

Veri Görselleřtirme ve Grafik

Kemal řahin

Nereden çıktı bu veri görselleştirme?

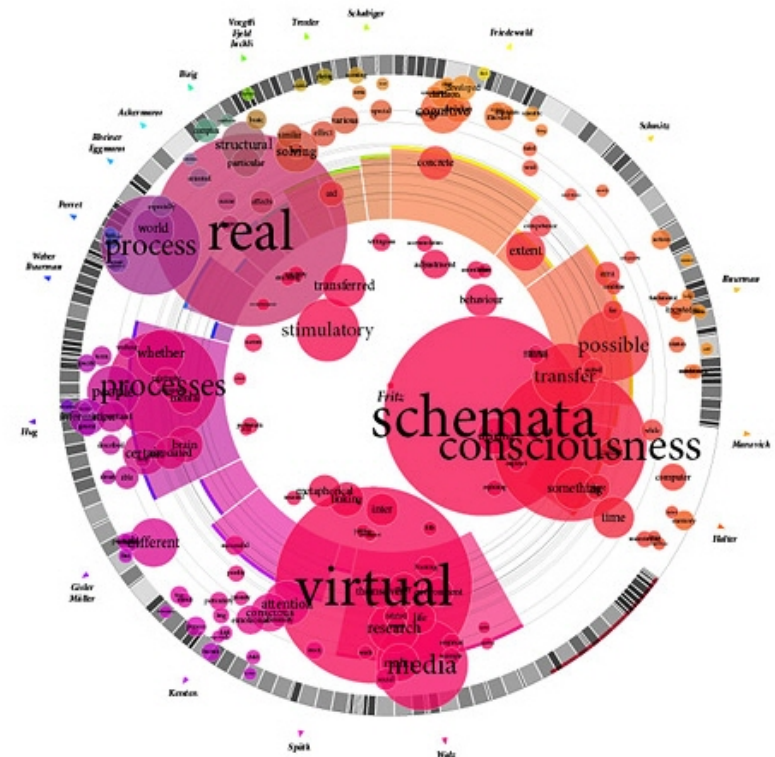


Geldiğimiz nokta...



Veri Görselleştirmenin Temeli

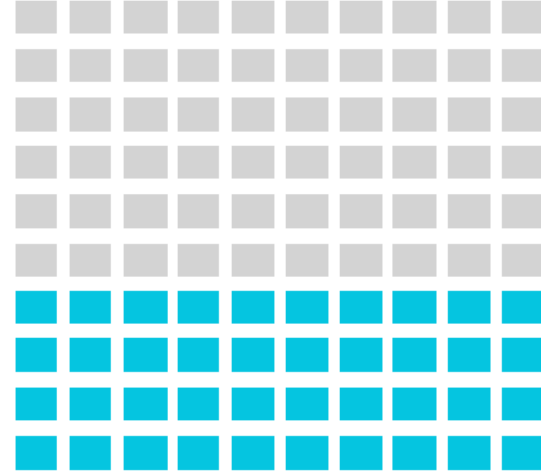
- Analiz ve ilişkilendirme
(Analyzing and engaging)
- Görsel düşünmeye yatkınlık
(Visual processing)
- Veri görselleştirme bir bilim dalıdır.
Farklı disiplinlerden beslenir.





90%

Beyin algıladığı bilgileri
görselleştiriyor.



40%

İnsan düz metinden
çok daha hızlı geri yanıt
verebiliyor.

Nedir?

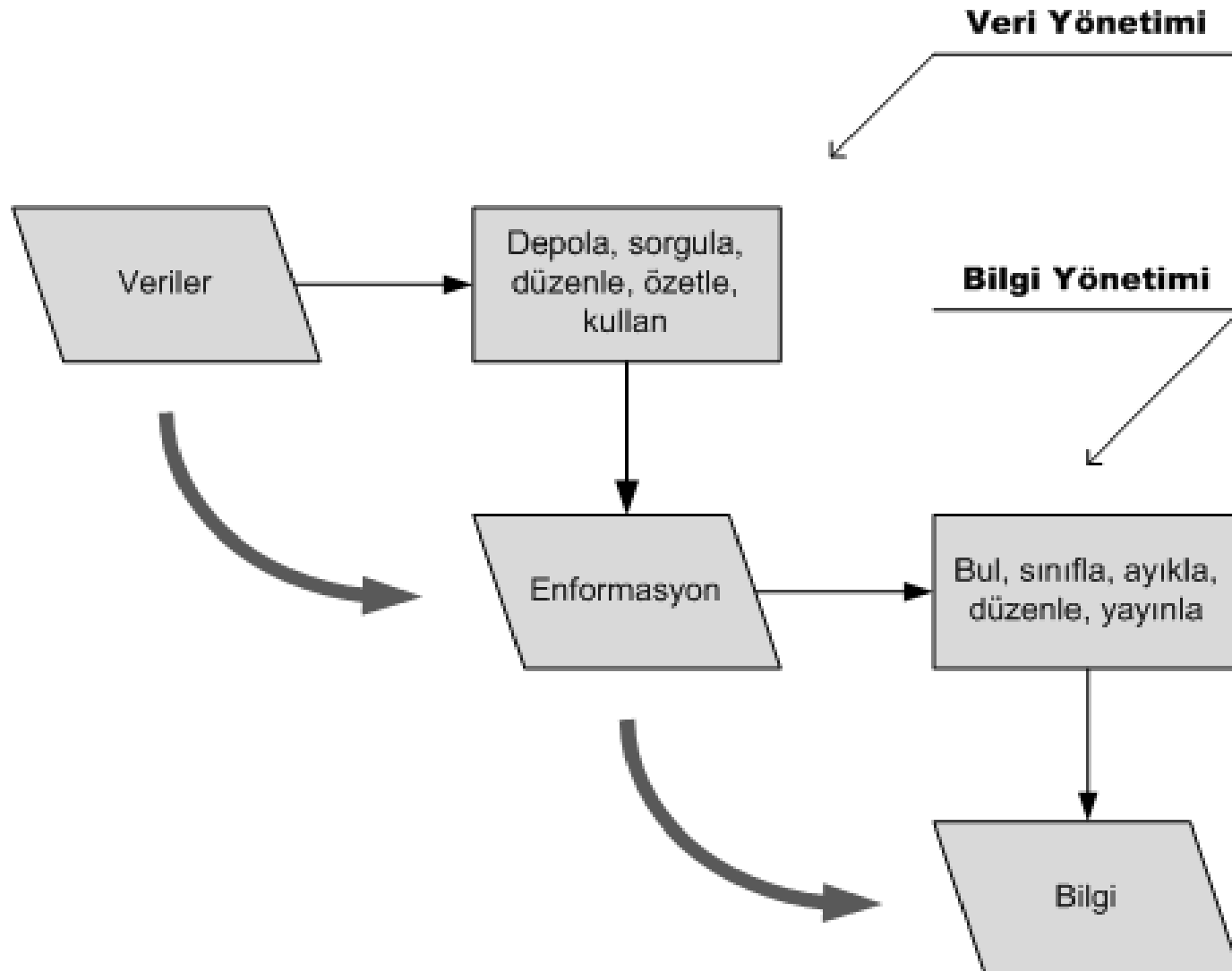
Verinin Bilgisayar destekli olarak etkileşimi yüksek görsel temsillerinin hazırlanmasıdır.

