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On the cover: *Front, left to right* Works and sketches by Caroline + Young; Laura Cattaneo; Stefanie Posavec; Headcase Design; Kelli Anderson; Peter Grundy; Nathalie Miebach; Otto Steininger. *Back, left to right* Works and sketches by Nik Schulz; Nathalie Miebach; Nigel Holmes; Accurat; Nathalie Miebach

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Introduction

Steven Heller

Raw Data, Fresh Cooked

Around the time that the Information Age turned into the data dump of the early 1980s, Louis Silverstein, design director at *The New York Times*, pioneered an analogue editorial approach to capturing and communicating important facts to his readers by filling a full broadsheet newspaper page with various charts and graphs, tied together with descriptive captions. He dubbed this page a 'side of beef', referring to the cutaway diagrams that hung in most butcher shops, indicating where the different prime and lesser cuts were located. Silverstein's sides of beef were considerably more complex than their namesake, but no less engaging. They gave readers a diet of prime, lean data, with which to feed their news consumption. An average page would feature a detailed annotated schematic of (for example) the space shuttle, along with separate route maps, complemented by a number of charts and graphs presenting additional orbiting information. Aiding readers to better understand complex material through hierarchical displays, created using extended captions and informative visuals, was the simple goal; launching an entirely new discipline of information design was the amazing consequence.

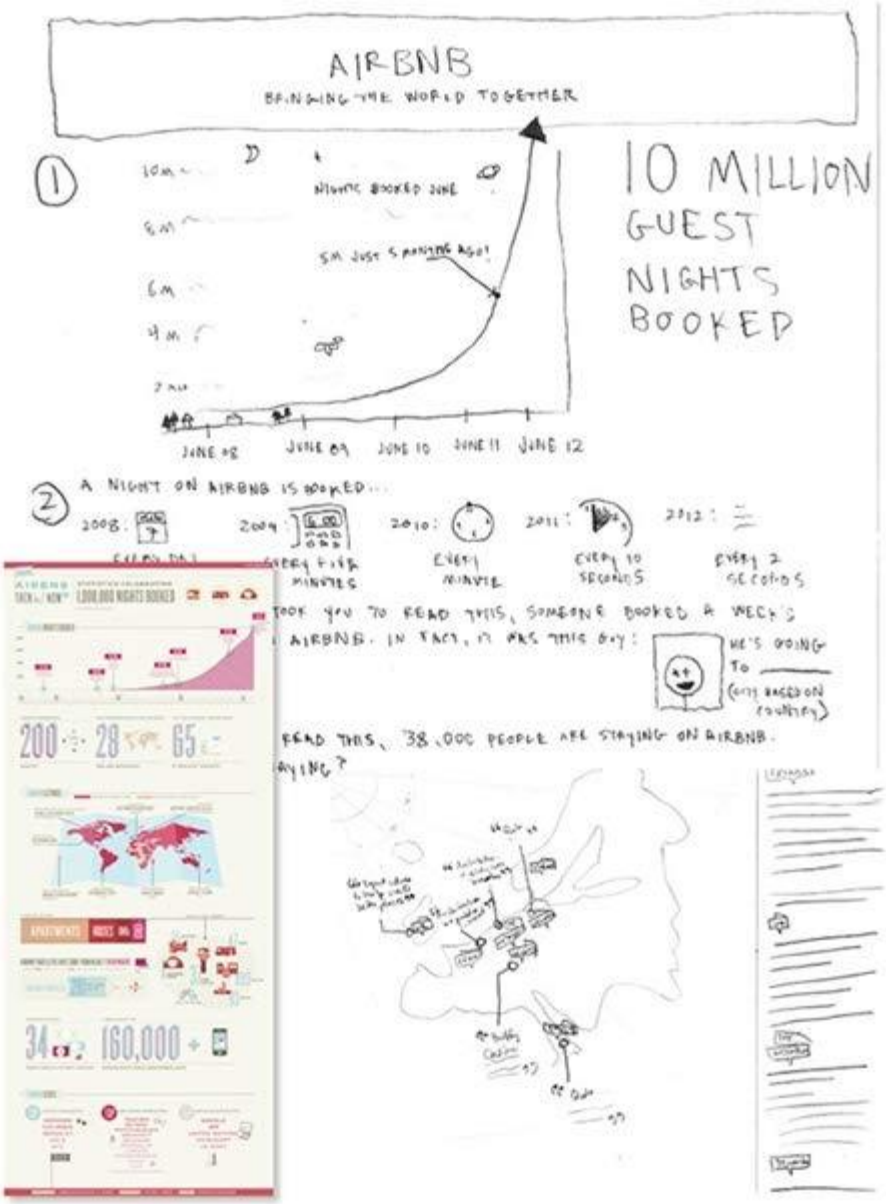
Information graphics, or 'data-visualization' as it is known today, was not entirely novel in the 1980s, or even before. Charts, graphs, diagrams and maps were long-time editorial staples of newspapers, magazines, textbooks, annual reports and more. Graphic pictoiconography of the kind running rampant today had been used as a visual shorthand since the nineteenth century, if not earlier. By the 1930s, symbol signs had been modernized by language theorist and social scientist Otto Neurath, whose ISOTYPE (International System of Typographic Picture Education) is the most common representational icon-language used today. Like mathematics, the easy-to-understand reductive symbolic picture is a universal communicator, whether on road signs or luggage stickers, and Neurath's original international picture language is as intact and viable today as it was when he directed artists to create his earliest statistical charts in the 1920s.

