CONTAGIOUS

Ways of Seeing /

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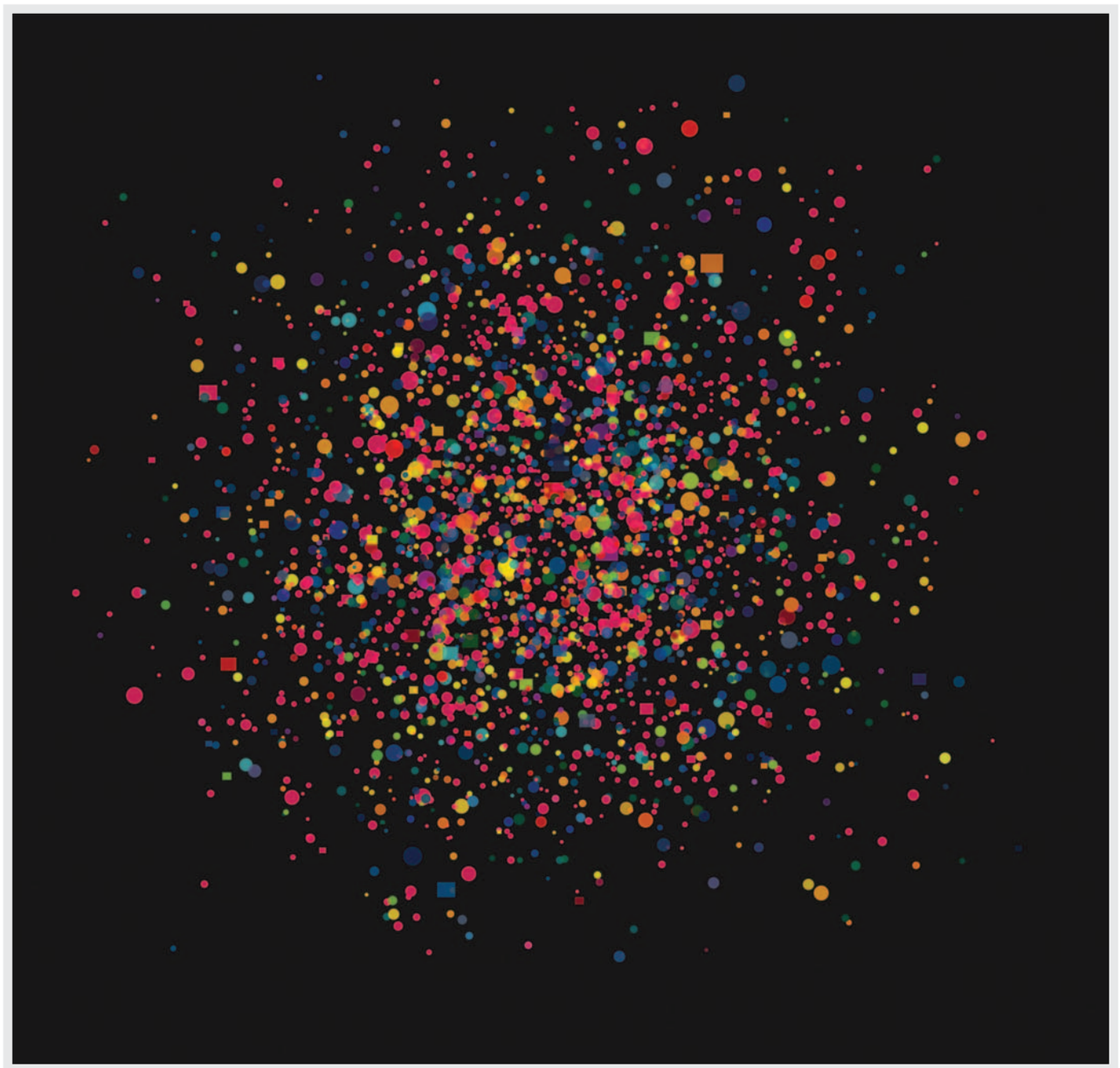
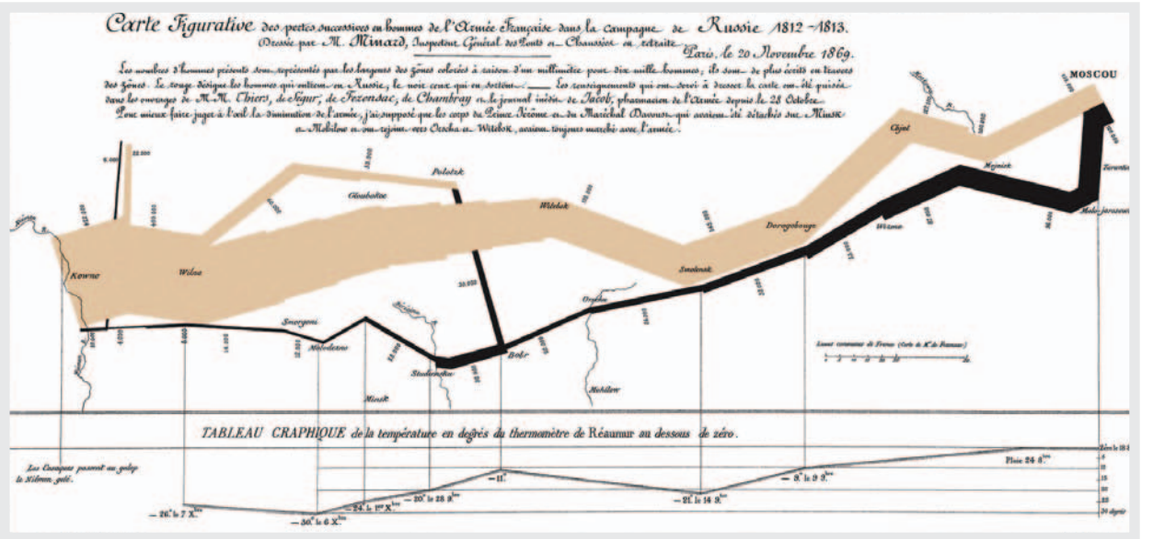
For more information please contact Harry Gayner on
+44 (0) 20 575 1822 or harry@contagiousmagazine.com