$$\text{VERİ} + \text{YARATICILIK (TASARIM)} + \text{ARAÇ} \\ = \\ \text{Görselleştirme}$$

Veri (Anlamlı Veri)

- Kapsamlı
- Bağlamsal ve ilişkili
- Güvenilir
- Yapısal ve yapısal olmayan

Anlamlı veri derken...



YARATICILIK (TASARIM) - Görsel Dil ise...

- Chart junking'den kaçınmalı!
- Veriye odaklanmalı
- Görsel düşünmeyi tetiklemeli
- Grafik dili seçkin ve özgün olmalı

ARAÇ

- Veriye etkileşim katabilmeli
- Gelişmiş görselleştirme opsiyonları sunabilmeli
- Gerçek zamanlı veriye ulaşım kontrol edebilmeli

Hemen bir örnek yapalım...



1



2



3



4



5



6



7



8

a

1

a

2

a

3

a

4

a

5

a

6

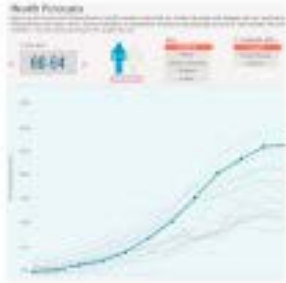
a

7

a

8

Veri Görselleştirme Türleri



Chart

Quantities,
Distributions



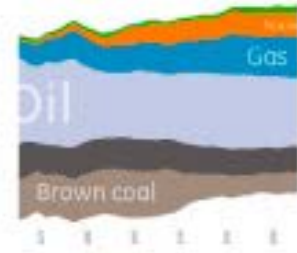
Map

Geography



Network

Interconnections



Time Series

Temporality

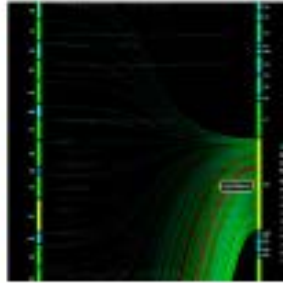
- Chart (Çizelge Grafiği)
- Map (Haritalar)
- Network (Bağlantı gösterimi)
- Time Series (Zaman Çizelgeleri)

Veri Görselleştirme Türleri



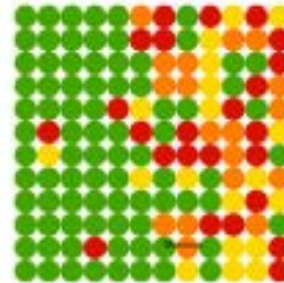
Hierarchy

Tree Structure



Flow

Movement and
Exchange



Matrix

Composition

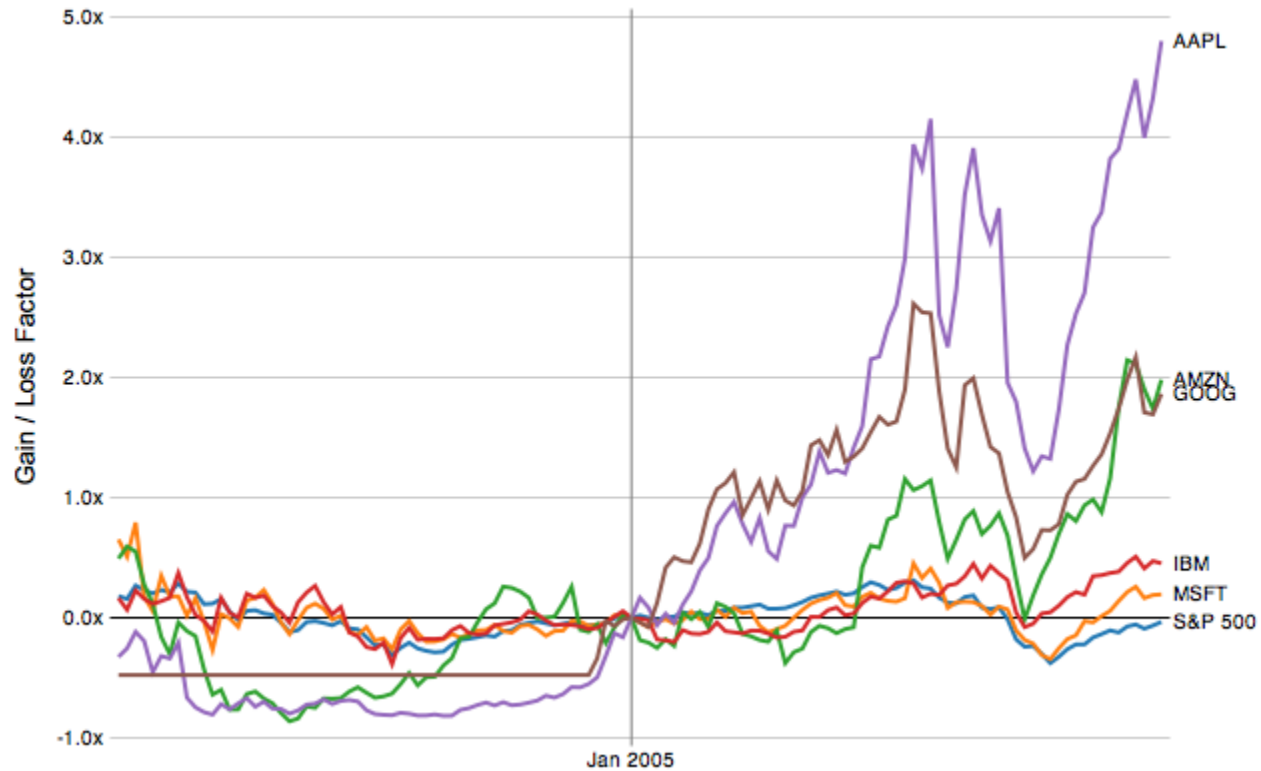


Infographic

Explanation and
Communication

- Hierarchy (Hiyerarşi)
- Flow Chart (Akış Diyagramları)
- Matrix (Çoklu ilişkisel ağ)
- Infographic (İnfografik)

