

auprefs.info

A vain* attempt
to save Australian democracy
with a little JavaScript

* pun intended

Auckland



About Me



@ConcreteGannet

Developer based in Melbourne

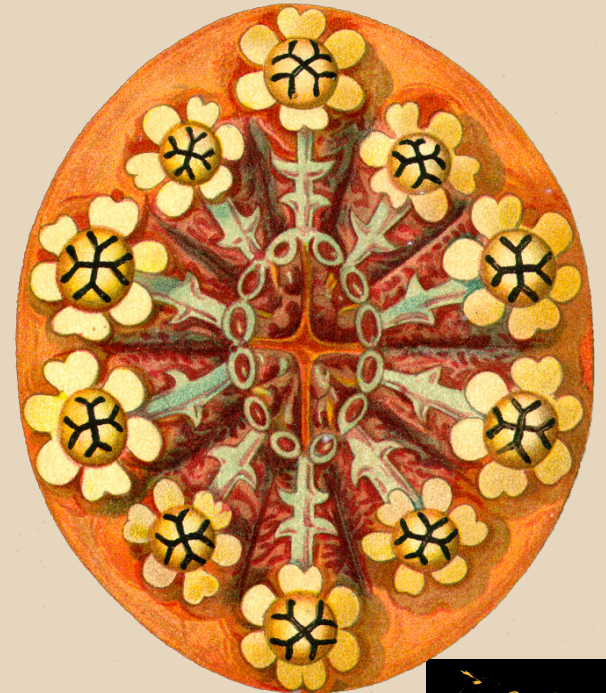
Co-founder and director of Coherent Software

OSIA Director

Committer to Apache OFBiz



"Graphs are like tiny dollops of science
you can hold in your hand"
- First Dog on the Moon



The Problem

Political parties suggest how we should vote

It's hard for us to work it out for ourselves

So we don't

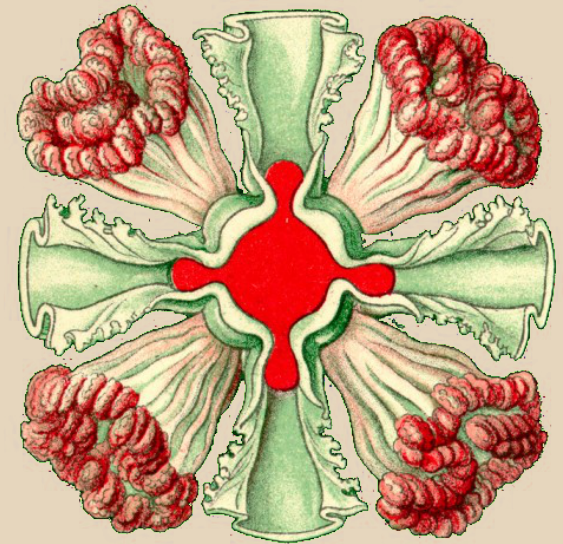


The Problem

Which means we're just
doing what we're told

By a political party

What could possibly
go wrong?



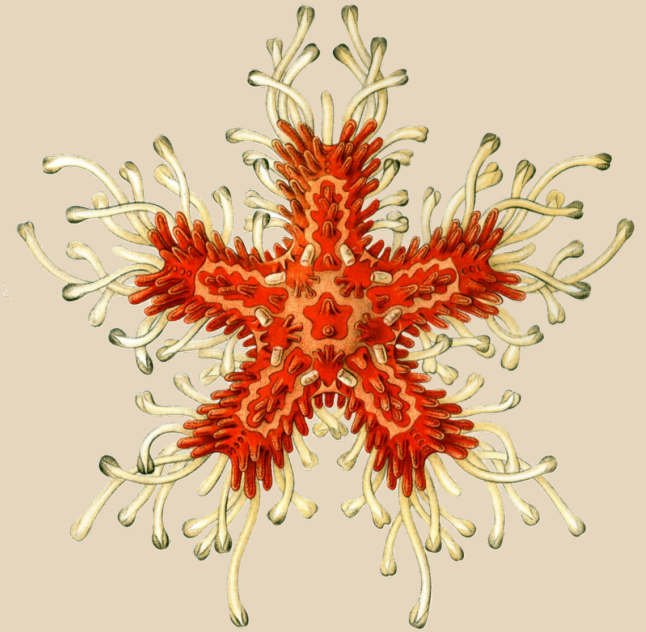
Crash course on Australian elections

Single Transferable Vote

Number preferences 1, 2, 3...

