

Questions?

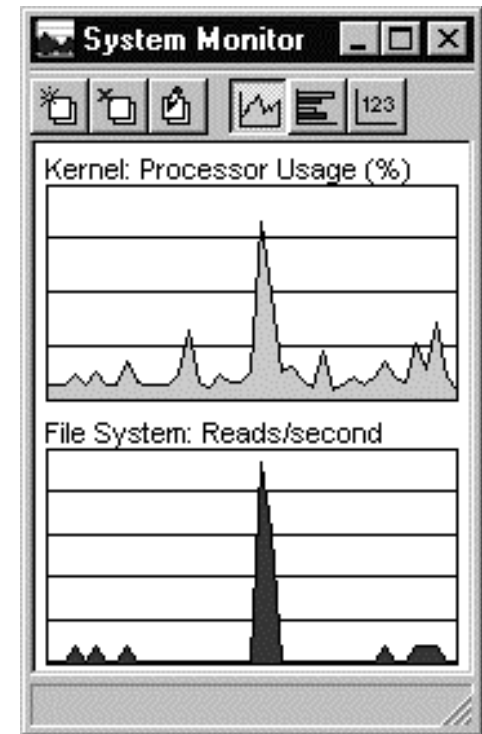
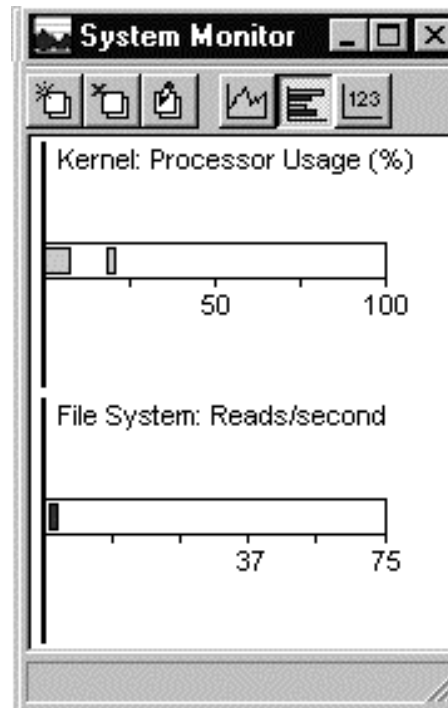
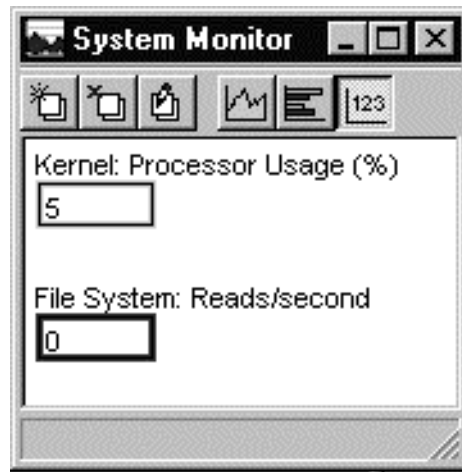
- Project #1
 - this Thursday
- Project #2
 - Focus on the interface
 - It has to work!

Information visualization

- Data presentation
 - Emphasis the important aspects
 - Tone down irreverent aspects
 - Avoid distortions
- Discovery
 - Understand trends
 - Figure out underlying principles
 - Avoid distortions
 - Iterative process