Ways of Seeing / The art of data / By Faris Yakob and Noah Brier /



WE FEEL FINE /



CHARLES MINARD /

Graphs are boring.

Whether it's line, bar or even pie, Microsoft Excel's chart functions have become a crutch we all rely on to help tell a story. And it makes sense: we are much better at comprehending patterns via pictures than we are with the numbers themselves.

It's that bias towards pictures that has made visualising data one of the foundations of culture since the emergence of writing. Words are simply visual representations of information – pictures of sounds.

Even paragraphs are a visual device, delineating separate sections of long blocks of texts to make them easier to digest. See?

For a while it seemed like Excel had taken graphs into a dead end. Their ubiquity and uniformity in bad presentations rendered them wallpaper, robbing them of their communicative power.

But this article isn't about bad presentations at all. Rather it's about the children of the charts and graphs that litter them. It's about the more sophisticated data visualisations that have come of age recently. Whether it's as simple as a tag cloud or as complex as a visual thesaurus, these tools of understanding are so beautiful and meaningful that they are quickly becoming the art of a generation drowning in data.

The current boom owes much to Moore's Law and the ever-increasing power of computers. Today we're creating and collating information in mind-boggling quantities. The problem is that data, like many things, is worthless without the tools to interpret it. As **Ed Cotton** wrote on the blog **Influxinsights**: 'In a data-driven world, infographics are the new art.'

Like art, these representations don't tell you what to think, rather they present the data in visual form and leave it open to interpretations: they require the involvement of the viewer.

As is usually the case, this is only the beginning. Just about any bit of digital data, from photos to emails, comes along with a flood of metadata – data that describes the data – that sits behind the scenes, interpreted by the computers it passes through.

Everything you do online, and increasingly offline thanks to your mobile, leaves a stream of data in its wake just waiting to be interpreted.

Jonathan Harris is a Brooklyn-based artist and storyteller who designs systems to explore and explain the human world. A leader in the field of data visualisation, Harris suggests his work is a way to harness the very human need to express ourselves that is made manifest on the web, in blogs, in photos and on film. Brands have become used to communicating by creating content. Then, as the tools of creation began to be democratised, the roar of user-generated content was heard throughout the industry. At the time, this meant getting users to create content for brands, tempting would-be directors into making ads with enticements of money, exposure and prestige. But making films is a specific desire whereas the need to express ourselves is universal, which is leading to practically limitless streams of content crying out for attention.