Bottom-up preferences
distributed

Upper house - multiple members elected, top-
down quotas



“Above the line”

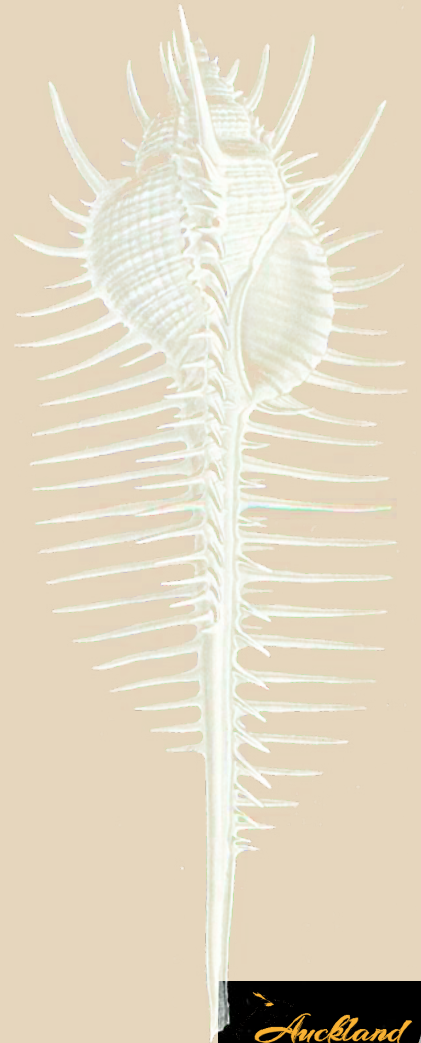
Senate, Vic, SA, WA upper houses

Parties submit *Group Voting Tickets*,
complete preference list pre-chosen

Voters may choose a ticket,
i.e. give a proxy

Parties can submit 2 or 3!

Random result for last 1 or 2 votes



YOU MAY VOTE IN ONE OF TWO WAYS



Senate Ballot Paper Territory
Election of 2 Senators



Either:

Above the line

By placing the single figure 1 in one and **only one** of these squares to indicate the voting ticket you wish to adopt as your vote

A	or	B	or	C	or	D	or	E
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox" value="1"/>		<input type="checkbox"/>		<input type="checkbox"/>
PARTY		PARTY		PARTY		PARTY		

Or:

Below the line

By placing the numbers 1 to 17 in the order of your preference

A PARTY	B PARTY	C PARTY	D PARTY	E	Ungrouped
<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names	<input type="checkbox"/> SURNAME Given names INDEPENDENT
<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names	<input type="checkbox"/> SURNAME Given names INDEPENDENT
<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY	<input type="checkbox"/> SURNAME Given names PARTY		
	<input type="checkbox"/> SURNAME Given names PARTY				



SAMPLE



Vic Council elections 2012

Kingston Council, Central Ward, 2012: 28 candidates

Bayside Council, South Ward: 12 candidates

Single issue candidates

Look at *second* preference



Senate “Above the line”

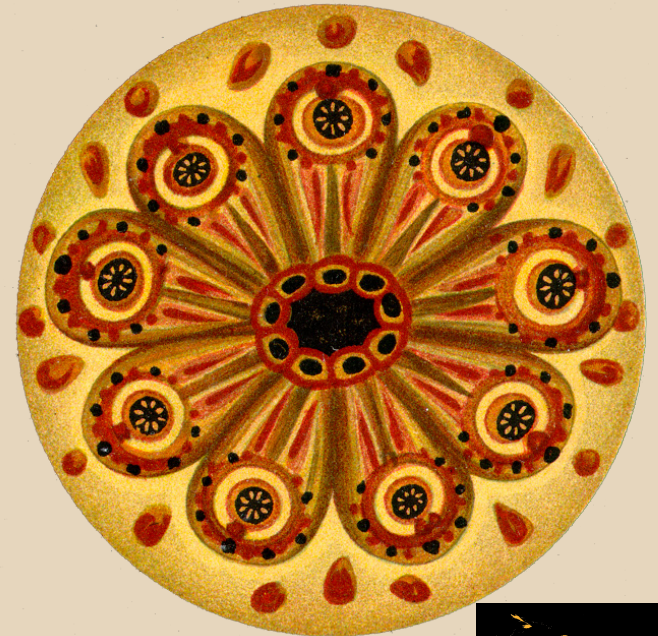
Single issue button pushing microparties