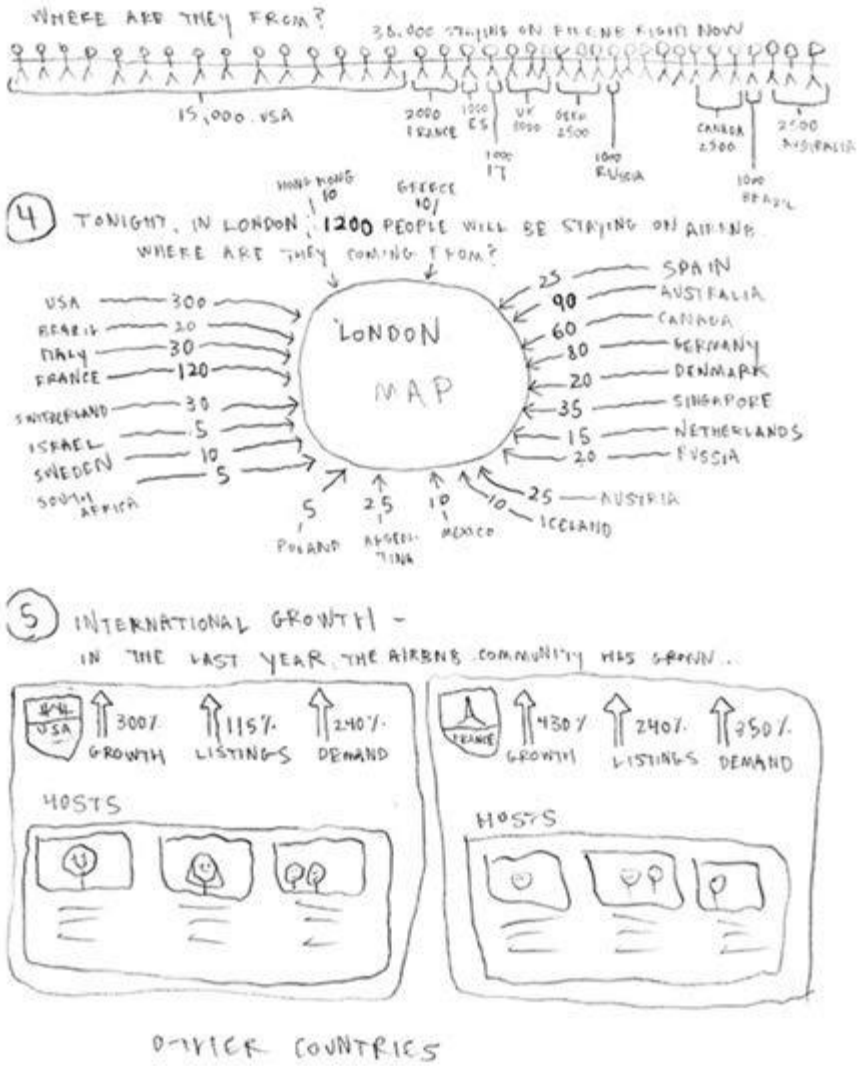
In the ensuing years, data-viz has changed from the facile and virtually undesigned to the conceptually rigorous. The variations have expanded in size and scope to meet an increased demand for digestible information. The data dump is equal parts glut and wave, directly in relation to the excessive number of computer sites and apps offering statistical information; the seismic shift from analogue to digital methods of aggregation, storage and dissemination has overflown the banks of containment. But there is a bright side. More demand begets more designers, both schooled and untutored in the art of information presentation. A greater number of platforms and media outlets means it is incumbent on designers, who a decade ago would never have thought of themselves as 'information architects', to become makers of some form of information visualization. The results are not just the rote pie and fever charts of yore, but are more nuanced while still being accessible.