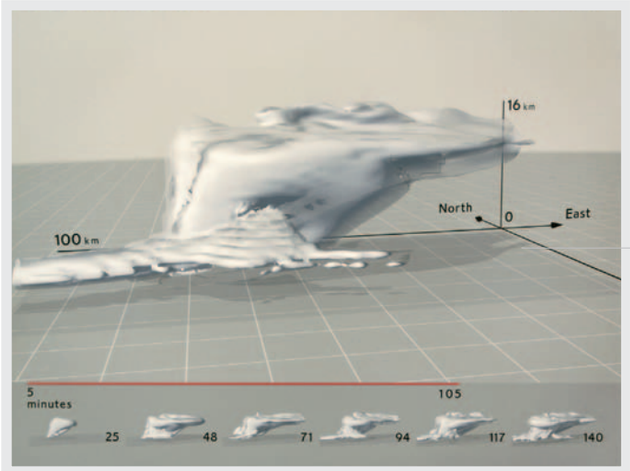
Perhaps then, rather than creating more content to add to the maelstrom, there is a role in helping us understand and use what's already out there. And once social metadata is applied to the real world in large quantities, sorting out the relevant will require trusted editors.

Brands have already begun to experiment with the role of aggregator. **Nikon Stunning Gallery** aggregates content from Flickr – allowing users who are already creating content to incorporate their work simply through the addition of a relevant tag. Meanwhile, **Yahoo! Tagmaps** (see below) aggregates geotagged imagery and extracts the metadata to create weighted tag maps of the real world.

Visualisations unlock the patterns in the data, extract the signals from the noise, and let us see things in new ways.

In a world increasingly saturated with data, we will all need to develop new ways of seeing.

10X10 /



EDWARD TUFTE / STORM CLOUDS /

NEWSMAP /

Best In Class: Data Art

The undisputed master of the visual display of information is **Edward Tufte**, who has been railing against poor representations of data, or chartjunk, since he published *The Visual Display of Quantitative Information* in the 1980s. Tufte draws on French civil engineer Charles Minard's famous graphic published in 1869 for inspiration, showing the movement of Napoleon's army in the disastrous Russian campaign of 1812.
www.edwardtufte.com

But many in webworld actively began to take an interest in data visualisation because of Hans Rosling.

At TED in 2006 he debunked myths about the 'developing world' using **Trendalyzer** software to turn complex global data into startling animations – the software was quickly snapped up by Google.
www.ted.com/index.php/talks/view/id/92
www.gapminder.org

In fact, Google is very interested in visualisation – its mission is to 'organise the world's information and make it universally accessible and useful', therefore visualising it is a vital next step. **The Google Visualization API** provides a platform to create and share visualisations as Google Gadgets, just by importing data from Google Spreadsheets.
http://code.google.com/apis/visualization

But visualisations are about more than just numbers. The web is a constantly expanding data set of endless types of information. Turning parts of it into pictures helps our minds to grasp them.

Newsmap, by **Marcos Weskamp**, is an application that visually reflects the constantly changing landscape of the Google News aggregator. It divides news into recognisable bands that help reveal underlying patterns in news reporting as they change over time.

So the aesthetic of the application transmits additional information about the information – metadata – allowing us to perceive the patterns. It also introduces an important concept in data representation – the idea of weighting: the larger the words in each story, the more related articles found via Google. So, by weighting the word, you can communicate its relative importance in the data set.
http://marumushi.com/apps/newsmap/newsmap.cfm