Smoker’s Rights Party

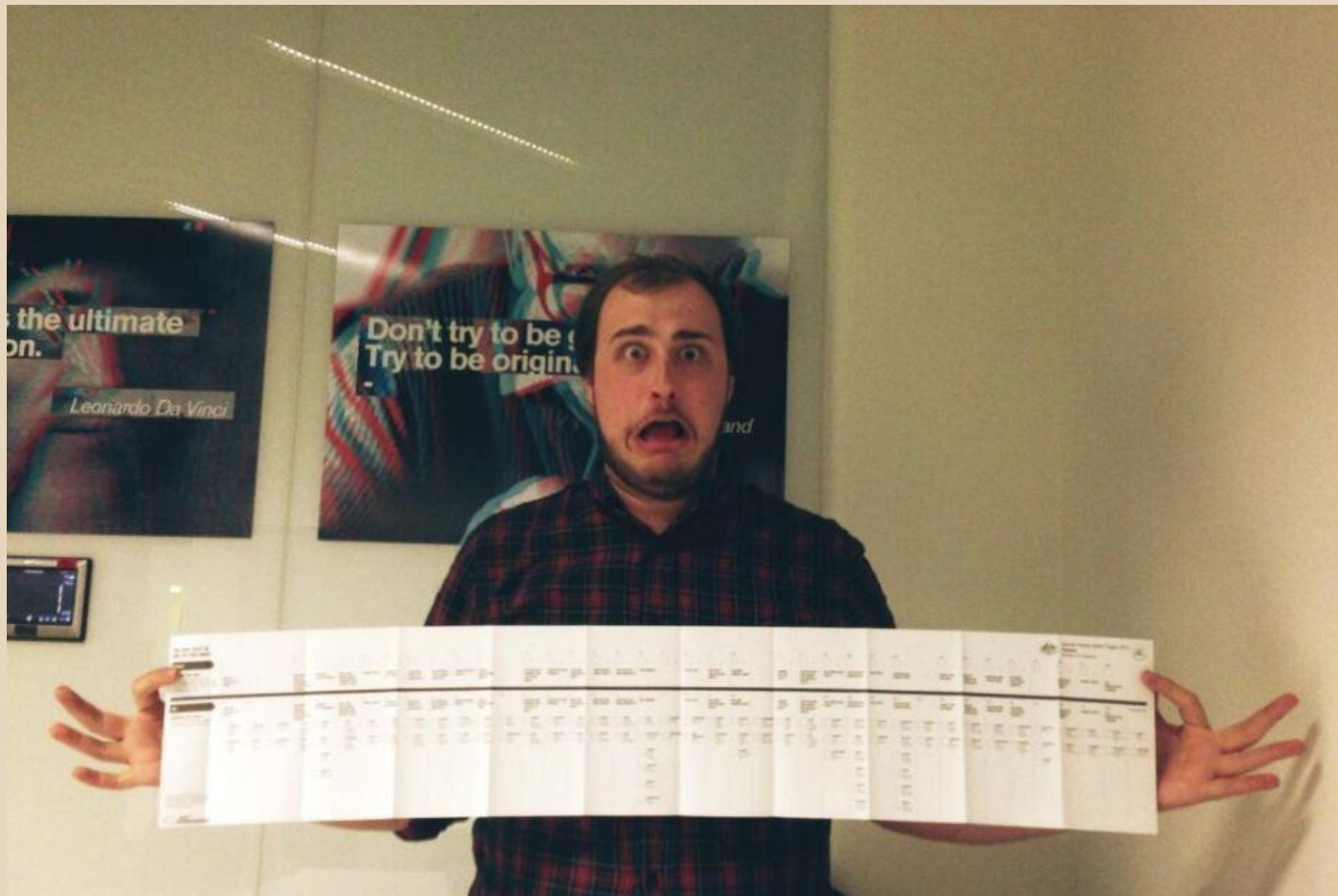
Motoring Enthusiasts Party

Incentive for
tablecloth ballot papers

Harder to vote below,
more likely we vote above



The horror!



@Br_Tr, Twitter

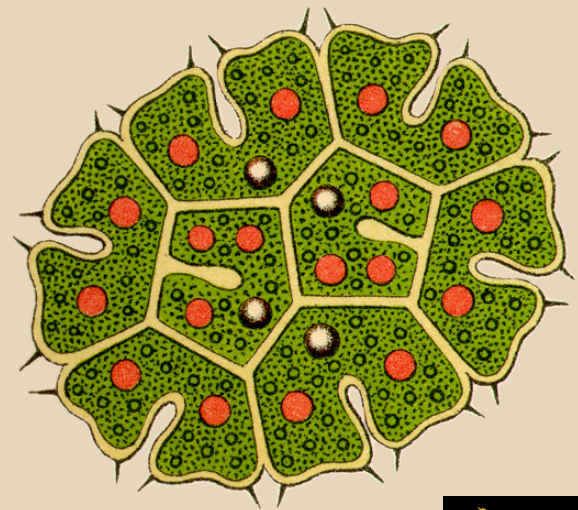


Weaknesses

Many vote for minor party in upper house to "keep the bastards honest"