Goal directed

- The best visualization depend on the task
 - System performance meter

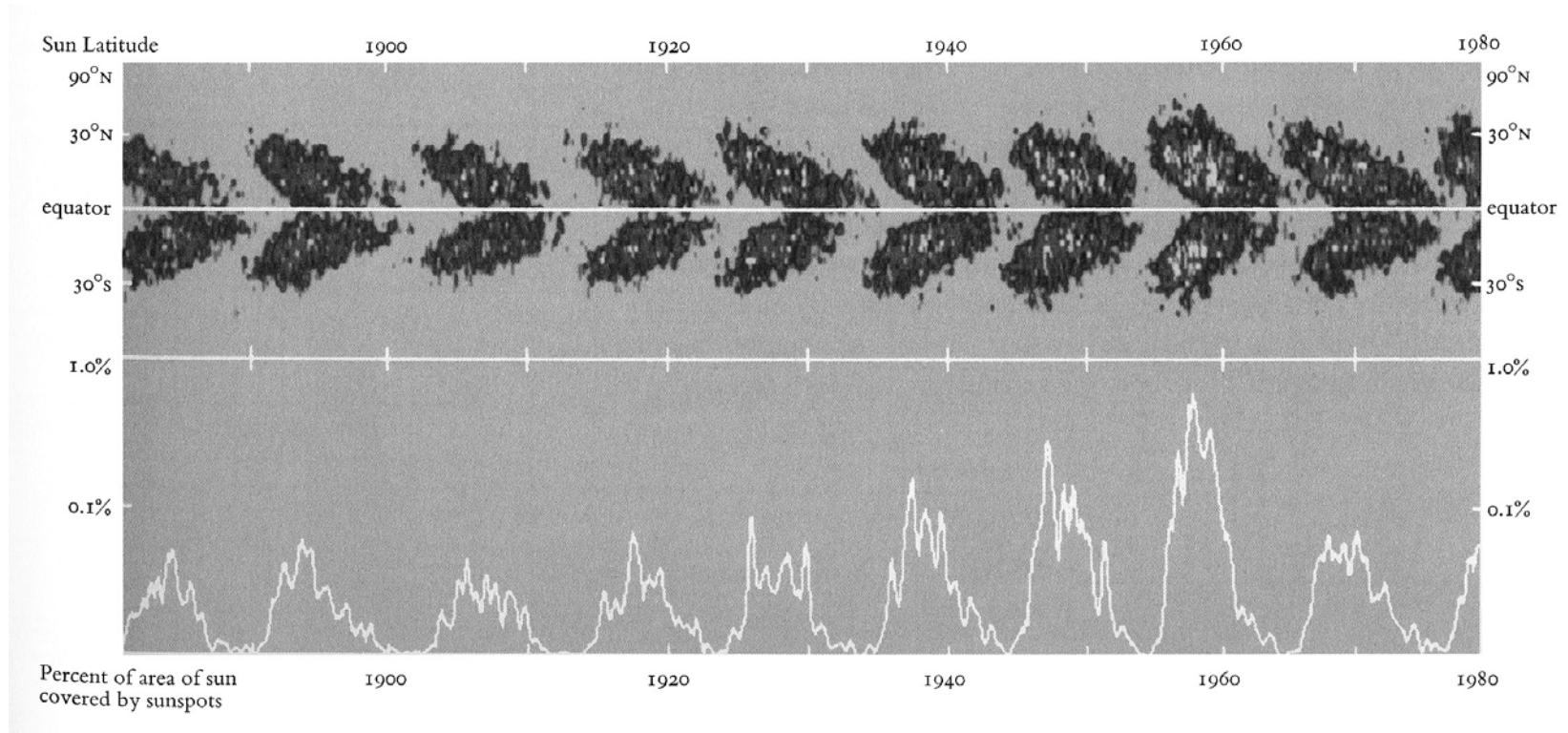


Tufte's classification

- “Envisioning Information” book
 - Micro/Macro reading
 - *Showing individual data points and identifying patterns*
 - Layering and separation
 - *Relating information structure*
 - Small multiple
 - *Comparing several alternatives*
 - Color
 - *Using color to identify sub-structures*
 - Narration of space and time
 - *Telling a story*

