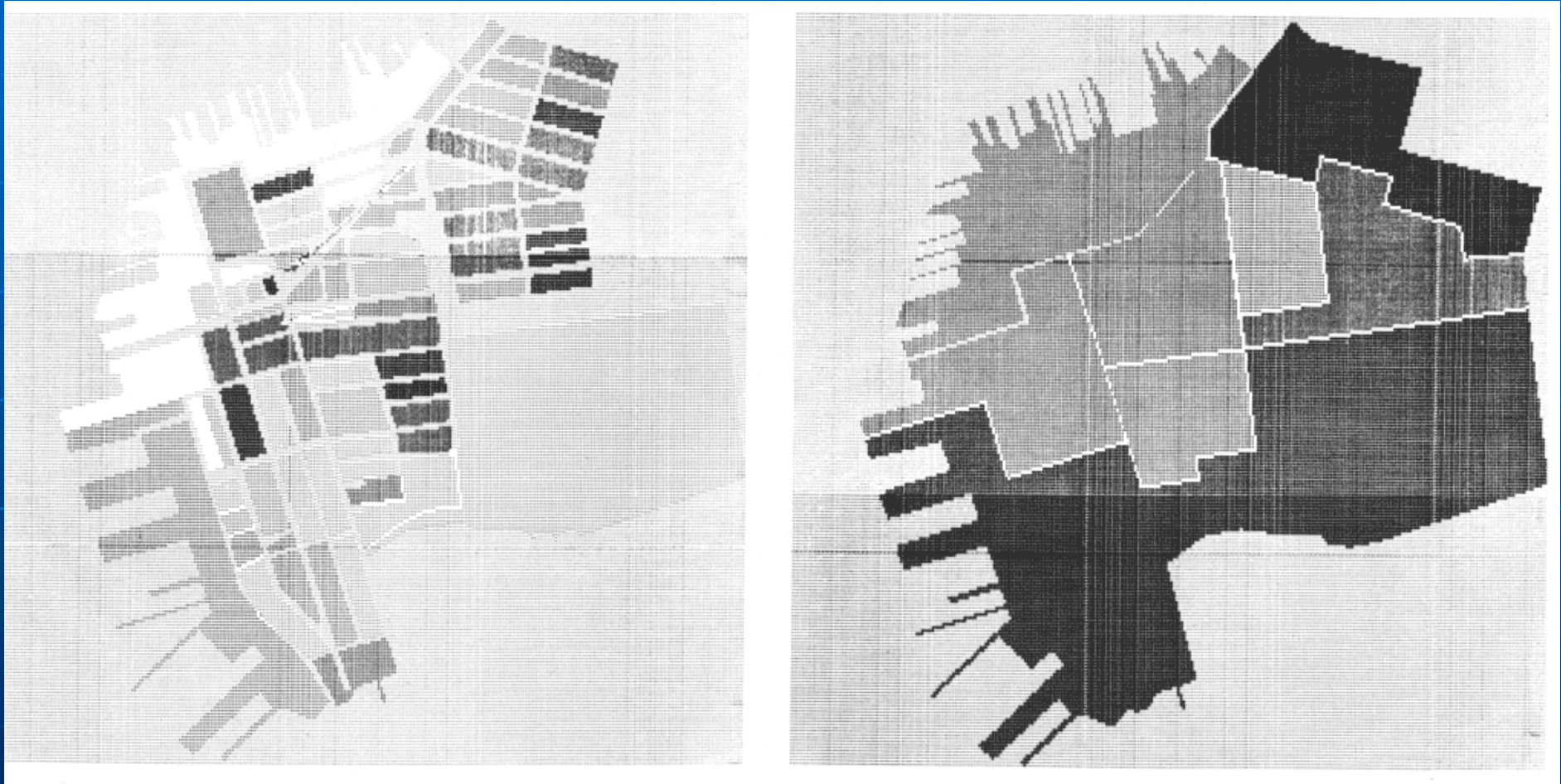


ABSOLUTE VALUE RANGE APPLYING TO EACH LEVEL (*MAXIMUM INCLUDED IN HIGHEST LEVEL ONLY)						
MINIMUM	0.00	10.00	30.00	50.00	70.00	90.00
MAXIMUM	10.00	30.00	50.00	70.00	90.00	100.00
PERCENTAGE OF TOTAL ABSOLUTE VALUE RANGE APPLYING TO EACH LEVEL						
	10.00	20.00	20.00	20.00	20.00	10.00
FREQUENCY DISTRIBUTION OF DATA POINT VALUES IN EACH LEVEL						
LEVEL	1	2	3	4	5	6
SYMBOLS	.....	.....	.....	.....	.....	.....
FREQ.	.....	.....	.....	.....	.....	.....

This map is based on SYMAP V as modified by P. Adman, Centre for Computer Studies, University of Hull. It shows residential preference of sixth-formers in Haltemprice and West Hull, drawn from a sample of 25 sixth-formers in each of 7 Hull schools. Each sixth-former was asked to rank each of 16 residential areas in order of residential desirability. The values represent the percentage of the total possible preferences (i.e. total possible = $25 \times 7 \times 16 = 2800$ and the summed preferences of each area are expressed as a percentage of this). The lower the percentage the higher the preference.