Microparties pref each other, regardless of policies

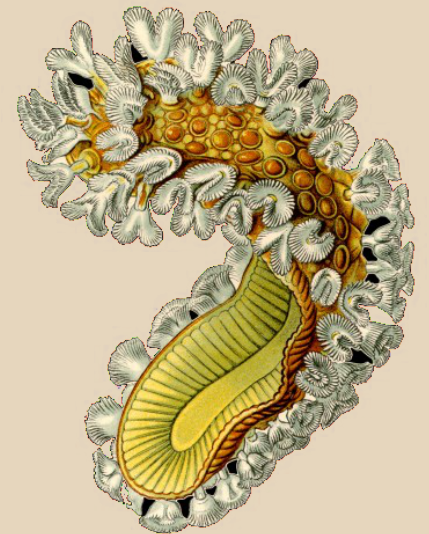
One likely to get up, but it's a lottery



Weaknesses

Full preferential in Senate, SA, WA - must vote past your "loony line"

One person can be an officer of several parties



Solutions

Reform the system

Better information



Reform the system

Constitution gives right to vote for *candidates*,
not *parties*

Senate Committee Dec 2013-May 2014

Optional preferences above or below

Very like NSW

No party tickets

Shelved! in July 2014



Reform the system

Victoria Local Government Electoral Review
Panel

No "how to vote" info

Declare party affiliation



Better Information

belowtheline.org.au

Benno Rice and Michael Pearson

senate.io




Cameron McCormack

clueyvoter.com

Alan Noble



belowtheline.org.au

1 Below The Line About Us Privacy   

Ballot Editor for Western Australia

[Save](#) [Download PDF](#)

Click and drag items in the list to re-order them.

More information on the parties can be found by clicking the party name to the right of each candidate or the party abbreviation to the right of each group name. This will open the party's website in a new window or tab. Candidates may also have either or both of Wikipedia or link icons next to their names. These will open the candidate's Wikipedia entry or personal website in a new window or tab.

If you know of a Wikipedia entry or website for a candidate who doesn't have one or the other, please let us know.

Senate

[By Group](#) [By Candidate](#)

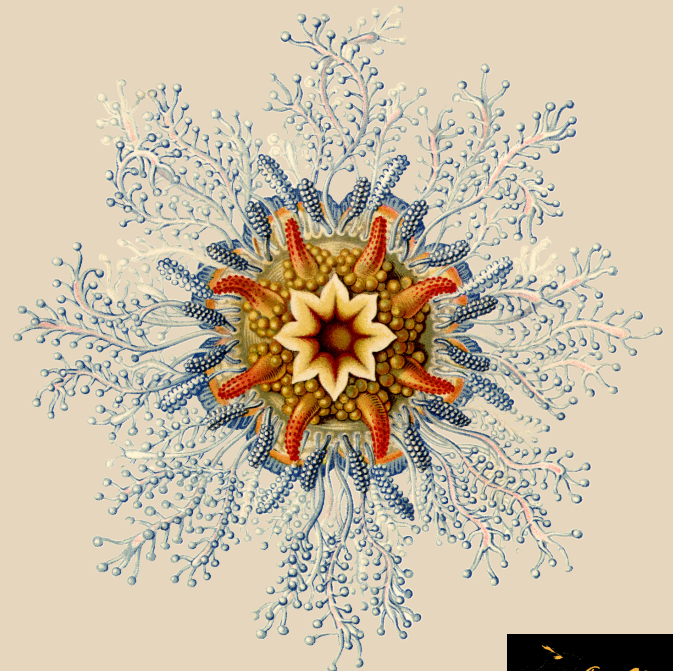
The Wikileaks Party	WKP
The Nationals	NAT
UNENDORSED - WOOLF, Russell	
Australian Democrats	DEM
Pirate Party	PIR
Australian Labor Party	ALP
Australian Motoring Enthusiast Party	AMEP
Freedom and Prosperity Party	TCS
Voluntary Euthanasia Party	VEP
Liberal Democrats	LDP
Australian Voice Party	VCE
Building Australia Party	BAP



Better information

If only people knew...

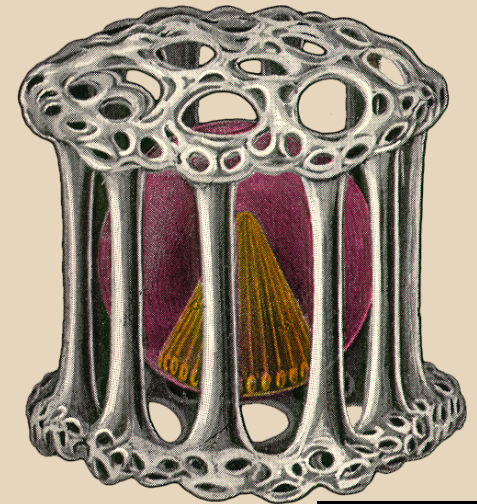
If only they could see...