Making enticingly accurate infographics requires more than a computer drafting program or cut-and-paste template, however. The art of information display is every bit as artful as any other type of design or illustration, with the notable exception that it must tell a factual or linear story, rather than an expressive tale or polemical message. What this book reveals is that this art is required to help explain all kinds of data – but this is not exactly novel either. In 1977 the English-born illustrator Nigel Holmes (pp. 146–53), newly arrived in New York, almost single-handedly shifted how charts and diagrams were used in *Time* magazine, away from nondescript colour-tinted boxes towards illustrated mechanical drawings. Holmes, influenced by Neurath's colleague Rudolf Modley, who added to the visual vocabulary with many more relevant sign symbols than the original ISOTYPE, imported a rare sense of wit and humour into the infographics universe, intended to engage the reader's eye and mind. How Holmes arrived at his solutions was not all that different from other conceptual illustrators: he sketched them, working and reworking them until they were crystalline.

Whether with a pencil or on the computer, drawing is the operative activity. Many information designers and architects will do small thumbnails or draw lines onscreen as a first step in making a pleasing frame for their data messages, but there are many others who take the preliminary exploration as an art exercise. Visualizing data is not supposed to be an expressive opportunity, but the best designers are capable of making an artful commentary while presenting the data clearly and efficiently.

So much of the finished work in this book, shown here alongside the designers' working sketches, reveals a Jekyll-and-Hyde relationship. Much of the loose sketchwork belies even the 'hard-edged' precisionist or, one might say, clinical end product. Even when the preliminary designs are done on computer, they exhibit an understanding of visual craft that every artist will appreciate. When Louis Silverstein sketched out his raw 'sides of beef' on vellum or tracing paper, black litho crayon in hand, the joy of creating his broadsheet-sized pages of information was as intense as the finished product, typeset, pasted up and ready for press.

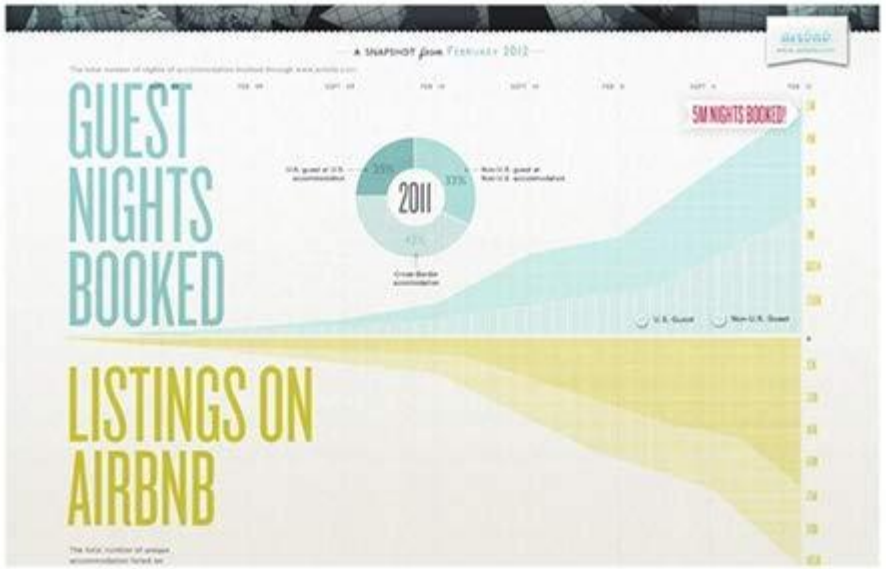

AIRBNB
BRINGING THE WORLD TOGETHER
10 MILLION GUEST NIGHTS BOOKED
NIGHTS BOOKED JUNE
5M JUST 5 MONTHS AGO!
JUNE 08
JUNE 09
JUNE 10
JUNE 11
JUNE 12
A NIGHT ON AIRBNB IS BOOKED...
2008:
2009:
2010:
2011:
2012:
EVERY FIVE MINUTES
EVERY MINUTE
EVERY 10 SECONDS
EVERY 2 SECONDS
TOOK YOU TO READ THIS, SOMEONE BOOKED A WEEK'S
AIRBNB. IN FACT, IT WAS THIS GUY:
HE'S GOING TO
(CITY BASED ON COUNTRY)
READ THIS, 38,000 PEOPLE ARE STAYING ON AIRBNB.
200
28
65
34
160,000


WHERE ARE THEY FROM?
38,000 STAYING ON AIRBNB RIGHT NOW
15,000 USA
2000 FRANCE
1000 ES
1000 IT
UK 3000
GERM 2500
1000 RUSSIA
CANADA 2500
1000 BRAZIL
2500 AUSTRALIA
HONG KONG 10
GREECE 10
TONIGHT, IN LONDON, 1200 PEOPLE WILL BE STAYING ON AIRBNB
WHERE ARE THEY COMING FROM?
LONDON MAP
USA 300
BRAZIL 20
ITALY 30
FRANCE 120
SWITZERLAND 30
ISRAEL 5
SWEDEN 10
SOUTH AFRICA 5
POLAND 5
ARGENTINA 2.5
MEXICO 10
ICELAND 10
AUSTRIA 25
RUSSIA 20
NETHERLANDS 15
SINGAPORE 35
DENMARK 20
GERMANY 80
CANADA 60
AUSTRALIA 90
SPAIN 25
INTERNATIONAL GROWTH -
IN THE LAST YEAR THE AIRBNB COMMUNITY HAS GROWN...
USA
300% GROWTH
115% LISTINGS
240% DEMAND
HOSTS
FRANCE
430% GROWTH
240% LISTINGS
350% DEMAND
HOSTS
OTHER COUNTRIES