1962-1964:

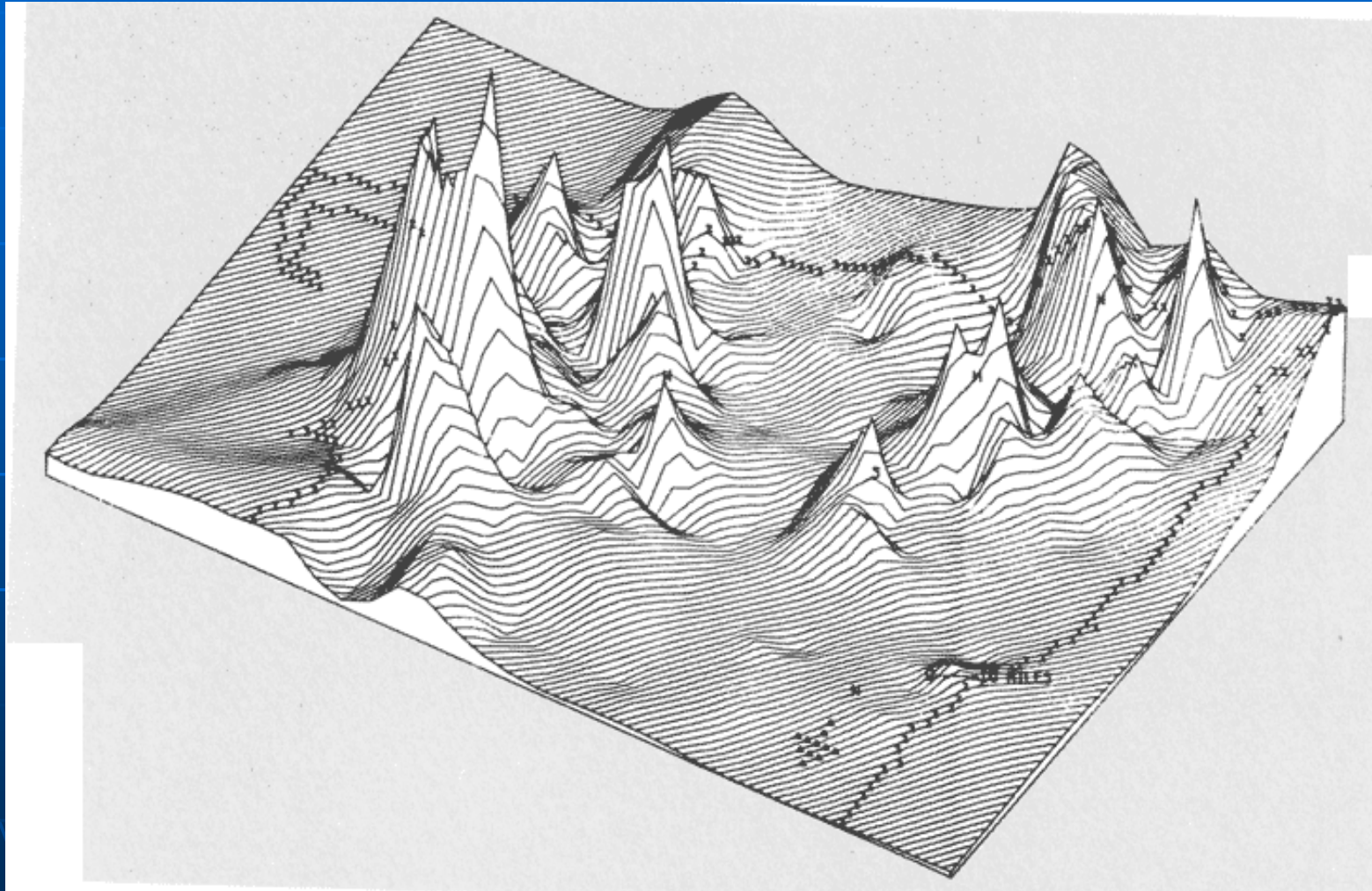
Sistemas de Información Geográfica (GIS, SIG)



SYMAP (Harvard Laboratory)

1962-1964:

Sistemas de Información Geográfica (GIS, SIG)



SYMAP (Harvard Laboratory)

VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1960-1980

Desarrollo paralelo en dos direcciones:



Avances en la cartografía tradicional



Aún no estaban dadas las condiciones mínimas para hacer mapas digitales con la calidad gráfica exigida por la cartografía



Computadoras personales



Desarrollo de SIG



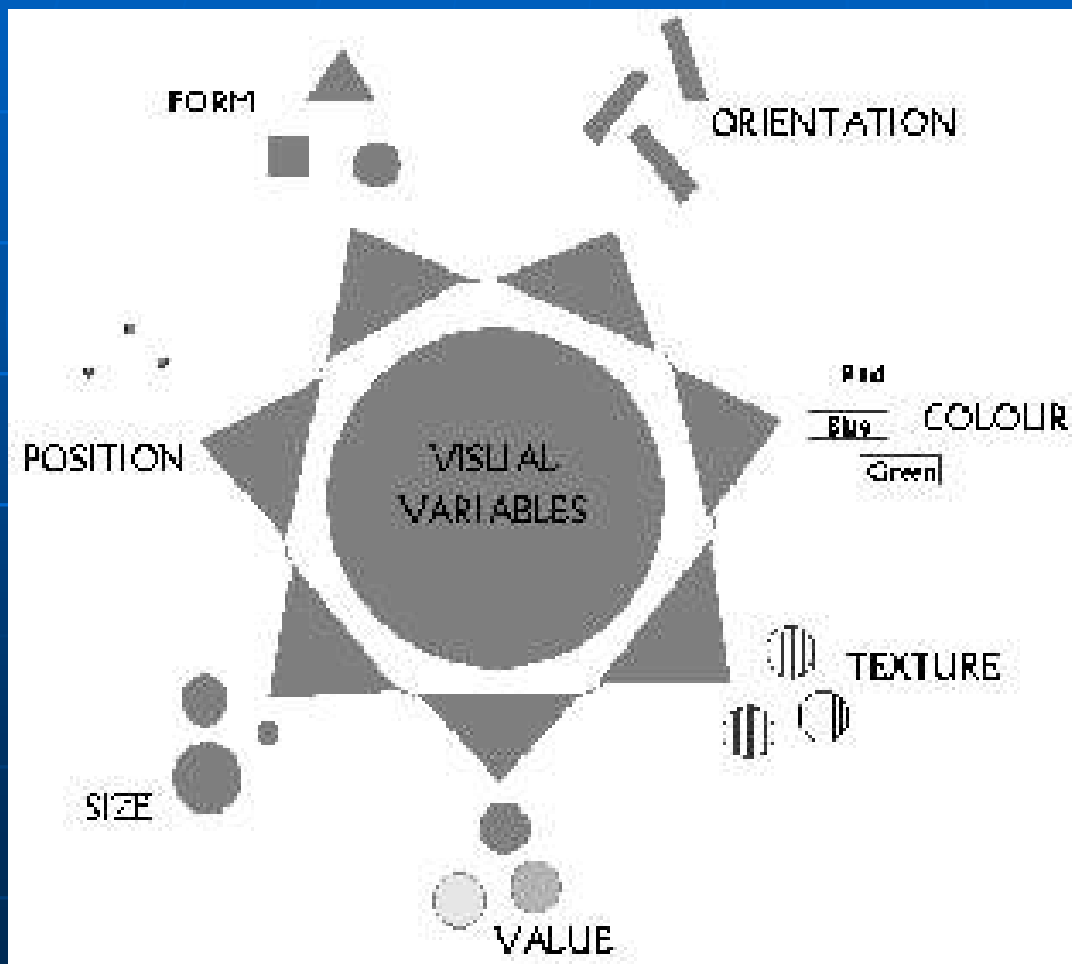
Se hizo hincapié en la posibilidad que estos sistemas dan para el rápido procesamiento de grandes bases de datos, sin la calidad gráfica de un mapa hecho por métodos tradicionales