Force-directed graphs

Useful for communicating many-to-many relationships

Several graphing libraries provide them



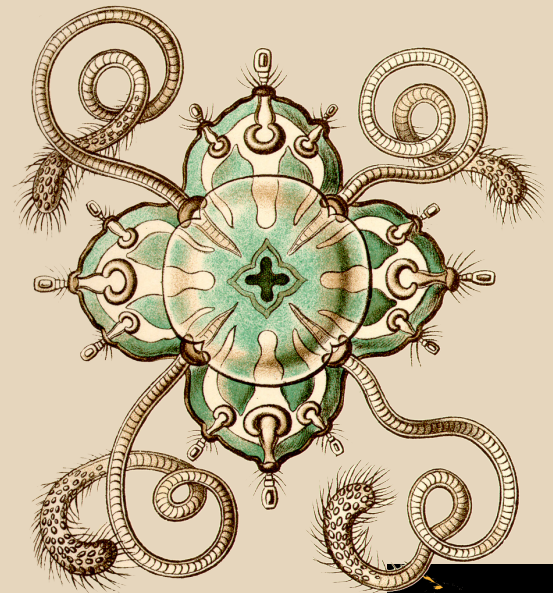
mbostock's block #4062045 November 12, 2012

Force-Directed Graph



auprefs.info

Demo



I coulda told them...

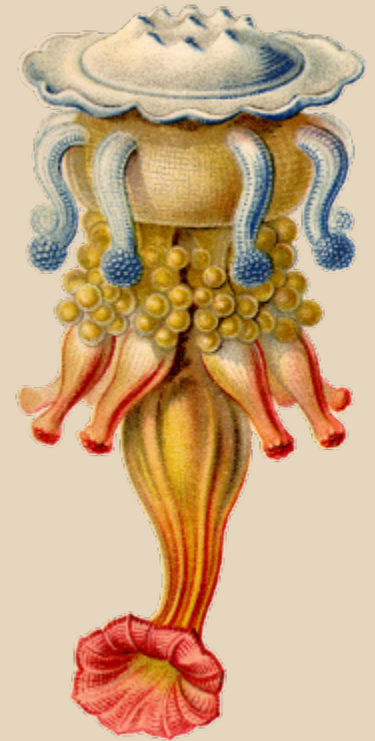
Eastern Vic - Shooters and Fishers

Northern Metro - Sex Party

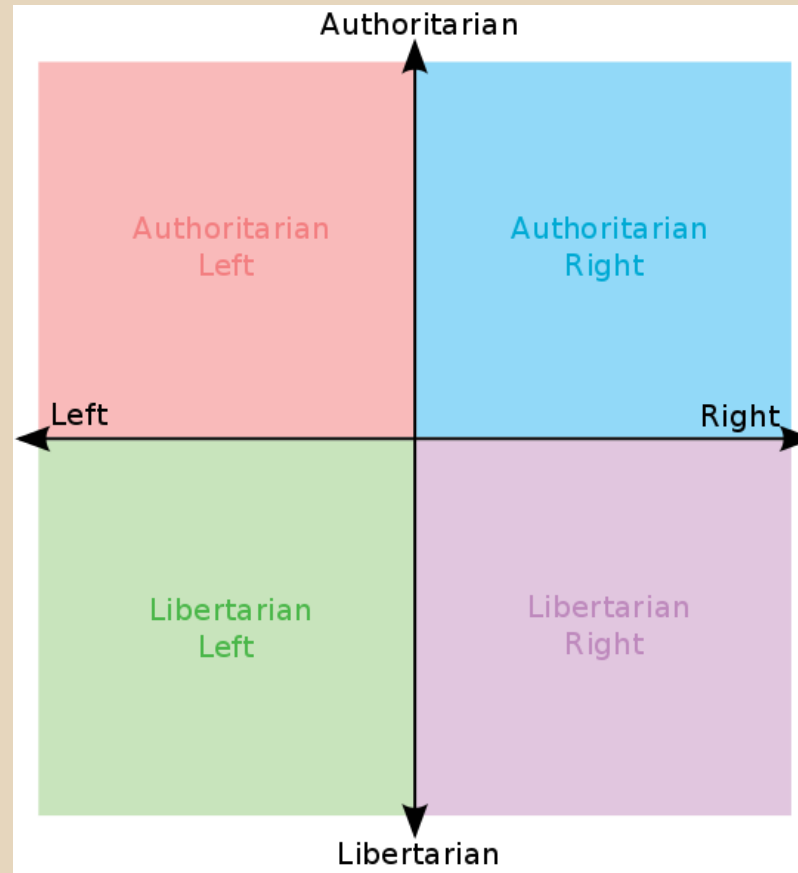
Northern Vic - Shooters and Fishers

Western Metro - DLP

Western Vic - Vote 1 Local Jobs



Political Compass



The data

Australian Electoral Commission

CSV

StateAb,Ticket,TicketNo,Surname,GivenName,Party,Preference

"WA"," A ","1","MESZAROS","Tibor","The Wikileaks Party",1

"WA"," A ","1","NICOL","Lucy","The Wikileaks Party",2

"WA"," A ","1","VAN STYN","Shane","The Nationals",42

"WA"," A ","1","DE GRUSSA","Colin Stephen","The Nationals",43



The data

Victoria

XML data at <https://www.vec.vic.gov.au/files/MediaFileGroupsAndTickets.xml>

Search for "media"