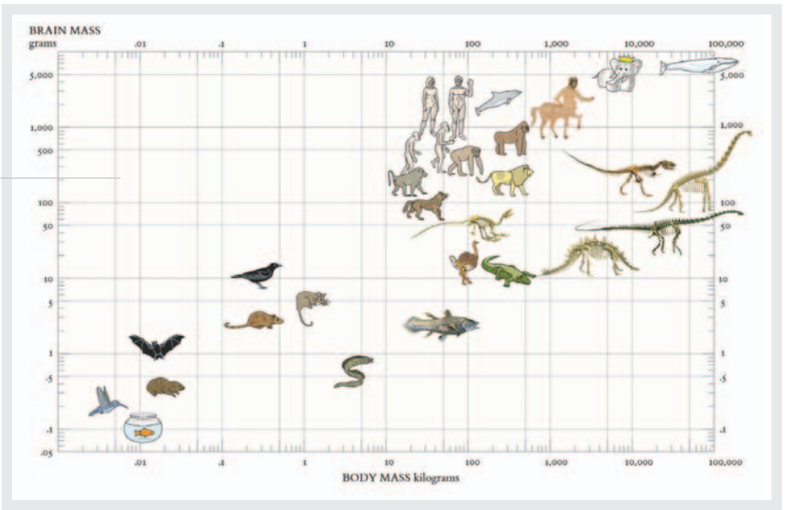
Digg is different – it's a community-based news aggregator, where the members vote on stories to indicate their relative importance. Digg collaborated with design and technology studio Stamen to create Digg Labs to provide a 'broader and deeper view of Digg'.

BigSpy is a weighted, scrolling representation of stories as they appear, in real time, whereas Stack shows what stories are being voted on.
http://stamen.com
http://labs.digg.com
http://labs.digg.com/bigspy
http://labs.digg.com/stack

Due to its continuously updating nature, news makes for ideal real time representation.

One of Jonathan Harris' earliest projects was 10x10 – an hourly visualisation of the news. It collects words and pictures from news sources and arranges them into a 10x10 grid. Arranged like that, the viewer instinctively responds to patterns in the grid – images that are repeated seem important, and the bizarre juxtaposition of modern news, celebrities and wars sharing equal importance is highlighted.
http://tenbyten.org

Harris also created We Feel Fine, which applies the same kind of thinking to human emotions. At its core,



EDWARD TUFTE / LOST ANIMALS /

We Feel Fine is a data collection engine that scrapes information from various blogging platforms every few minutes, looking for occurrences of the phrases 'I feel' and 'I am feeling'. It then grabs the sentence up to the break, alongside some profile data about the author from the blogging profile.

This data can be queried using a graphical interface, which displays how the web is feeling as a swarming mass of particles, each one representing a human feeling. The colour of each particle responds to specific types of feeling: happy feelings are brightly coloured, negative feelings are dark. Any dot can be clicked and expanded to display the whole sentence. The dots themselves exhibit human qualities – they have a specific physics and they swarm around randomly, exploring the screen, but become curious about the mouse cursor and cluster around it.

Harris looks to represent data appropriately: 'This is very important to me in the work that I produce: The way something is expressed visually corresponds to the nature of the thing being expressed.'

This blending of signifier and signified is peculiarly modern – words have no real connection to the concepts they represent. The gap between how something looks and what it means is eroded in the art of visualisation.
http://wefeelfine.org

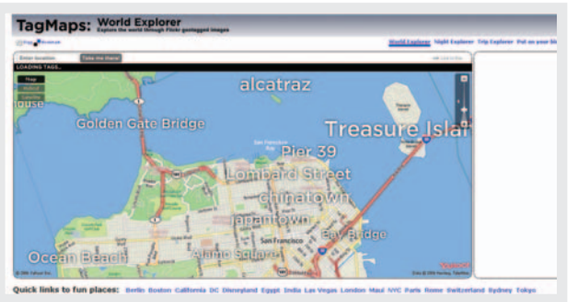
In order to understand and categorise information, we need to classify it. The Dewey Decimal system is a top down way of structuring information but today the world is increasingly describing itself. Metadata used to be what a computer used to describe files to itself, but web users delight in definition, assigning tags to posts and pictures.

Combine tags with weighting and you get tag clouds – weighted collections of words that describe the content of a data set as an evolving word image. **TweetClouds** turns your **Twitter** stream into a tag cloud of your own life.
www.tweetclouds.com

TWEETCLOUDS /

DIGG /

As devices become more spatially aware, enabled by location-specific technologies such as acronyms, GPS and RFID, data will increasingly be added to maps and locations. Tagmaps are geo-folksonomies – socially constructed maps made up of tags appended to images from specific locations that portray how people see places.
http://tagmaps.research.yahoo.com



TAGMAPS /

Faris Yakob and Noah Brier are digital ninjas at Naked New York.
www.farisyakob.com
www.noahbrier.com
www.nakedcomms.com