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1967

Jacques Bertin (1915-2000), Francia:
Semiología gráfica



Las siete variables visuales
de Bertin

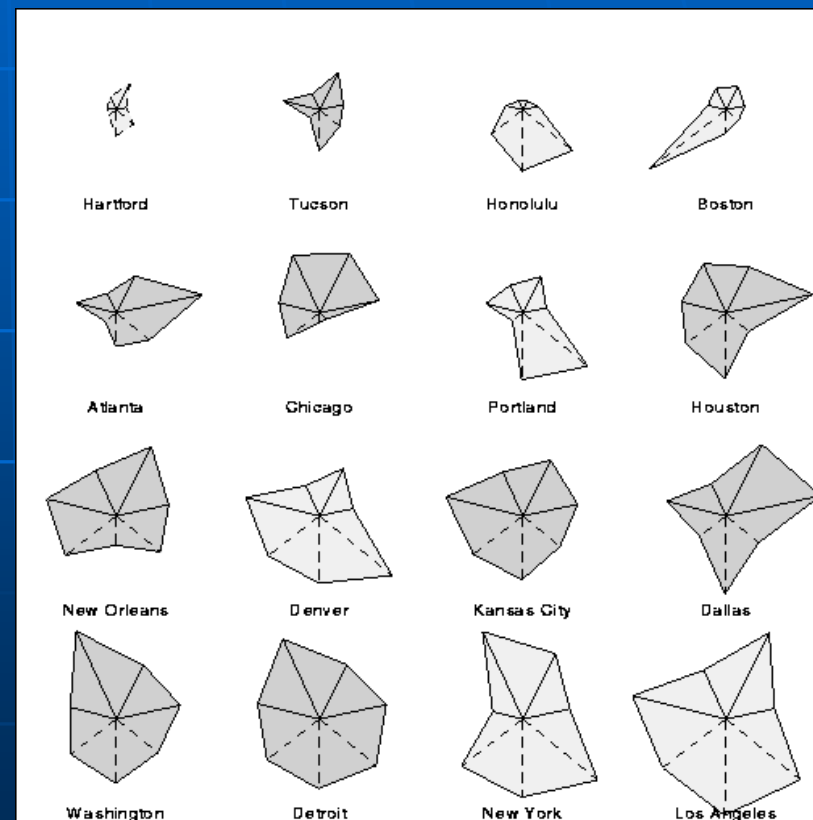
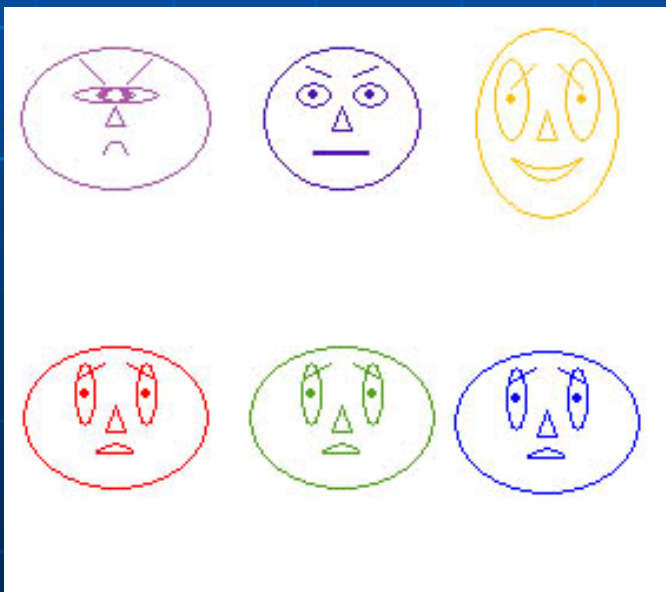
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1971

„Star plot” (diagramas de estrella): asesinatos en las ciudades norteamericanas (polígonos irregulares)