Micro-Macro reading

- Sunspots



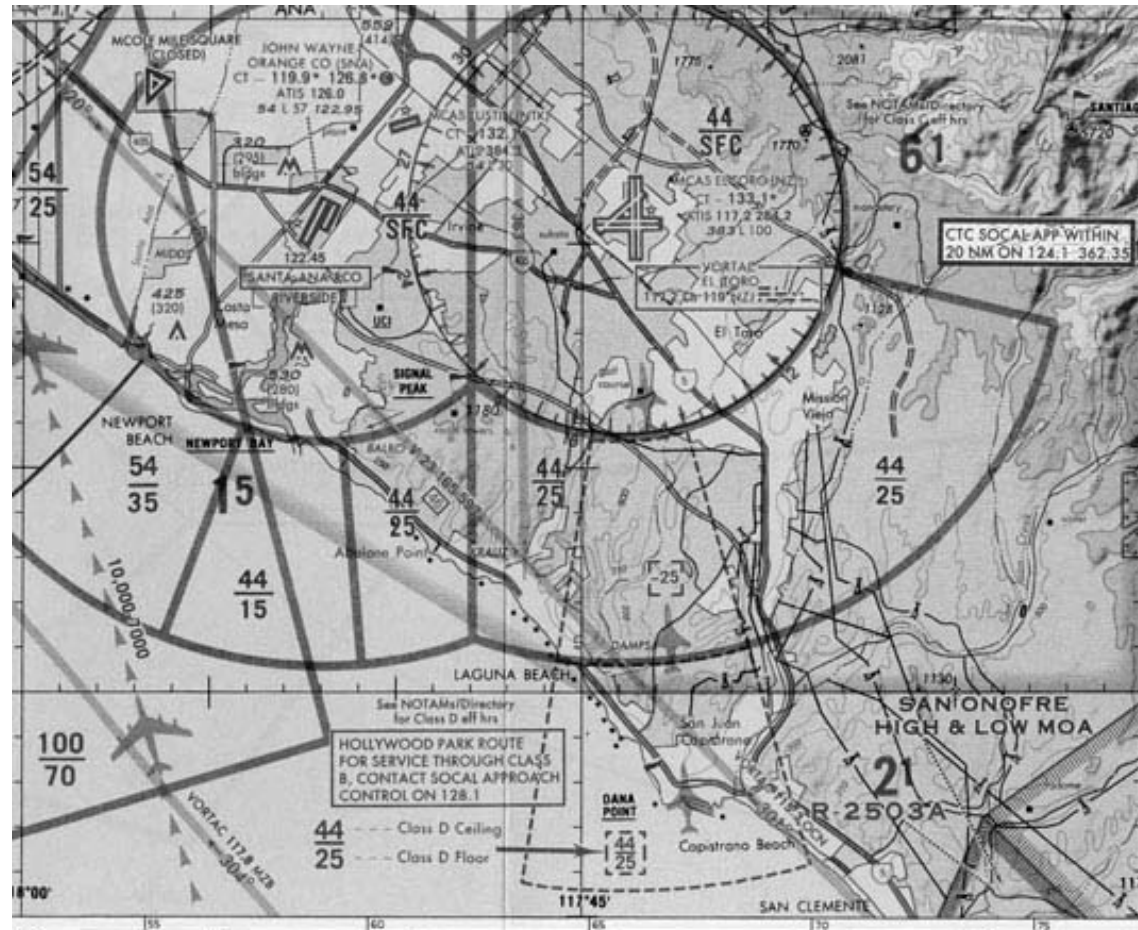
- Train schedule
 - Setting the emphasis on the data not the table