Election Markup Language (EML)



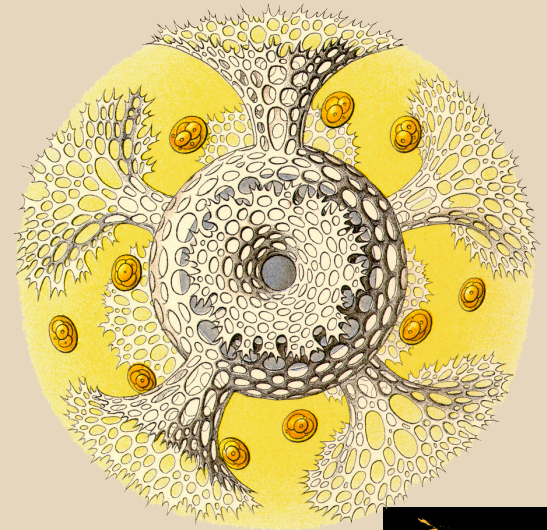
Technology

21st century graphs - movement, interactivity,
Harry Potter

selection.datavisualization.ch

gapminder.org - Hans Rosling


d3.js - Mike Bostock




selection.datavisualization.ch

+ DATAVISUALIZATION.CH SELECTED TOOLS Search...

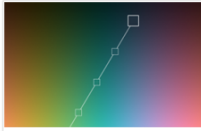
All Maps Charts Data Color Code? ✓ ✕




Arbor.js
A library of force-directed layout algorithms plus abstractions for graph organization and refresh handling.




CartoDB
A web service for mapping, analyzing and building applications with data.



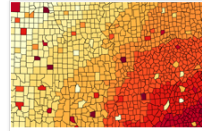
Chroma.js
Interactive color space explorer that allows to preview a set of linear interpolated equidistant colors.



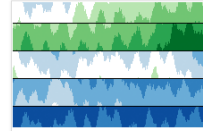
Circos
A software package for visualizing data in a circular layout.



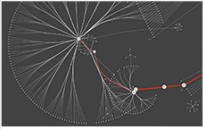
Cola.js
A library for arranging networks using constraint-based optimization techniques.



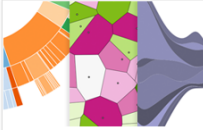
ColorBrewer
A web tool for selecting colors for maps.



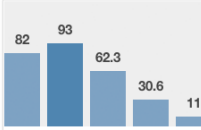
Cubism.js
A library for creating interactive time series and horizon graphs based on D3.js



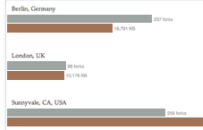
Cytoscape
An application for visualizing complex networks and integrating these with any type of attribute data.



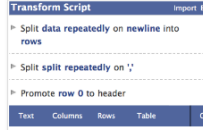
D3.js
A small, flexible and efficient library to create and manipulate interactive documents based on data.



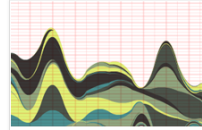
Dance.js
A simple data-driven visualization framework based on Data.js and Underscore.js



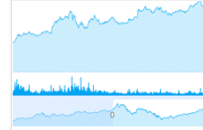
Data.js
A data representation framework providing a uniform interface to domain data.




DataWrangler
An interactive web application for data cleaning and transformation.



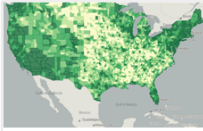
Degrafa
A powerful declarative graphics framework for rich user interfaces, data visualizations and mapping.



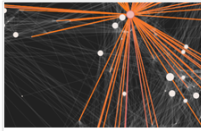
Envision.js
A library for creating fast, dynamic and interactive time series visualizations.