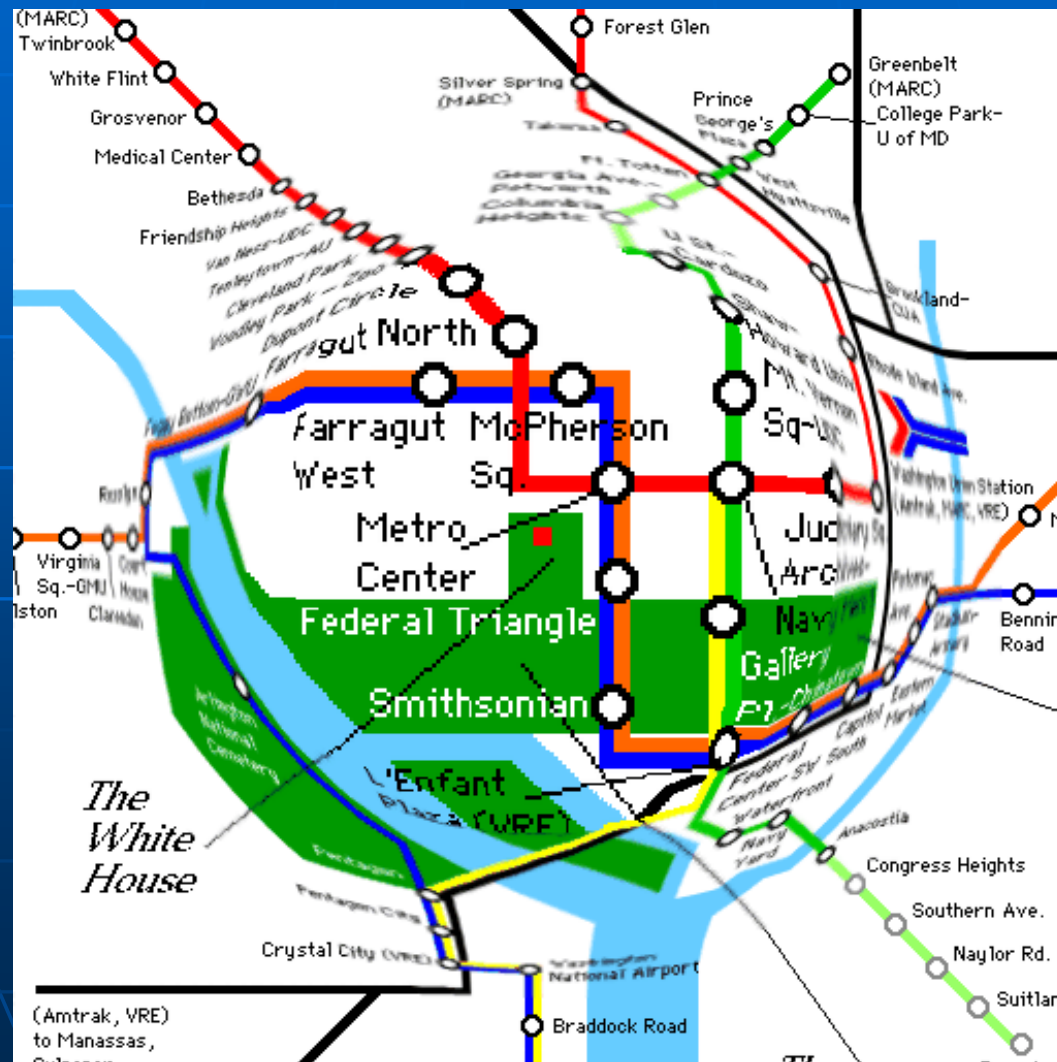
1973

Faces de Chernoff –
representación simultánea
de diferentes datos



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1981- Efecto „Fisheye” en gráfica por computadoras



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Desde 199...: SIG y Cartografía en la Web

www.esri.com

Netscape: ESRI - Home of The GIS People

Location: <http://www.esri.com>

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- ESRI Health GIS Conference**
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VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

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VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Geoclip(Francia): Atlas temático en la Web



- Features**
 - What is Géoclip? A smooth interface A wealth of information Multiple themes
- Services**
 - Our services Recent achievements On-going research Géoclip galleries
- Technical information**
 - From GIS to the Web Zooming, selecting... Database access Display modes Flash, SVG and so on
- Getting started**
 - Enter your data Build your Géoclip
- Resources**
 - Sites, forums and lists Referencing sites
- Who are we?**
 - Our team Other activities Partners and customers

Features > What is Géoclip?
Géoclip is an interactive cartography tool for the Internet

Do you handle data concerning a particular area?
 • e.g.: data sorted by American state, by European country, by city in Derbyshire, and so on.

Do you publish information relating to this area on your website?
 • e.g.: progress reports, summary statistics tables, various lists and results, and so on.

Do you want to improve the way you display this information, in order to make it attractive for people visiting your site? Have you considered using maps, but felt information systems to be too complicated and expensive?

Géoclip is THE solution you need: a simple, affordable, and efficient solution

Main advantages	
Smooth and highly interactive	Géoclip is based on Flash, a powerful format that easily connects to databases and provides extra-compact, easy view files.
Content-rich	Géoclip has a highly flexible interface, allowing a large amount of important information to be displayed.
Information that speaks for itself	Géoclip can create cartographic images from all types of data, using appropriate viewing modes.
High-quality graphics	Géoclip uses a vectorial format that ensures a perfect on-screen and printed appearance.
Adaptable	Géoclip is easy to use and can be supported by any environment.
User-friendly	Géoclip benefits from the extensive experience acquired by its developers in statistics and thematic geography.
Low-cost	Géoclip can be yours for free, thanks to the Géoclip bulk. Only custom implementations will be charged.



- Features**
 - What is Géoclip? A smooth interface A wealth of information Multiple themes
- Services**
 - Our services Recent achievements On-going research Géoclip galleries
- Technical information**
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 - Our team Other activities Partners and customers

Features > Multiple themes
To each data type its appropriate display mode

The various display modes offered by Géoclip are based on standard cartographic representation rules. Géoclip strives to create precise, clear, and attractive maps.