BIG TITLE
GUEST NIGHTS BOOKED
LISTINGS ON AIRBNB
THE AIRCORP
3-4 HOST INCOME FACTOIDS GO HERE
HOSTS

GUEST NIGHTS BOOKED
2011
5 MILLION NIGHTS BOOKED
500%
19,000+
192
UK
FRANCE
ITALY
SPAIN
JUST LAST YEAR
RIGHT NOW
NETWORK EFFECTS
AIRBNB TRAVELER NETWORK
2012

91 nights


A SNAPSHOT from FEBRUARY 2012
GUEST NIGHTS BOOKED
5M NIGHTS BOOKED!
2011
LISTINGS ON AIRBNB

Antoine Corbineau

Illustrating activities at cultural, athletics and food events

Antoine Corbineau studied graphic design at art schools in France and the UK, while continuing to pursue his interest in painting. When showing around a portfolio that included both graphic design and fine art, he was encouraged to push his work further in the illustrative direction – a path that ultimately led him to infographics. 'It is a good halfway point, but it's still just a part of my output,' Corbineau says. 'I also do children's books, for example, which requires a different approach altogether.'

Corbineau embarks on each job by doing one very rough sketch, followed by a more detailed one, but only after he begins the final work. 'I always sketch with a pencil and a fine eraser,' he explains, 'but I sketch revisions on the computer, on top of my scanned sketch.'

Corbineau admits that using a pencil is probably a more natural process, as 'there is no filter, or the interpretation of a machine, between my impulse and the visual result. It's a great opportunity to not be on a computer, at least for a little while!'

London Calling!

GimMick magazine, 2013

This infographic, made for a French youth magazine, was a simple editorial work about a school trip to London.

Festival of the World

Southbank Centre, 2012

The idea behind this poster design for London's Southbank Centre was to underline the diverse programme and exciting atmosphere of the centre's Festival of the World during the 2012 Olympics.

Accurat | Giorgia Lupi

Exploring the phenomenon of geniuses and the brain drain

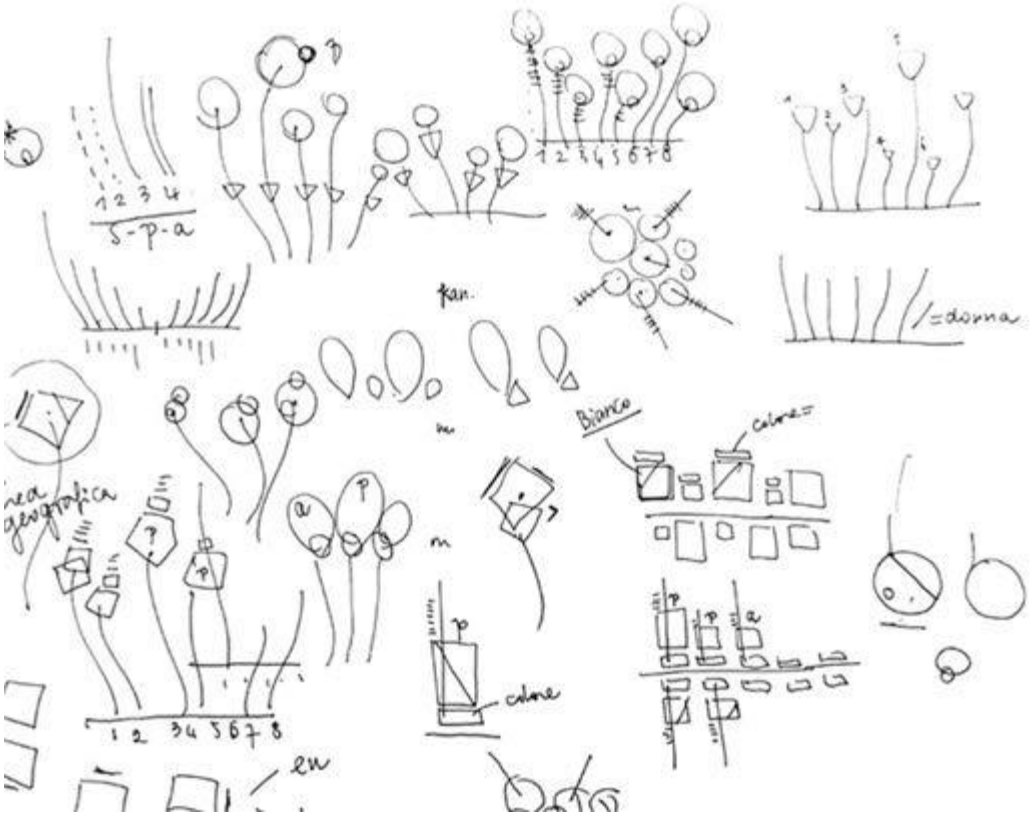
'Drawing plays an important role in the production and communication of knowledge, and in the genesis of new ideas,' says design director Giorgia Lupi, founder of Accurat, an information design agency with offices in Milan and New York. 'In addition, the act of drawing and the fact we choose to stop and draw focuses the attention. When I'm sketching, I always try to find a way to interpret both the single visual elements and the overall composition.'