Train No.	3701	XM 3301	3801	A 67	3 3803	3 3201	A3 51	3 3703	3 3807	3 3203	A3 61	3 3809	A3 47	3 3901	3 3811	3 3903	3 3813	3205	3815	3817	3819	3207	3821	3823	3825	3209	3827	3829	3831
New York, N.Y.	A.M. 12.10	A.M. 12.40	A.M. 1.30	A.M. 3.52	A.M. 4.50	A.M. 6.10	A.M. 6.25	A.M. 6.35	A.M. 6.50	A.M. 7.10	A.M. 7.30	A.M. 7.33	A.M. 7.45	A.M. 7.50	A.M. 8.05	A.M. 8.25	A.M. 8.40	A.M. 8.50	A.M. 9.10	A.M. 9.40	A.M. 10.10	A.M. 10.25	A.M. 10.40	A.M. 11.10	A.M. 11.40	A.M. 11.50	P.M. 12.10	P.M. 12.40	P.M. 1.10
Newark, N.J. P North Elizabeth Elizabeth	12.24 12.31	12.55 1.03	1.44 1.51	4.07 5.11	5.04 6.31	6.24 6.31	6.38 6.56	6.49 7.11	7.04 7.32	7.20 7.42	7.45 7.54	7.47 7.54	7.59 8.13	8.04 8.18	8.19 8.31	8.39 8.51	8.54 9.06	9.04 9.11	9.24 9.31	9.54 10.01	10.24 10.31	10.39 10.46	10.54 11.01	11.24 11.31	11.54 12.01	12.04 12.11	12.24 12.31	12.54 1.01	1.24 1.31
Linden North Northway Rayway	12.36 12.40	 1.11	1.56 2.00	 2.00	5.16 5.20	6.36 6.40		7.01 7.03	7.15 7.17	7.32 7.39	 7.42	7.59 8.03	 8.18	8.13 8.24	8.31 8.33	8.51 8.54	9.06 9.10	9.11 9.18	9.36 9.40	10.06 10.10	10.36 10.40	 10.53	11.06 11.10	11.36 11.40	12.01 12.10	12.11 12.18	12.36 12.40	1.06 1.10	1.36 1.40
Metro Park (Iselin) Metuchen	12.44 12.48	 2.04	2.04 2.08	4.26 5.28	5.24 5.28		6.56 7.14	7.10 7.25	7.25 7.29	 8.04	8.07 8.11	8.15 8.11		8.40 8.44	 9.14	 9.18	9.14 9.18	9.44 9.48	10.14 10.18	10.44 10.48		11.14 11.18	11.44 11.48	12.14 12.18	 12.18	12.44 12.48	1.14 1.18	1.44 1.48	
Edison New Brunswick Jersey Avenue	12.51 12.55 1.02	 2.15 2.18	2.11 2.15 2.18	 5.35	 7.05	 7.21 7.28	 7.17 7.28	7.32 7.35	 8.14 8.21	 8.18 8.21	 8.25	 8.50	8.47 8.50	 9.25 9.28	8.47 9.25 9.28	 9.21 9.28	9.21 9.25 9.28	 9.54	10.21 10.25 10.28	10.54 10.58		 11.25 11.28	11.21 11.54 12.25	 12.25 12.28	12.21 12.54	 1.25 1.28	1.21 1.54		
Princeton Jct. S Trenton, N.J.	 2.31 2.42	 4.58 6.03	 5.50 6.03	 7.19 7.28	 7.50 8.01	 8.31 8.44	 8.34 8.41	 8.48 8.52	 9.05 9.16	 9.41 9.52	 10.09 10.15	 10.41 10.52	 11.09 11.19	 11.41 11.52	 12.09 12.19	 12.41 12.52	 1.09 1.22	 1.41 1.51	 2.05 2.08										

[illegible]