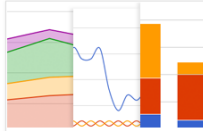
Flare



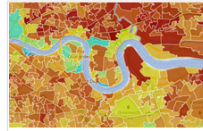
GeoCommons



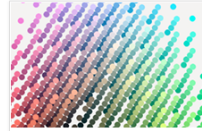
Gephi



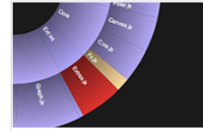
Google Chart Tools



Google Fusion Tables



I Want Hue



JavaScript InfoVis Toolkit

gapminder.org

GAPMINDER for a fact-based world view

HOME GAPMINDER WORLD DATA VIDEOS DOWNLOADS FOR TEACHERS LABS IGNORANCE

Reset Open graph menu

GLOBAL TRENDS

Wealth & Health of Nations

This graph shows how long people live and how much money they earn. Click the play button to see how countries have developed since 1800.

Explore more of Gapminder World:

- Browse example graphs
- Learn to select indicators and more
- Download PDF Guide

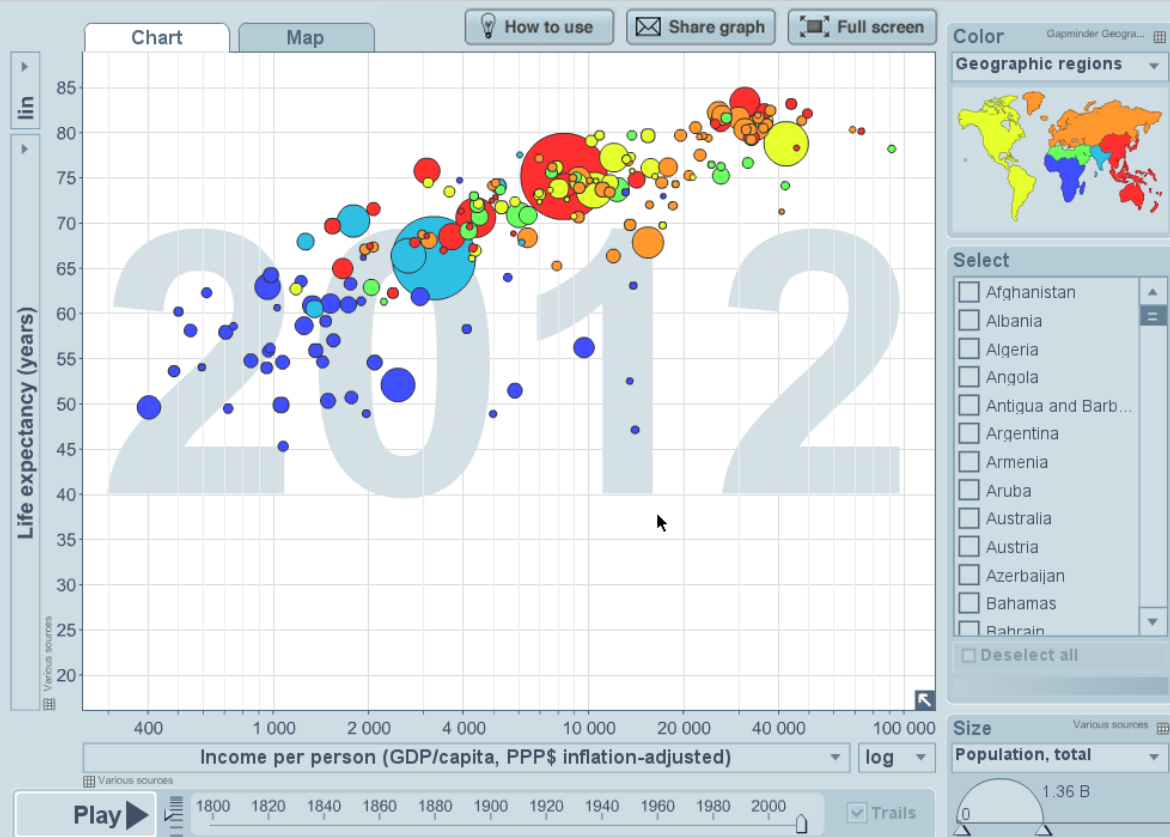
Latest news:

- "Finding data in Gapminder World just got easier"
- "Updated data page - quickly search & visualize indicators"

Share

See also:

- 200 years that changed the world
- Stop call them "developing countries"



Terms of use

© Google 2008



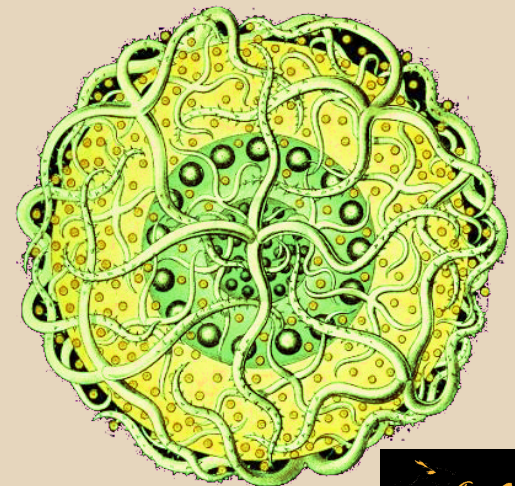
d3

d3js.org

Data Driven Documents

JavaScript for interactivity

BSD licence



Show Me The Code!

```
var force = d3.layout.force()  
    .size([width, height])  
    .charge(-800)  
    .friction(0.45)  
    .gravity(0.5);
```

charge - repulsion

friction - fast or slow movement each tick

gravity - keep things on page



Nodes and links

```
force.nodes(<JavaScript array>
  .links(<JavaScript array>
  .linkDistance(function(link) {
    based on log of preference number
  });
```