Géoclip creates thematic maps. To achieve this, it offers various display modes depending on which data are to be viewed. The three following "basic" modes are offered:

Proportional symbols	Graduated color	"Hedgehog" charts
displayed data type: absolute values • e.g.: population, number of facilities, and so on. the symbol used is a circle, the simplest and clearest geometric shape; the circle's area is proportional to the represented data.	displayed data type: relative values • e.g.: population density, evolution rate, and so on. these maps are called "choropleth" maps; variables need to be made "discrete," i.e. thresholds have to be determined to separate each bracket.	displayed data type: flow data • e.g.: major urban centres each geographic unit is connected by a line to another geographic unit (pole); the stronger the flows, the clearer the map, because fewer lines will cross each other.

Combined representations
 Some of these display modes can be combined for two-level viewing: foreground and background, the bracket view is always in the background. A special combination can be made using brackets and proportional circles: the circles can be filled with colours corresponding to the various brackets (see Display modes).



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Geoclip(Francia): Atlas temático en la Web

Geoclip
The universal viewer for your locational data

- Features**
 - What is Géoclip?
 - A smooth interface
 - A wealth of information
 - Multiple themes
- Services**
 - Our services
 - Recent achievements
 - On-going research
 - Géoclip galleries
- Technical information**
 - From GIS to the Web
 - Zooming, selecting...
 - Database access
 - Display modes
 - Flash, SVG and so on
- Getting started**
 - Enter your data
 - Build your Géoclip
- Resources**
 - Sites, forums and lists
 - Referencing sites
- Who are we?**
 - Our team
 - Other activities
 - Partners and customers

Services > Géoclip galleries > Unlimited Géoclip!
Read native geodatabases directly with no server-side GIS software

Discover France
Travel across France and its 36,557 municipalities

Smooth navigation from small to large scale

A wide range of readily accessible public data

Click on the image to access a

New features:

- Zooming and moving:** Moving in all directions is easier and smoother. Map sections automatically adapt to the zoom level. Data is extracted at the geographic level that is adapted to the size of the map frame. But you can also **choose the basic geographic unit** ("mesh") at any scale between employment area, county or city, if it is compatible with the zoom level. New **hotkeys** make moving easier: the **four arrow keys** are used to move laterally, the **spacebar** is used to zoom in. When you reach the maximum zooming capacities of the active view, pressing it again automatically launches a new database query in order to create a new view.
- Thematic displays:** Making values discrete for a choropleth map is always adjustable "manually" and using the histogram of the statistical distribution. A new tool allows you to automatically set thresholds for **quantiles**.
- Information on the selection:** Clicking on a group of selected geographic units gives access to a table of indicators, which are automatically recalculated for the selected

www.geoclip.fr

Geoclip
The universal viewer for your locational data

Getting started > Build your Géoclip
Download the creation application from MapInfo or ArcGIS

- ArcGIS version:** Download [cgeoclip_ag05.zip](#) (version 0.55 dated 19/12/2002, 225kb)
See also the [history of changes and corrections](#)
- Mapinfo version:** Download [cgeoclip_mi05.zip](#) (version 0.60 dated 6/01/2003, 198kb)
See also the [history of changes and corrections](#)

The Géoclip builder for MapInfo (4.5 and later) or ArcGIS (8 and later) consists basically of a compiled mapbasic script (geoclip.mbx) or a dll (ArcGIS) and of a compiled Flash interface (geoclip.swf). The minimum entries required are a polygon-based base map with at least two fields – one for naming the geographic units, the other for describing each unit's population. It can handle up to 10 numeric variables and allows for 5 additional indicators defined as ratios. The builder then creates a fully independent geostatic application that can be placed on a website or copied to a CD-ROM. The MapInfo or ArcGIS application generates the html start-up page and groups the geographic and statistical data into one – or two – compressed swf file(s). A browser with the [Flash 6](#) player installed is all you need to view the map.

The builder writes coordinate vectors and statistical data directly in swf format – click [here](#) for swf specifications. It uses Jean-Loup Gally and Mark Adler's wonderful [zlib](#) compression library. The interface included in geoclip.swf has been specially optimised to allow the Flash player to handle sorting tasks, statistical calculations and complex drawings without the help of a server. The Géoclip builder can handle up to 3,000 geographic units, as demonstrated by some examples included in the [Géoclip gallery](#).