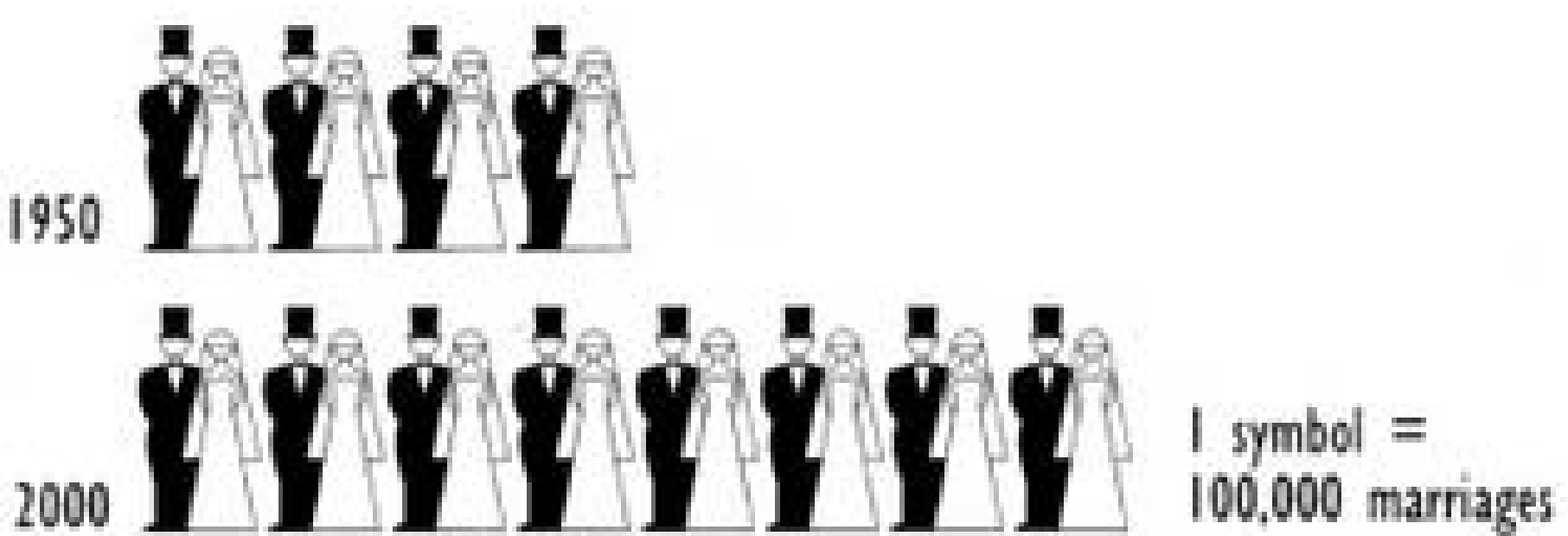
Chart (Çizelge Grafiği)



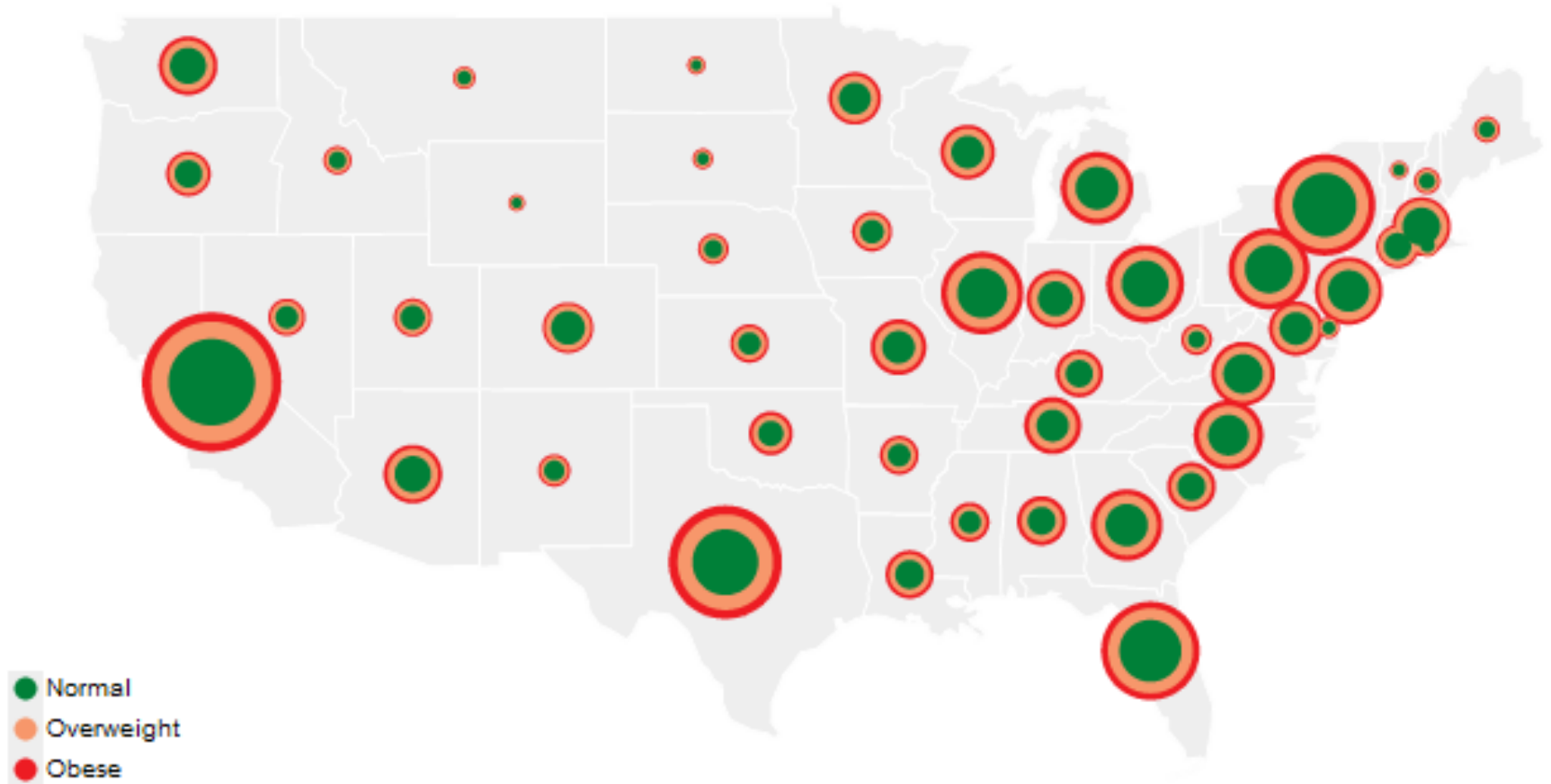
Tam bu noktada bir soru?