Binding

```
//svg refers to an SVG element on page
var link = svg.selectAll(".link")
    .data(<JavaScript array>)
    .enter().append("line")
    .attr("class", function (link) {
        return "link from" + link.source.index;
    });
```



Binding

```
var node = svg.selectAll(".node")  
  .data(<JavaScript array>)  
  .enter().append("g")  
  .attr("class", "node")  
  .on("mouseover", mouseover)  
  .on("mouseout", mouseout);
```



Generated SVG

```
<line class="link from32" x1="1125.7501522333932" y1="360.2462729743732"
x2="900.4500643986837" y2="34.709635402349825" style="visibility:
visible;"></line>
```

```
<g class="node" transform="translate
(744.7646884032907,626.3841352546692)">
<circle r="15" style="fill: rgb(255, 0, 0);"></circle>
<text dx="0.5em" dy="1.5em" text-anchor="left">The Wikileaks Party</text>
<text dy="0.5em" class="prefNum"></text>
</g>
```



Power of d3

Not an abstraction layer

Associates data (JavaScript objects) with elements (HTML, SVG) on a page



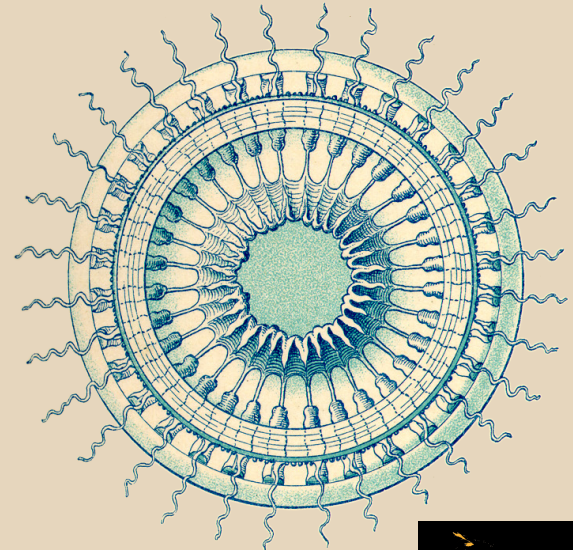
Code wanted!

bitbucket.org/ConcreteGannet/auprefs.info

Pull requests wanted!

Apache licence

Clusters

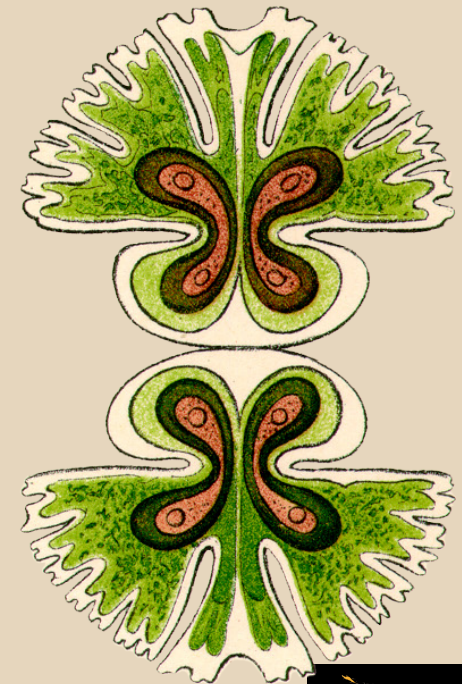


What next?

Qld election 31 Jan
(no upper house)

NSW 28 March
(no GVTs, hooray!)

3:40pm today OGGB4: "Using
FOI to get source code: the
EasyCount experience"
Michael Cordover



Resources

Antony Green blogs.abc.net.au/antonygreen/

Kevin Bonham originaltruthseeker.blogspot.com.au

William Bowe blogs.crikey.com.au/pollbludger/



Credits

Microscopic images: *Kunstformen der Natur*,
Ernst Haeckel

Scans by Scott Draves CC-SA

draves.org/pix/kdn/

d3.js - Mike Bostock

d3js.org



Presentation

<http://cohdig.co/auprefslca2015>