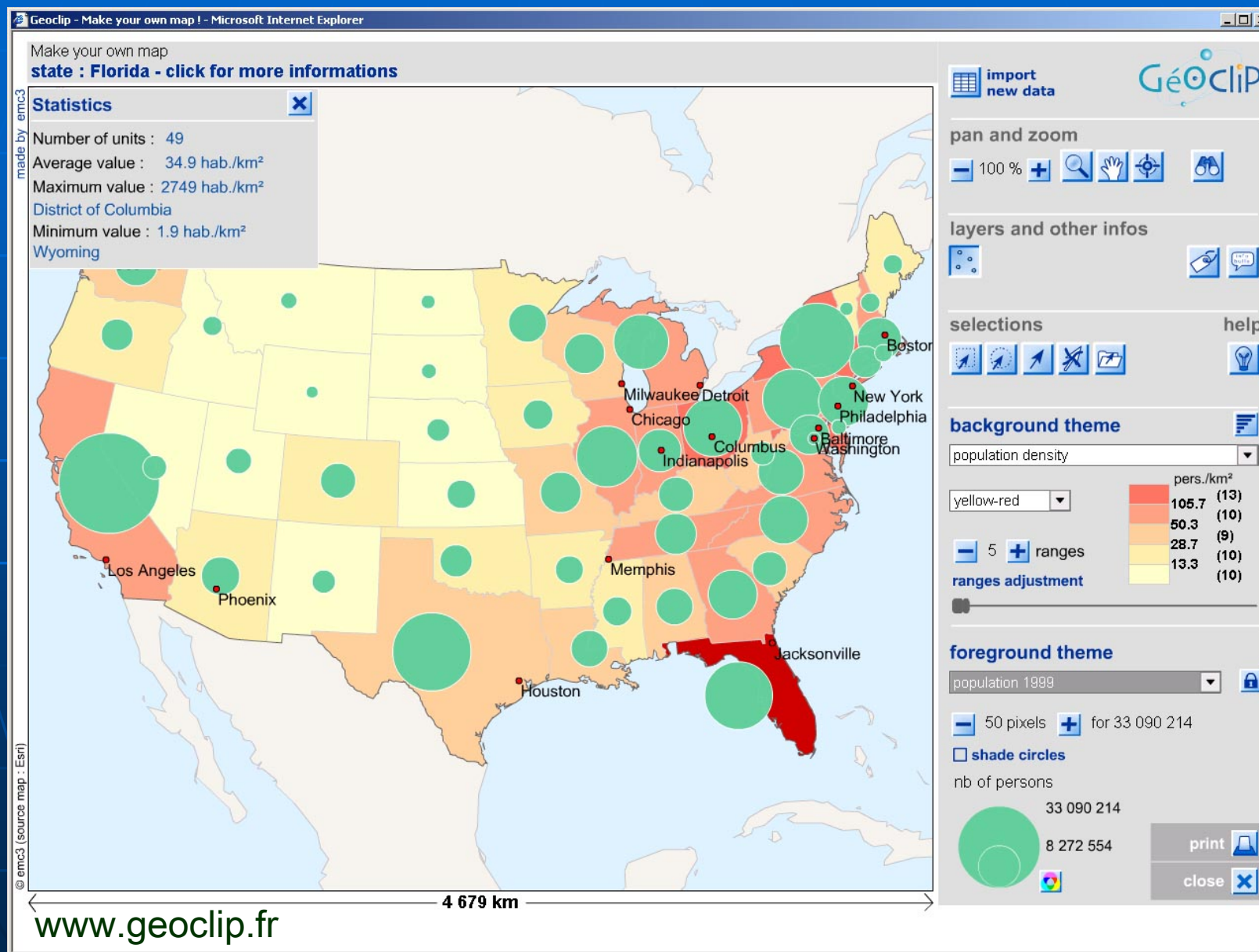
Instructions for use follow:

- Copy all the zipped files in the same directory.
- Open MapInfo and run the application geoclip.mbx. An additional "Géoclip" item is displayed in the menu bar.
- Open ArcMap, Tools/Customise menu, Commands tab. Click the "Add from file" button and search for a_geoclip.dll. A "Géoclip" item is displayed in the "Command" zone. Drag it to any ArcMap toolbar.
- Open the files needed to build your Géoclip:
 - a file of the area you want to explore; it is of course compulsory and must contain – in addition to the geographic objects – at least one character variable containing the name of the geographic units, and one numeric variable indicating their population;
 - one or two complementary file(s) – major cities, surrounding contours; these are optional (see [below](#)).

Start the builder from the Géoclip / Internet builder menu. The following dialog box appears:

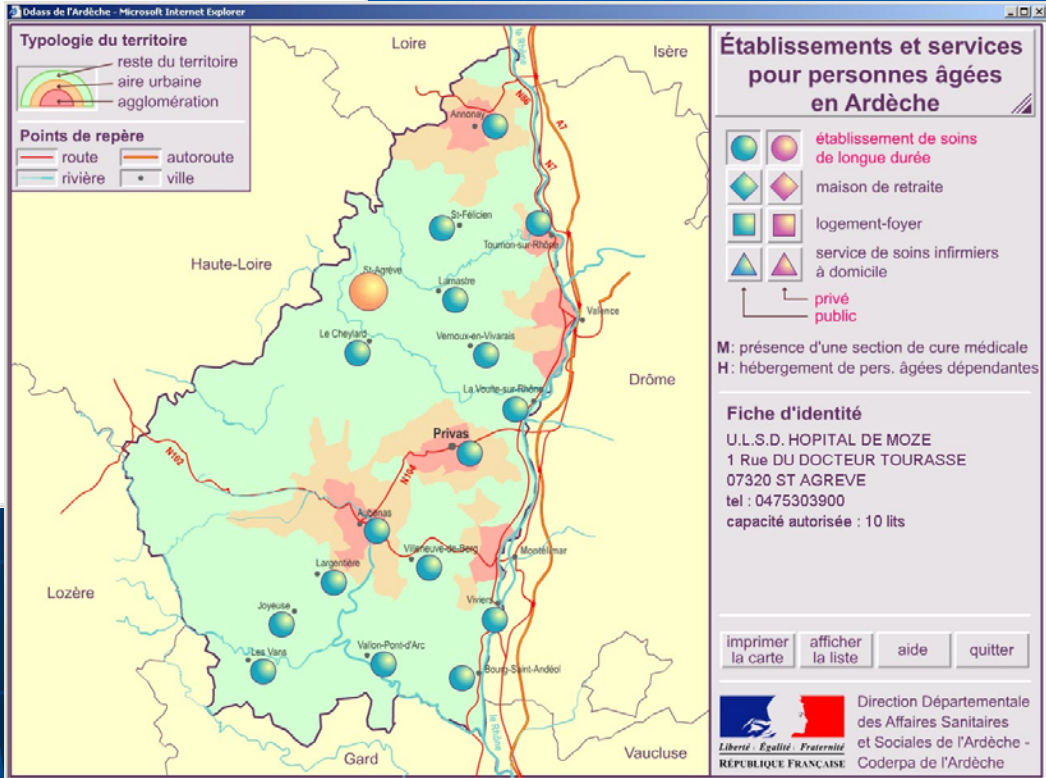
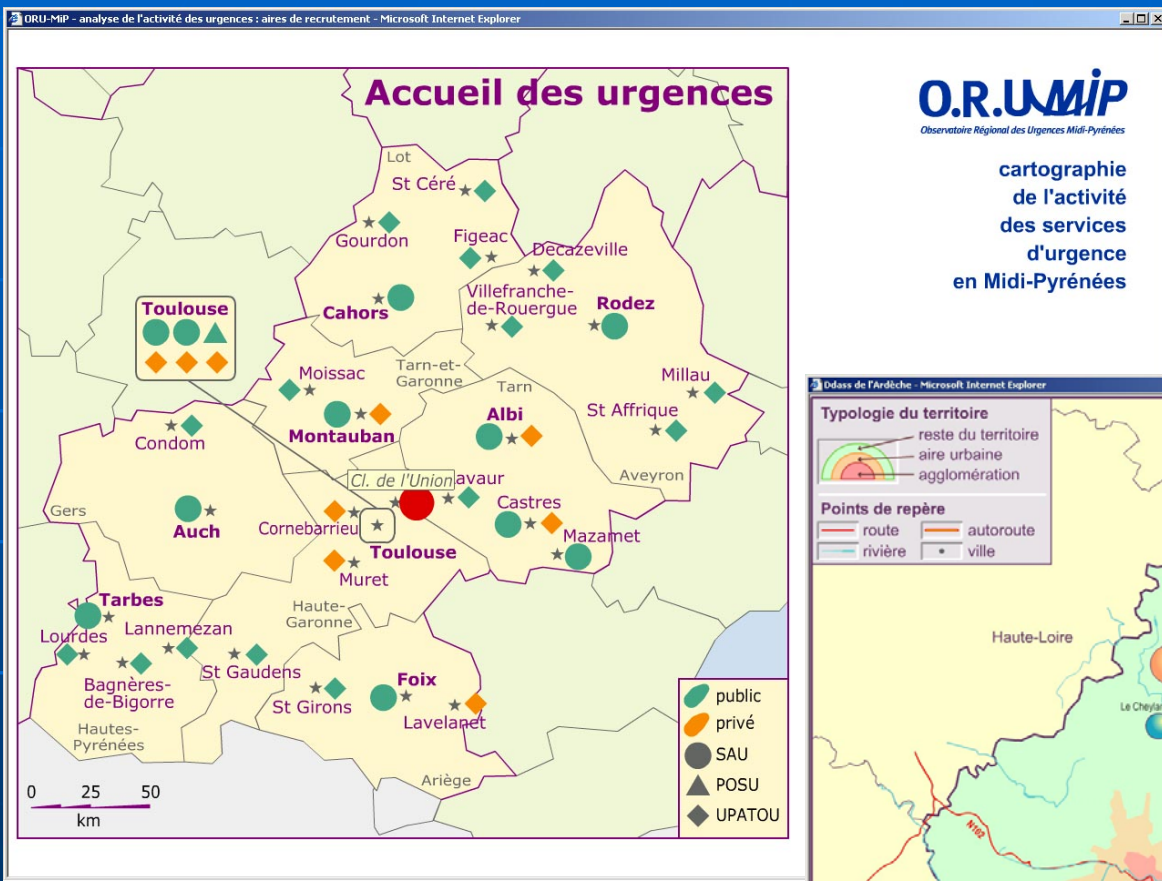
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Geoclip(Francia): Atlas temático en la Web



VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

Geoclip(Francia): Atlas temático en la Web



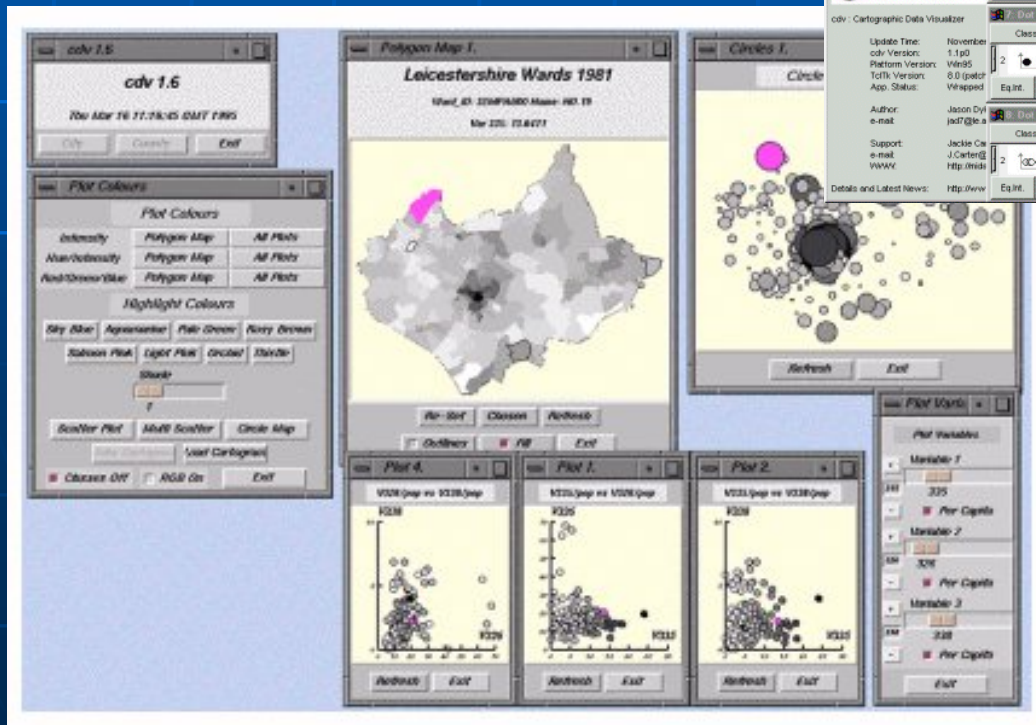
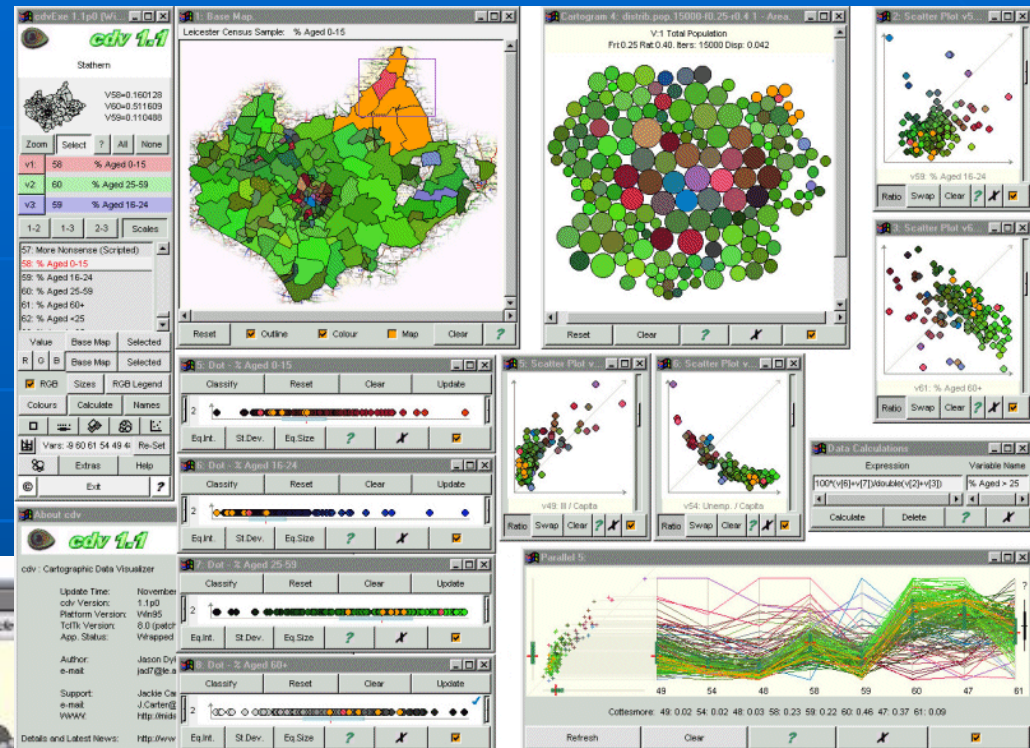
VISUALIZACIÓN DE DATOS Y CARTOGRAFÍA TEMÁTICA