Ölçeklendirme yerine temsili simge!



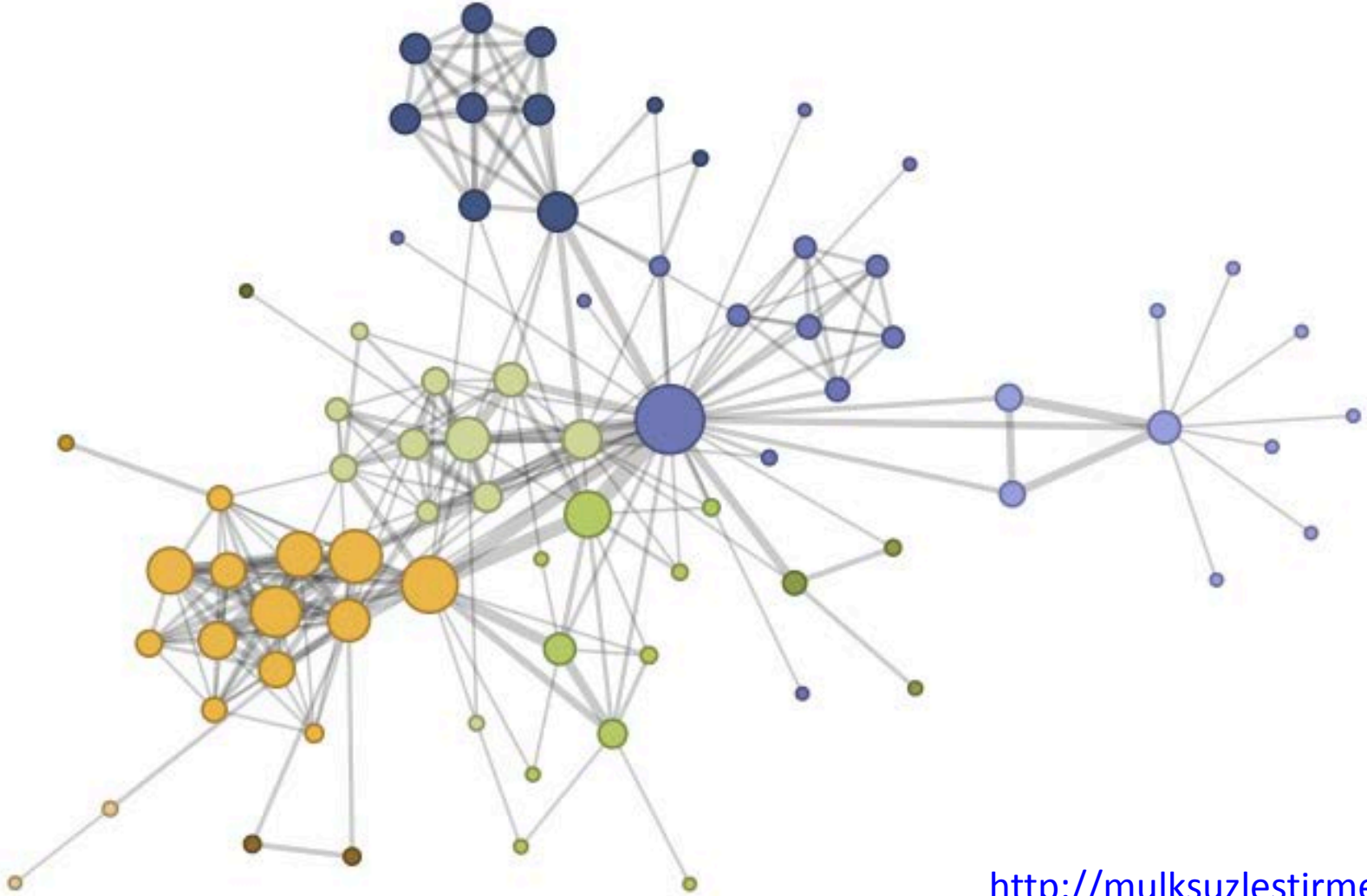
Map (Haritalar)