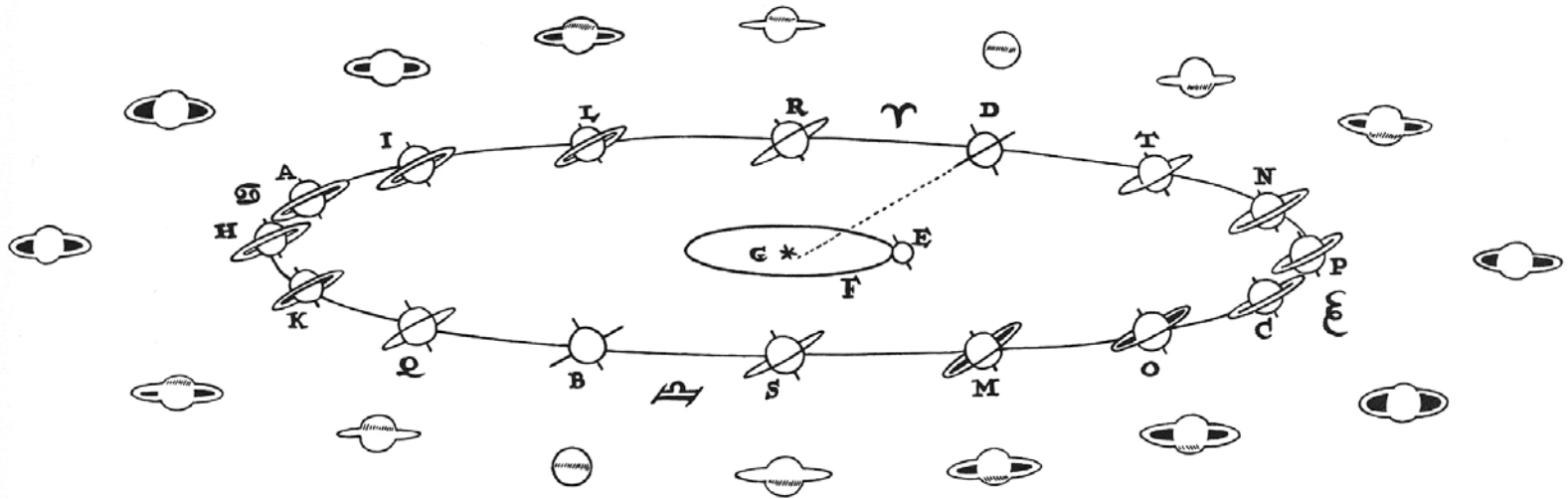
Layering and separation: map

- VFR chart
 - Layering by type of use



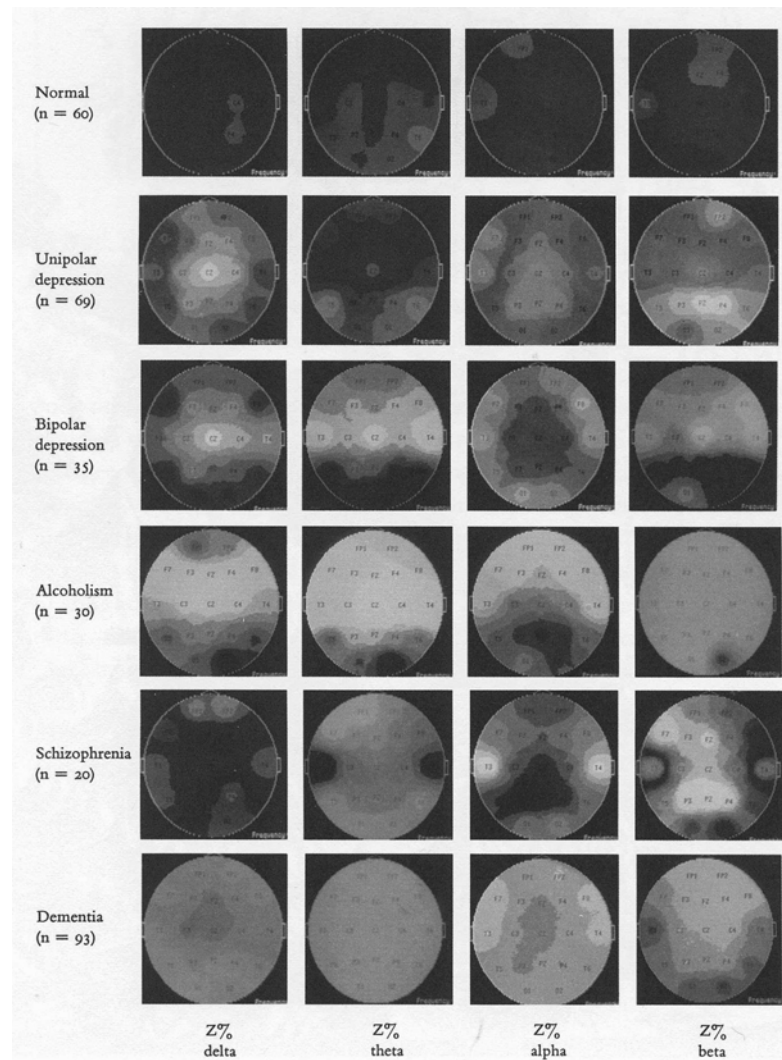
Small multiples