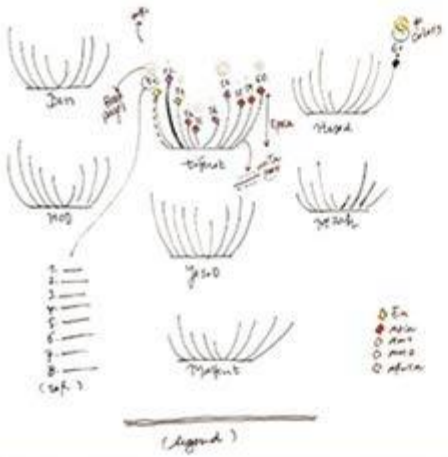
Lupi draws on white paper with Muji black-ink pens. Drawing is her primary expression, a 'functional tool for capturing and exploring thoughts and exploring ideas towards the production of the final piece'. Her team approaches problems in the way that journalists would, rather than as data analysts, understanding in which contexts they must interpret their data.

When describing Geniuses, Visualized, the company's project for *La Lettura*, a magazine supplement in the Italian newspaper *Corriere della Sera*, Lupi says: 'We aim to deliver rich visual narratives, able to maintain the complexity of the data but still making this complexity more accessible and understandable through the visualization.'

They also provide several layers of exploration on the data set being analysed. 'We call it "non-linear storytelling", Lupi says, 'where people can get lost in singular elements, minor tales and "last-mile" textual elements within the greater visualization.'

Lupi and her team regularly push the boundaries on how to 'compose' data-visualizations that achieve aesthetic beauty and elegance through new visual metaphors, intentionally avoiding the more usual and already tested styles of representation.

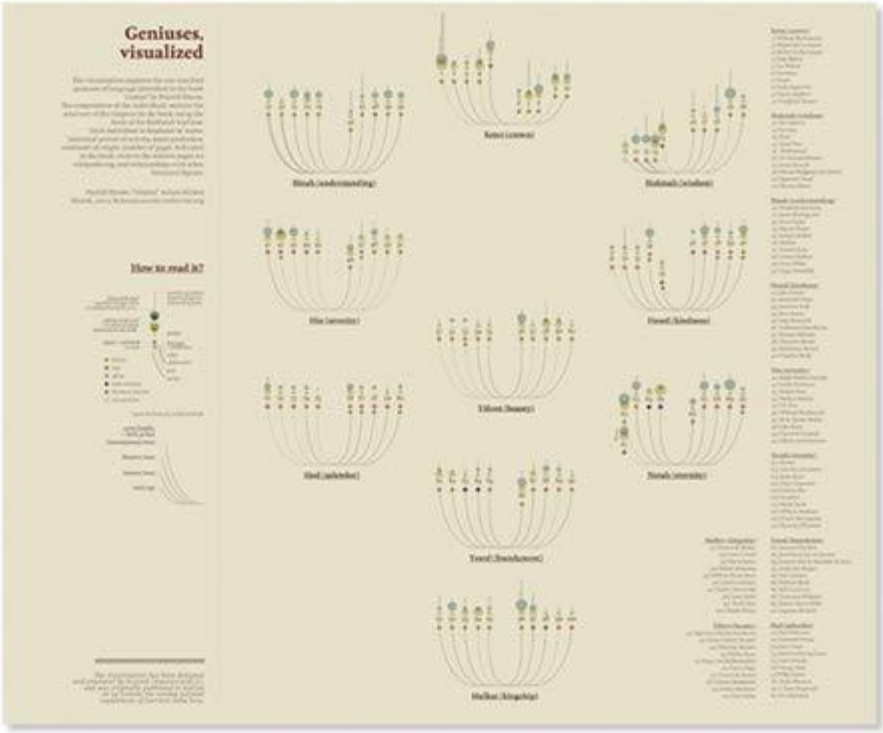




Geniuses, Visualized

***La Lettura*, 2012**

This infographic looked at the 100 'exemplary creative minds' identified in literary critic Harold Bloom's book Genius. Playing off Bloom's use of the Sefirot, the ten emanations of the Kabbalah, to organize the taxonomy of his chosen 'geniuses' of language – from Shakespeare to Lewis Carroll – the visualization depicts the geographic origin, time period and field of each genius, correlated with number of Wikipedia hits and connection to related historical figures.