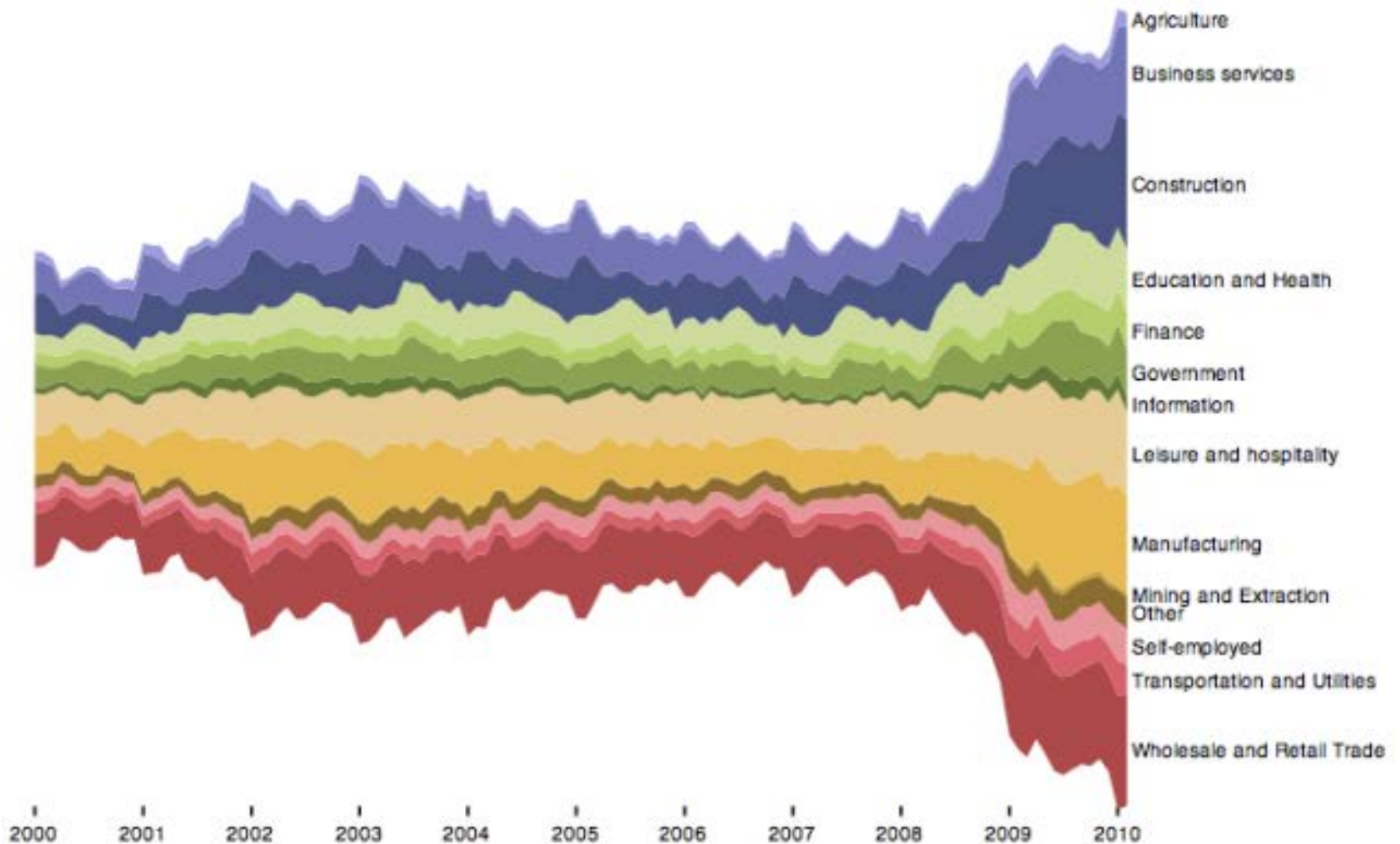
Map (Haritalar)



Network (Bağlantı gösterimi)



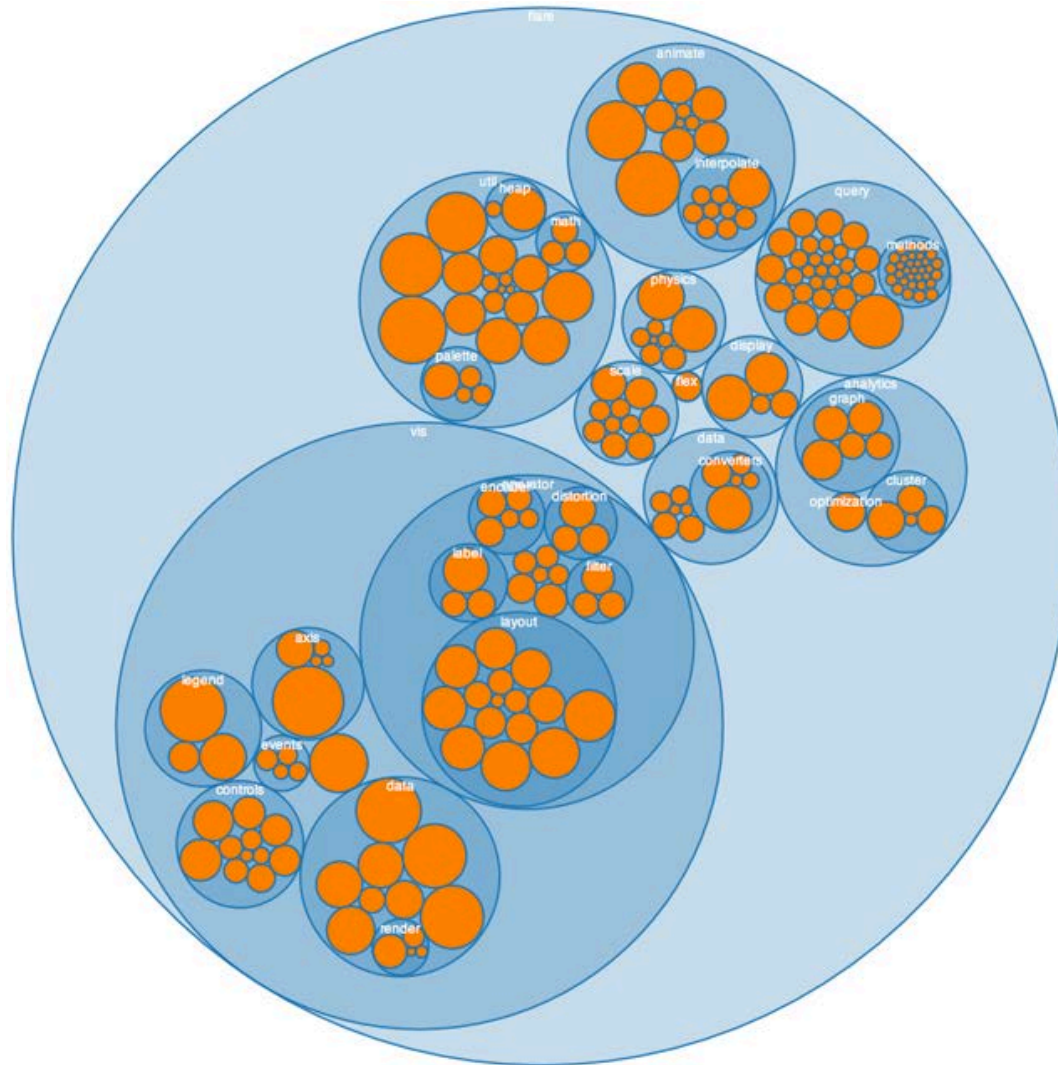
Time Series (Zaman Çizelgeleri)