- Saturn and its satellites



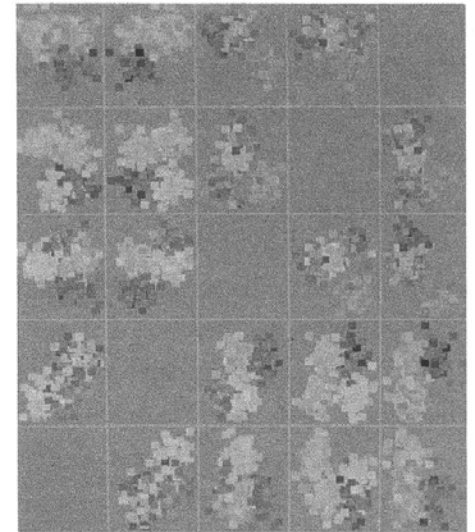
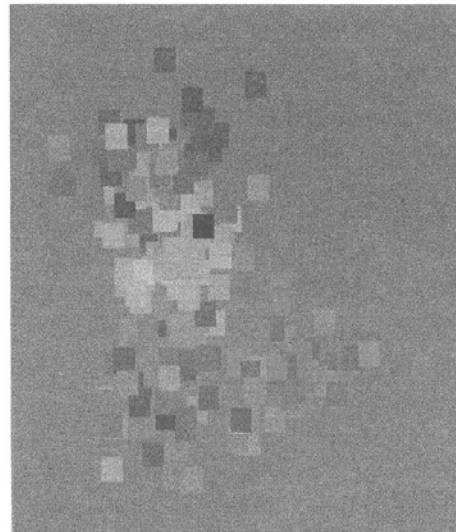
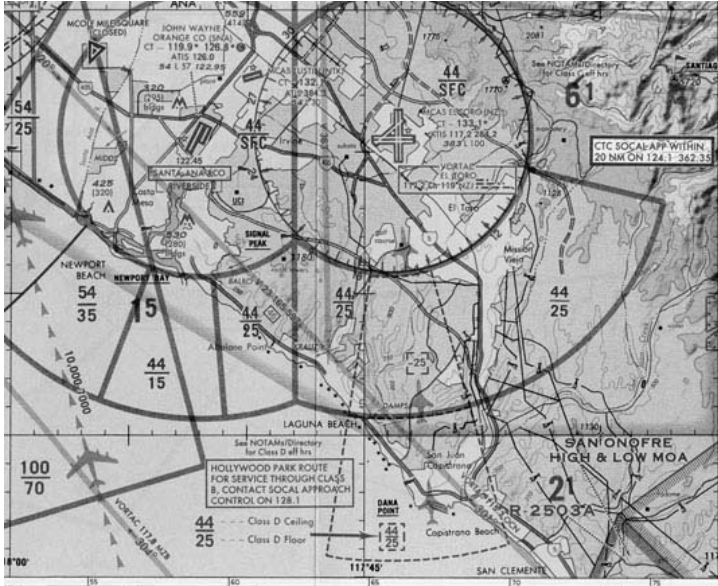
Small multiples