Sketchbook pages

Drawings for Holmes's book *Wordless Diagrams*, 2004 (this page, top); logo for a commuter rail advisory group, RTEC (this page, bottom); a diagram for *Blue Planet Run*, by Rick Smolan, 2007 (opposite page, top); icons for an annual report, Smithfield Farms (opposite page, middle); logo for exercise equipment, Exersaucer (opposite page, bottom).

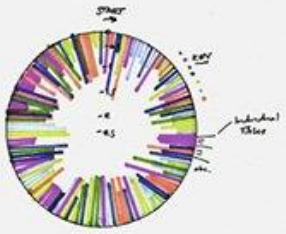
Tim Hucklesby

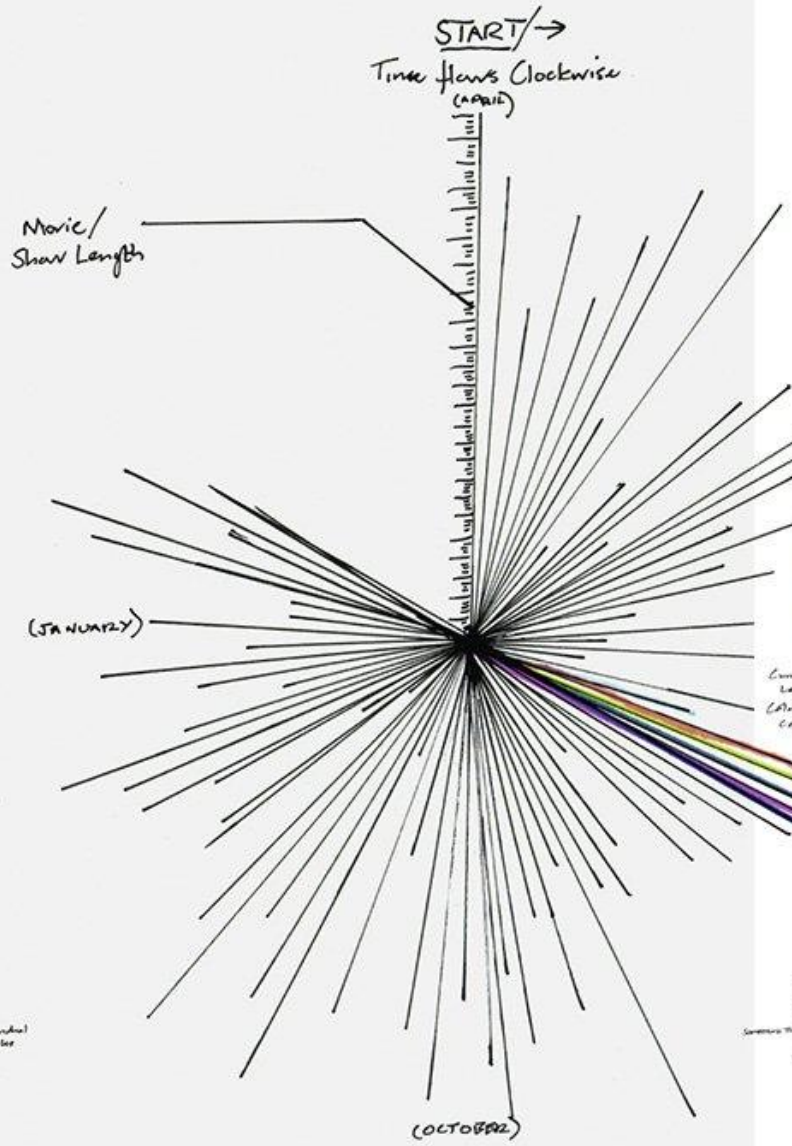
Charting his own movie viewing over a year

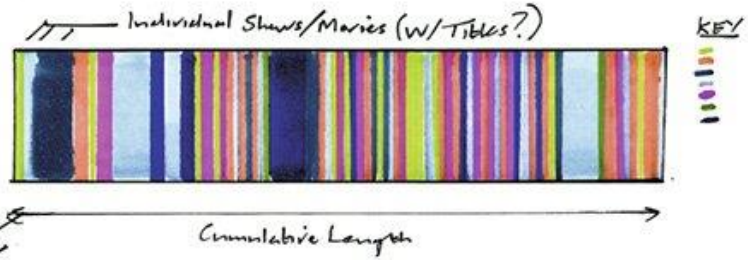
British-born Tim Hucklesby, now a designer at Doyle Partners in New York, first began designing infographics a few years ago, when he wanted to round out his portfolio before applying to the MFA Design programme at the School of Visual Arts. 'I kept designing them because I wasn't happy with the first one, and discovered that they were, in fact, pretty tough to make,' he admits. 'I always want the core idea to be a quick read, as well as encouraging the viewer to keep digging. I tend to slip up on at least one of these criteria, so will keep trying.'