1996

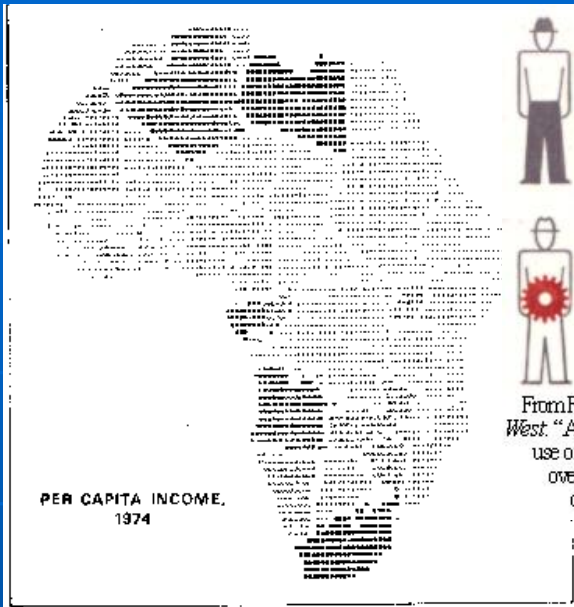
Jason Dykes, Gran Bretaña:

Programa „Cartographic Data Visualizer” (CDV)

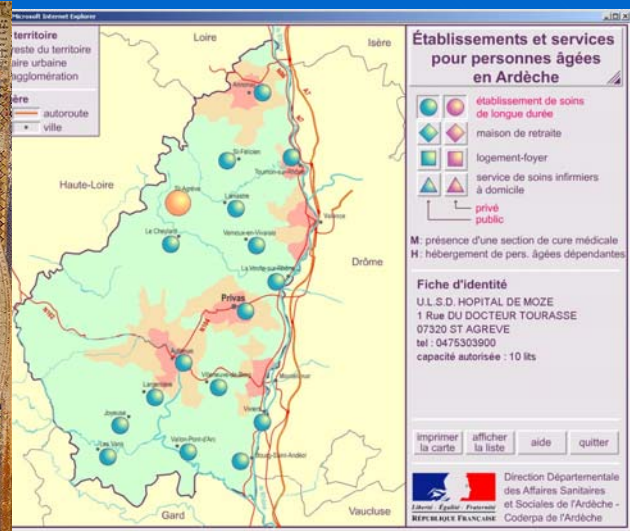
GRATIS!!!



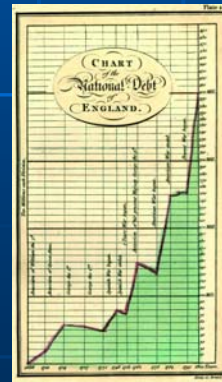
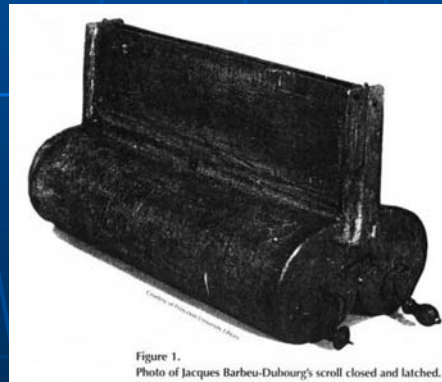
<http://www.soi.city.ac.uk/~jad7/>



From Russell, *Wisdom of the West*. "A sample of O. Neurath's use of pictorial symbols to overcome problems of communication"



MUCHAS GRACIAS



Breve historia de la visualización de datos y los mapas temáticos