- Brain electrical activity



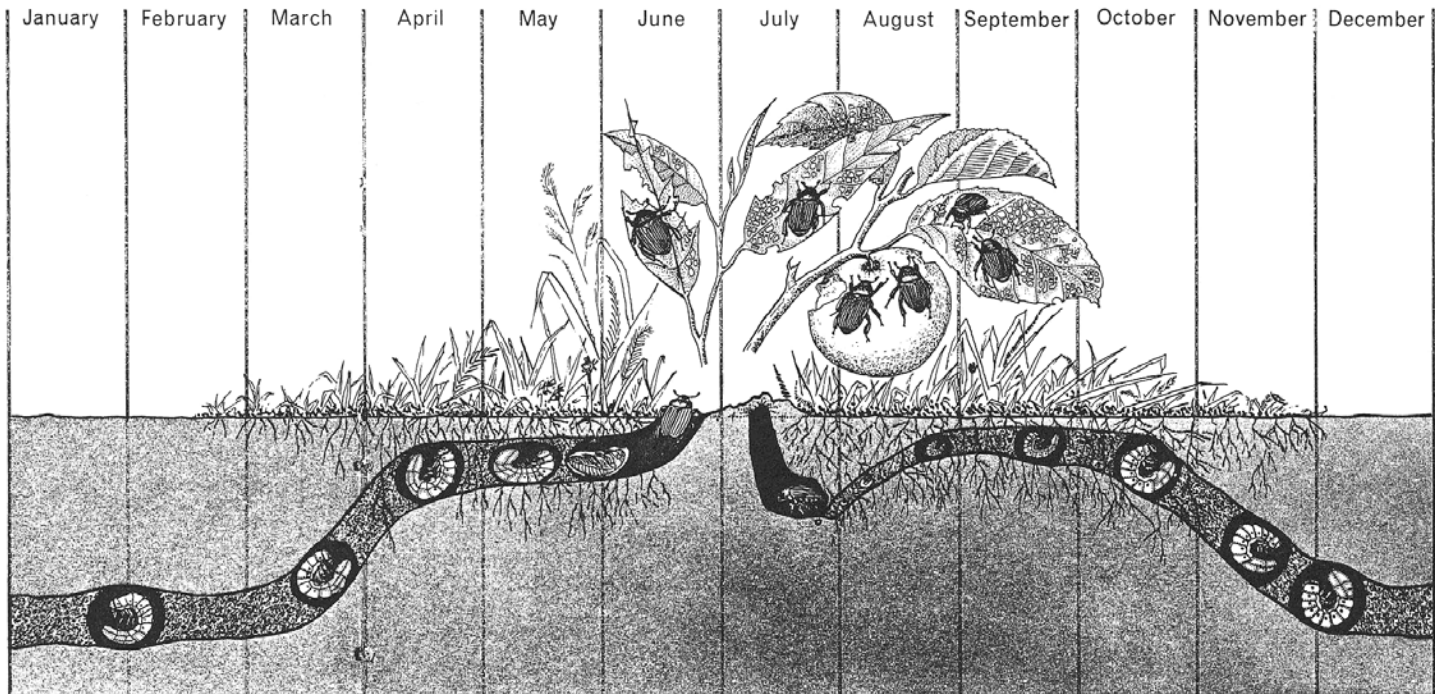
Color

- Used to identify and/or distinguish sub-group



Narrative of space and time

- Japanese beetle life cycle



Narrative of space and time

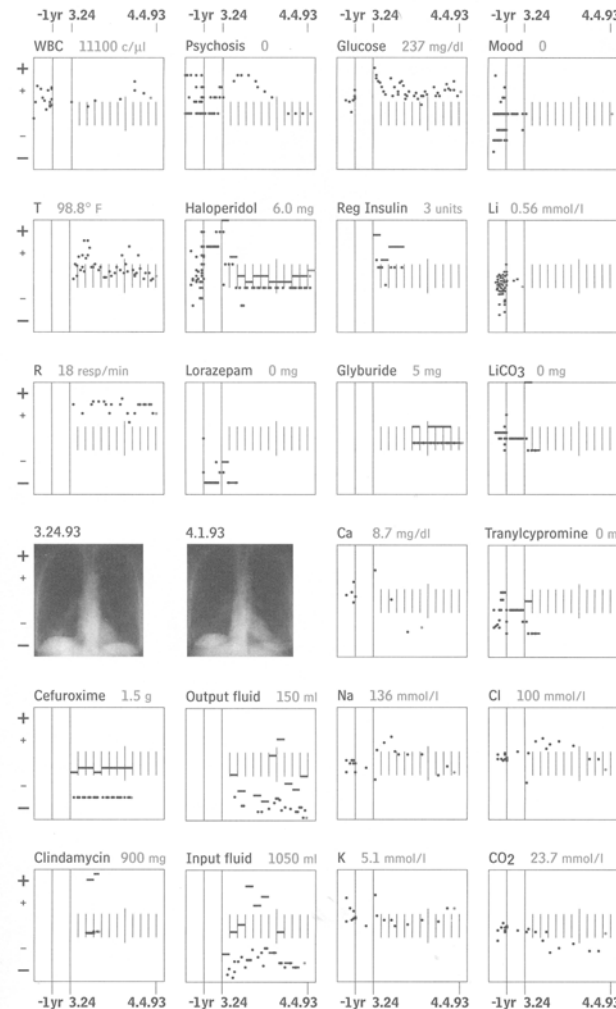
- Medical data

Surname, Forename M. admitted 3.24.93

Right lower lobe pneumonia, hallucinations, new onset diabetes,
history of manic depressive illness

4.4.93

7-South, Bed 5



Discharge. PB MD 1200 4.4.93

No delirium. JT MD 900 4.4.93

Enema given. PAC RN 1100 4.3.93

Will treat for probable constipation.
MBM 2245 4.2.93

Vomited three times. RW RN 2230 4.2.93

Left lower lobe infiltrate or atelectasis.
AL MD 1500 4.2.93

Alert and oriented. No complaints.
PAC RN 1100 4.1.93

Attending to activities of daily living.
PAC RN 1100 3.31.93

Ambulates with assistance. Weak.
PAC RN 1400 3.30.93

Still coughing. Breath sounds
diminished at right base.
PB MD 1000 3.30.93

Discontinued sitters. MM RN 1500 3.29.93

Follows directions. DB RN 1500 3.28.93

More relaxed. CM RN 700 3.28.93

Drowsy and sleeping. MT RN 2130 3.27.93

Out of restraints. JMT MD 1330 3.27.93

Left conjunctivitis; treat with garamycin
drops. DJS MD 1230 3.27.93

4-point restraints and sitter needed.
PM RN 1500 3.26.93

4-point restraints required. Delirious.
Switching to half normal saline for
hydration. Parathyroid hormone test
results pending. LMG MD 930 3.26.93

Pulled out IV twice. Hallucinating.
Attempted to drink call light.
CM RN 700 3.26.93

Next screen

Interaction

- Very important for the discovery process
 - Spotfire demo