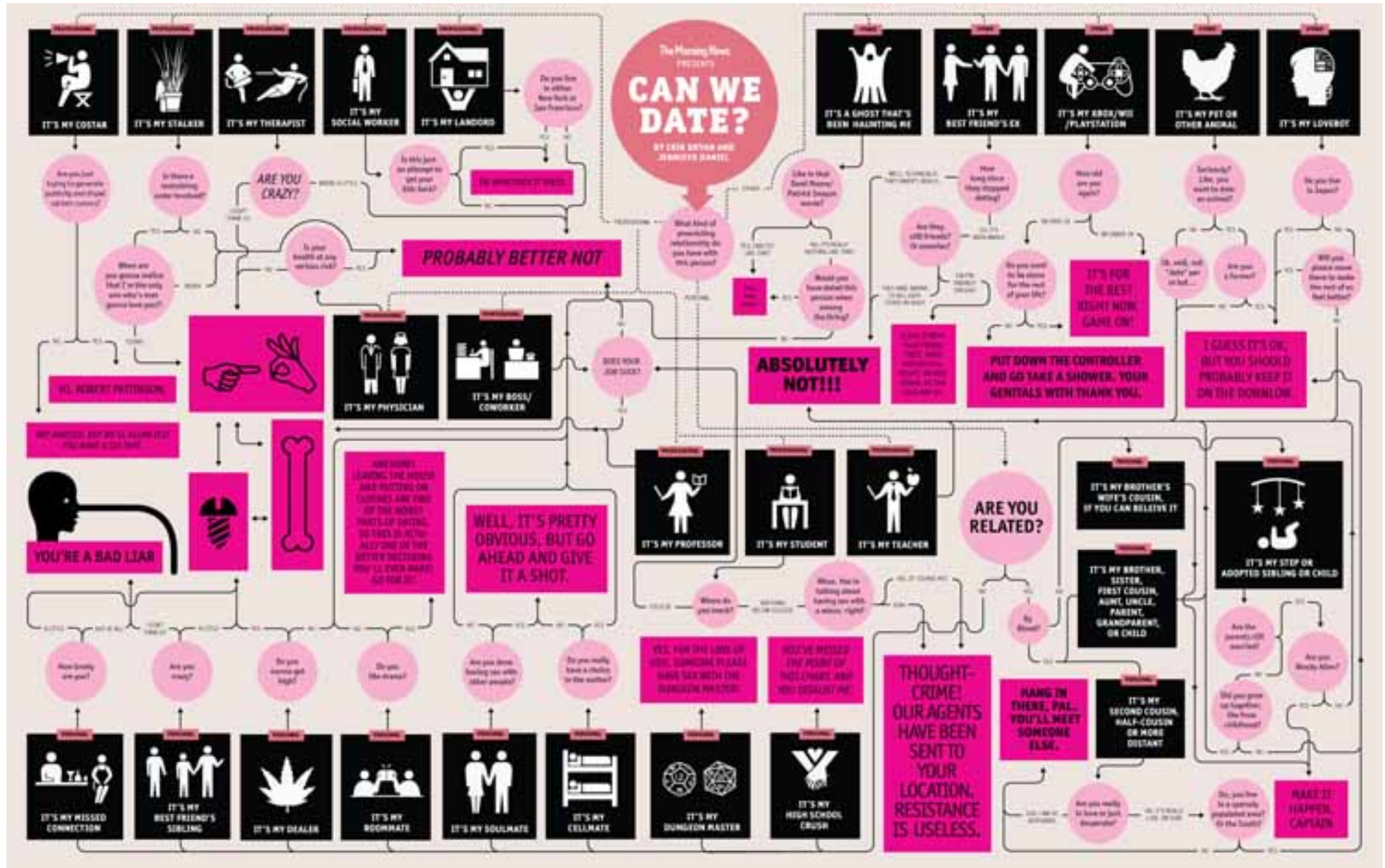
<http://visualizing.org/full-screen/56186>

<https://www.yearlightcalendar.com>

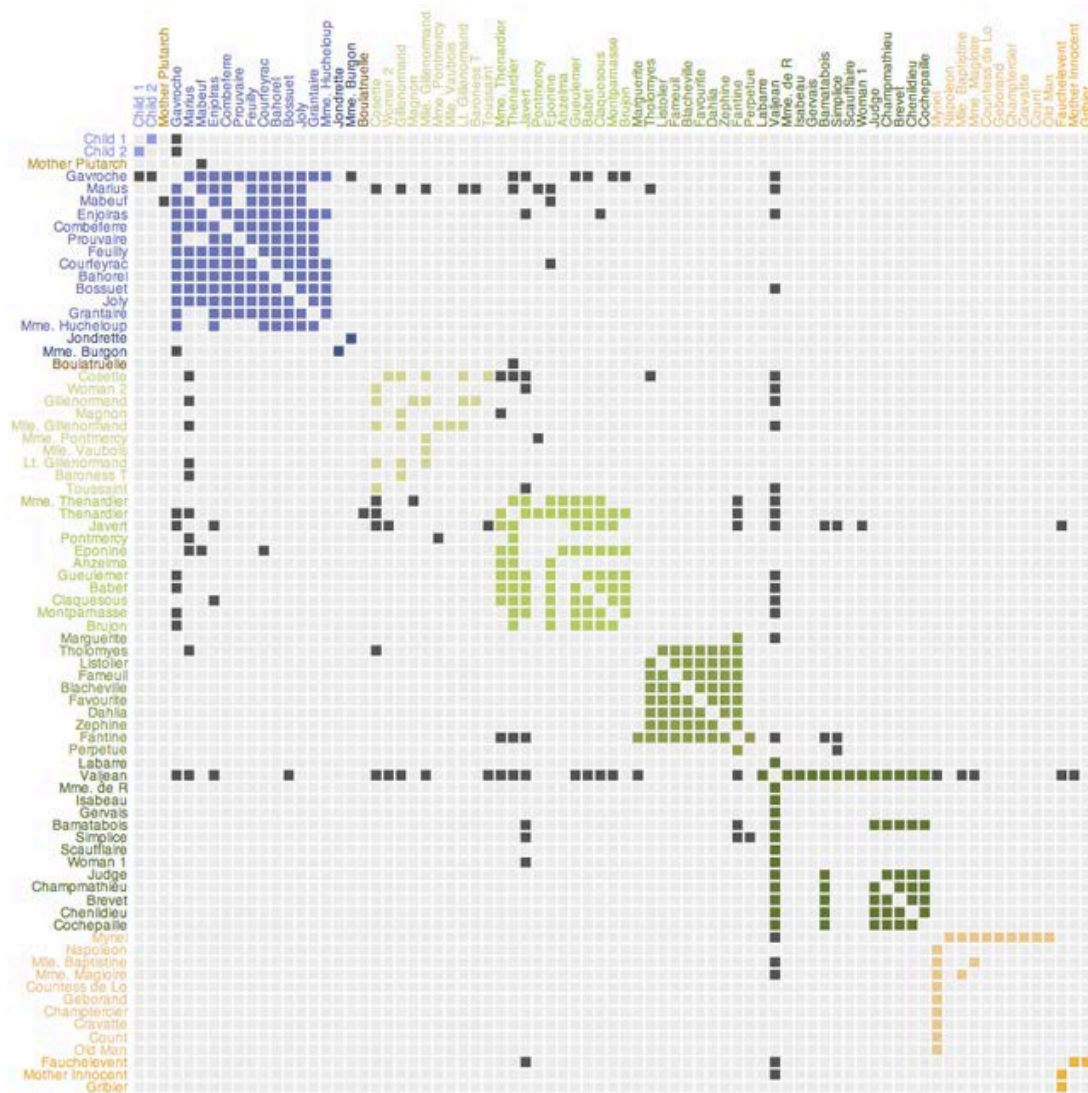
Hierarchy (Hiyerarşi)