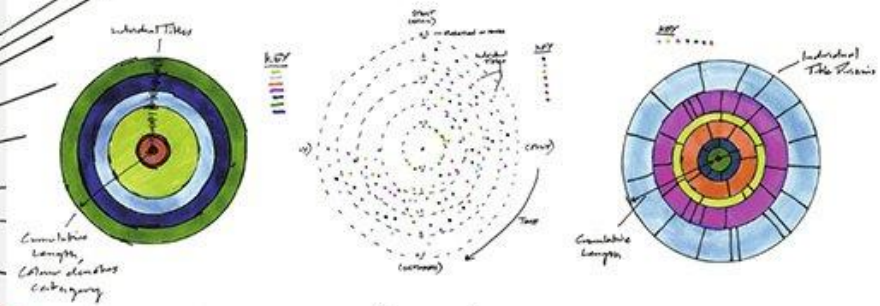
Hucklesby always embarks on a project by sketching in pen or pencil, whatever is to hand. 'I want get the concept pinned down before moving to the computer,' he says. 'I've found going straight to the machine tends to pull me down certain avenues, using techniques that I've used in the past. If I start on paper, I worry far less about how I'm going to make the finished piece and aim for something a bit more ambitious as a result.'

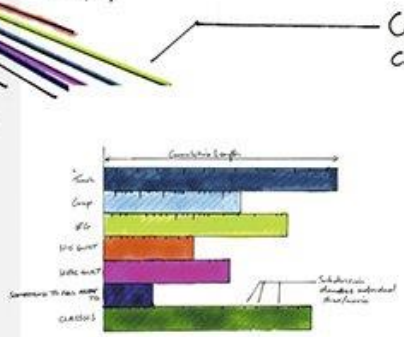
Of the visualization of his Netflix streaming consumption, A Questionable History (these pages), Hucklesby says: 'In the process of sorting the data, I found a great number of movie titles I didn't recognize, which turned out to be what my wife was watching while I was out. She was catching up on TV and films I wouldn't watch with her. In the end, the project was a public shaming of both of us and our viewing habits. It also served as a wake-up call to get out more.'

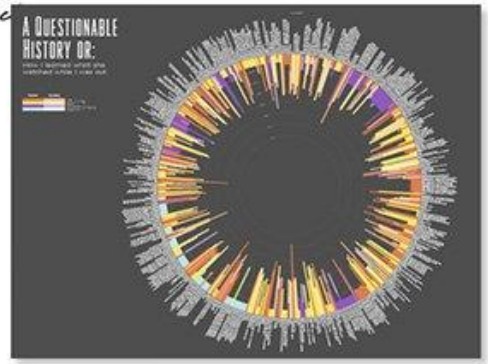












Chromapost Painting

2012

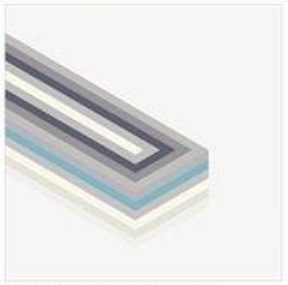
Here, thirty-one canvases were arranged according to the 2012 calendar, and painted with August 2012 colours.

Messenger Bag

2013

This bag, riffing off the Chromapost theme, was produced by Brooklyn Industries.