Flow Chart (Akış Diyagramları)



Matrix (Çoklu İlişkisel ağ)



Infographic (İnfoğrafik)

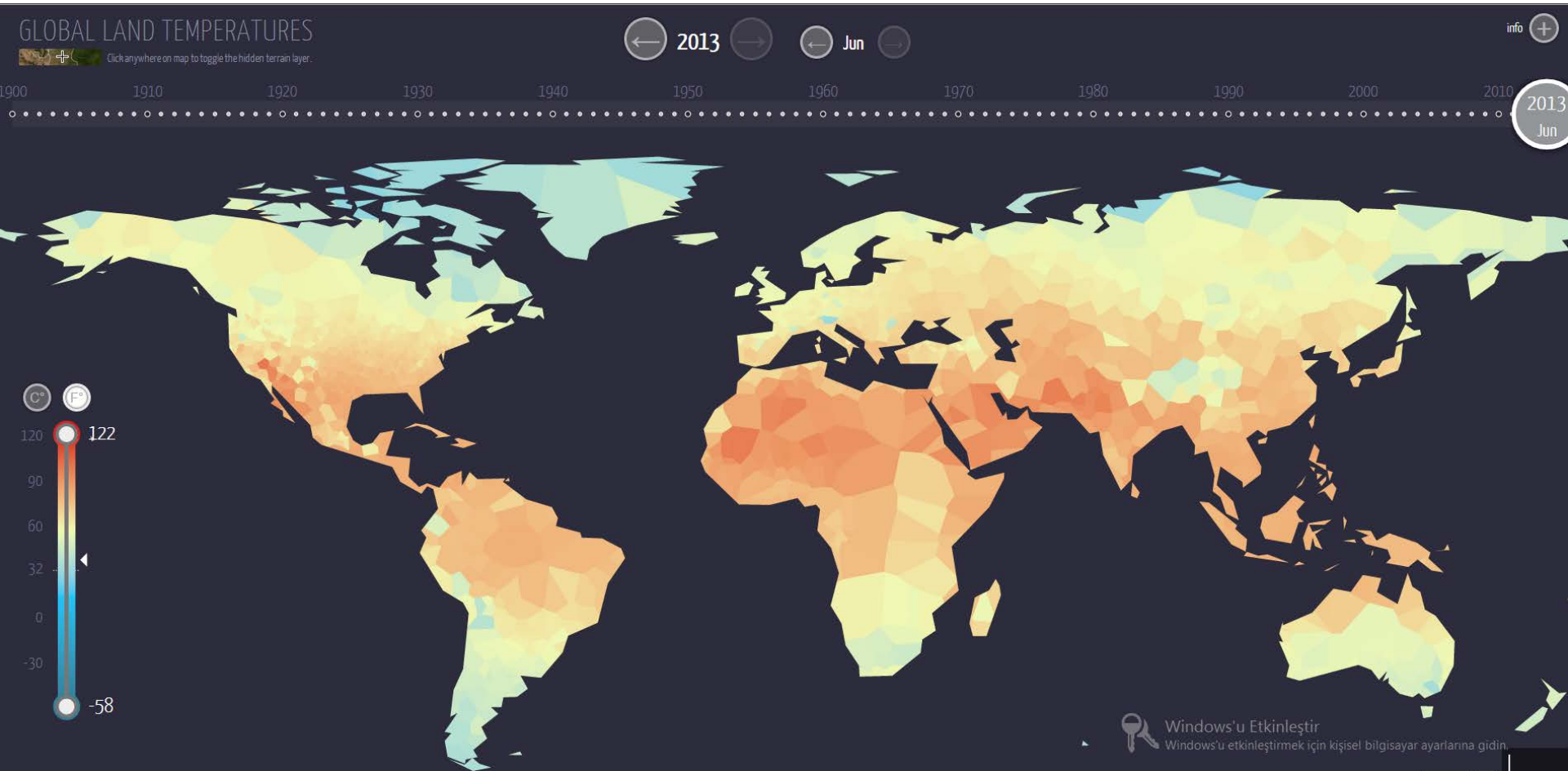


Nasıl Yapılıyor?

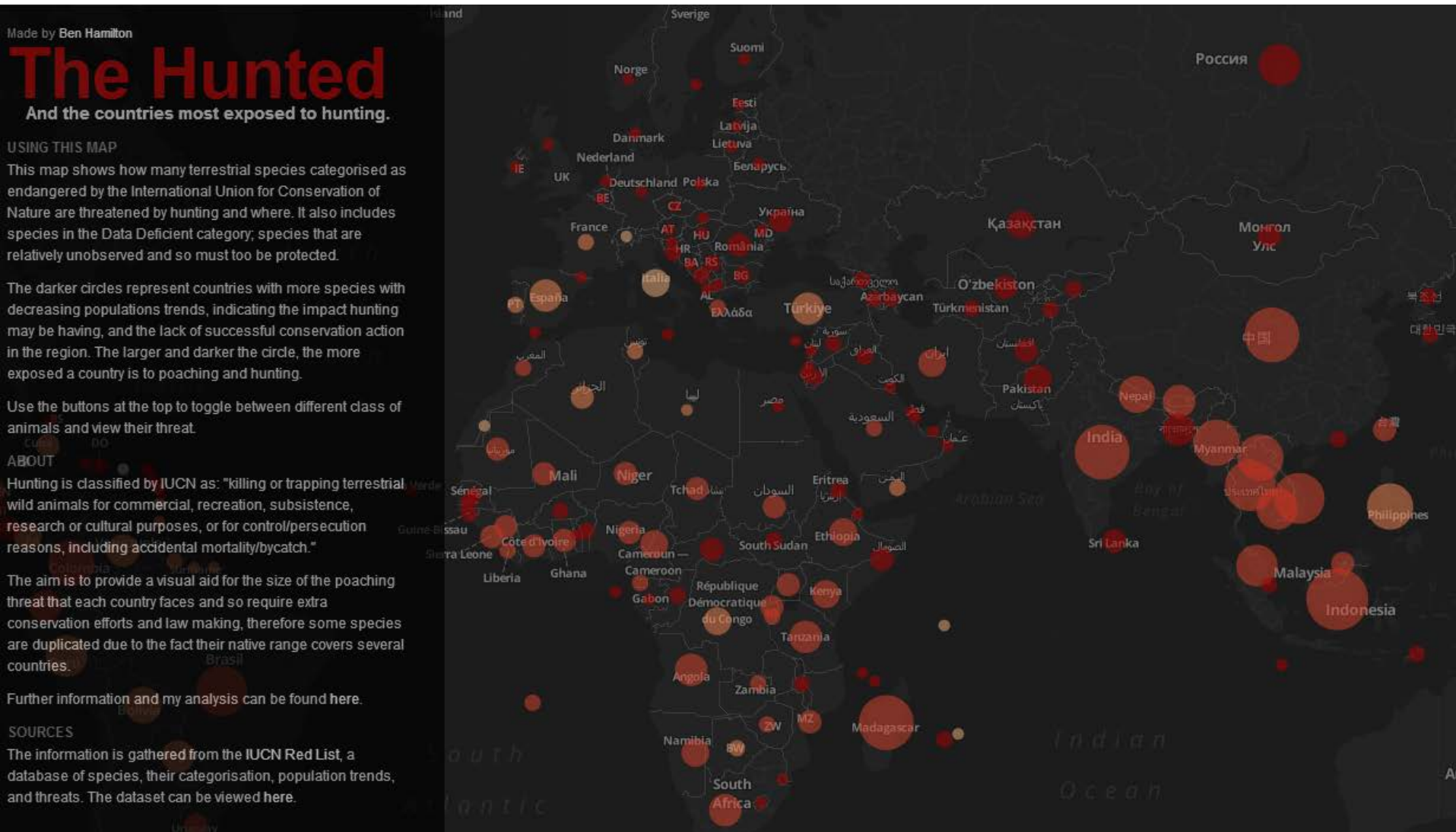
- Araştırma
- Beyin Fırtınası – Değerlendirme
- Senaryo
- Tasarım
- Ölçme
- Yayınla!

Birkaç örnek...

1900'den Bu Yana Sıcaklık Değişimi



Avlanma



<http://benhamilton.co.uk/hunted.html>

Top 200 Üniversite

★ Top 200 World Universities

Education, Viz of the Day

761 ★ 2 0 • [Export](#)

The most notable changes that occurred during the last studying year (2012-2013) are Harvard University's fall from second to fourth place and the University of Oxford's move into second. Meanwhile, the California Institute of Technology has consolidated as the world number one keeping leading position for the second year at a run. One more remarkable tendency over the 2012-2013 years is the rise of Asian universities. So, institutions of China, Republic of Korea, Taiwan, Singapore have made their best, moving on the top positions.

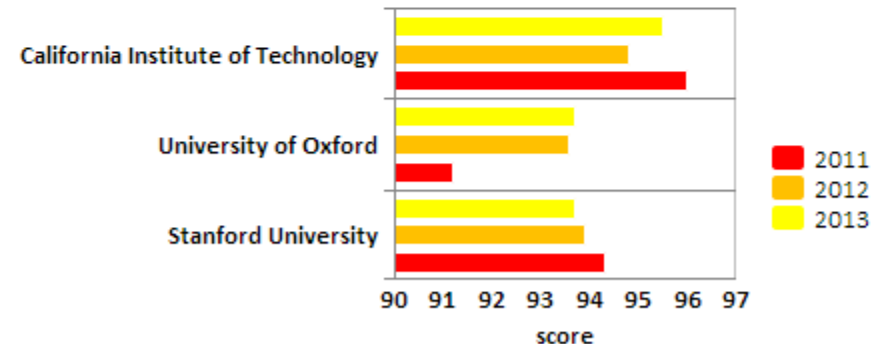
Source: [World University Rankings, 2011-2013](#)

Ranking by overall score

2011-2013

1	California Institute of Technology	95.5
2	University of Oxford	93.7
3	Stanford University	93.7
4	Harvard University	93.6
5	Massachusetts Institute of Technology	93.1
6	Princeton University	92.7
7	University of Cambridge	92.6
8	Imperial College London	90.6
9	University of California, Berkeley	90.5
10	University of Chicago	90.4
11	Yale University	89.2

Overall score



Overall rank

Web Tabanlı Araçlar (Tipografik Araçlar)

- <http://www.wordle.net>
- <http://www.tagxedo.com>
- <http://tagul.com/>
- <http://worditout.com>
- <http://www.wordsift.com>



Twitter Görselleştirme

- <http://mentionmapp.com/>
- <http://www.tweetails.com>
- <http://www.twitonomy.com>
- <http://asterisq.com>



İnfografik Hazırlama Araçları

- <http://infogr.am>
- <http://visual.ly>
- <http://piktochart.com>

İnfografik Hazırlama Araçları

- <http://www.xtimeline.com/index.aspx>