Mark Notermann, 24 September 2012–4 November 2013



Sanja Kusturica, *Prologue*, 11–24 August 2013

Amy Vernon, *Freebird*, 16 August 2013–16 October 2013

Radovan Janjušević, *@3168*, 5 August–13 October 2013

Andrea Gebell, 16 July 2012–18 April 2013

Social Network

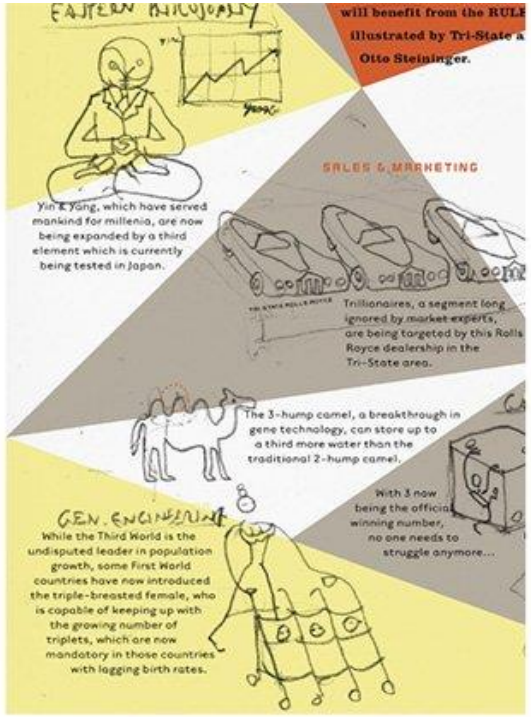
2012

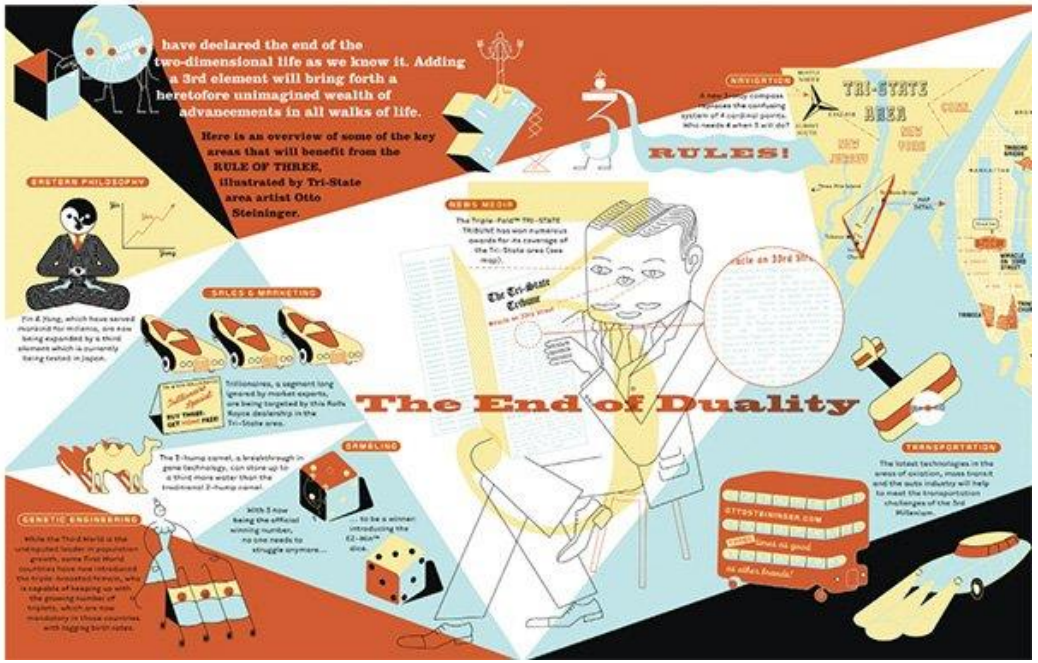
This project was produced in collaboration with programmer Tomica Oreškovic. The artworks illustrated here are a selection created by users, and include time-frames from their colour diaries.

The Rule of Three

***Box Lunch*, 2005**

For each issue of *Box Lunch*, participating artists submit a page or a spread in which he or she interprets the chosen theme. The third issue of the magazine was all about the number three, so, as Steininger explains, 'this piece is playing off that number, presenting a fictitious theory that the number three has become the ruling principle of our life. It contains a "Tri-State map" and is designed in a playful, infographic style.'





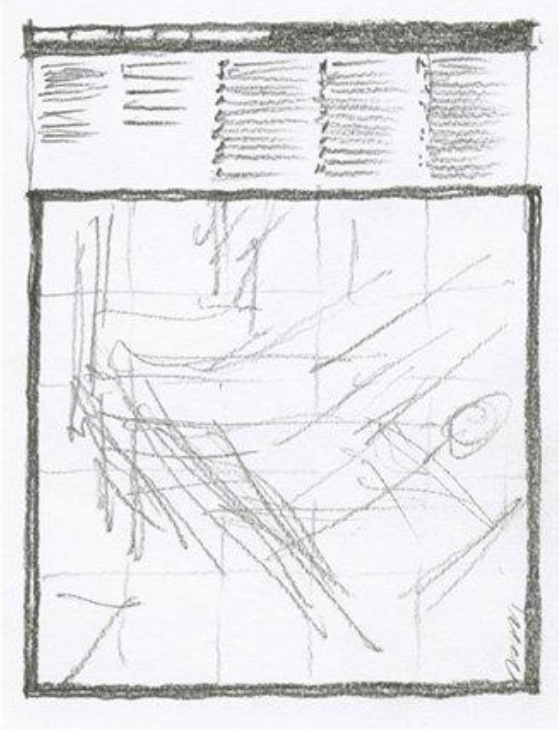
Massimo Vignelli

Designing a map that is really a diagram

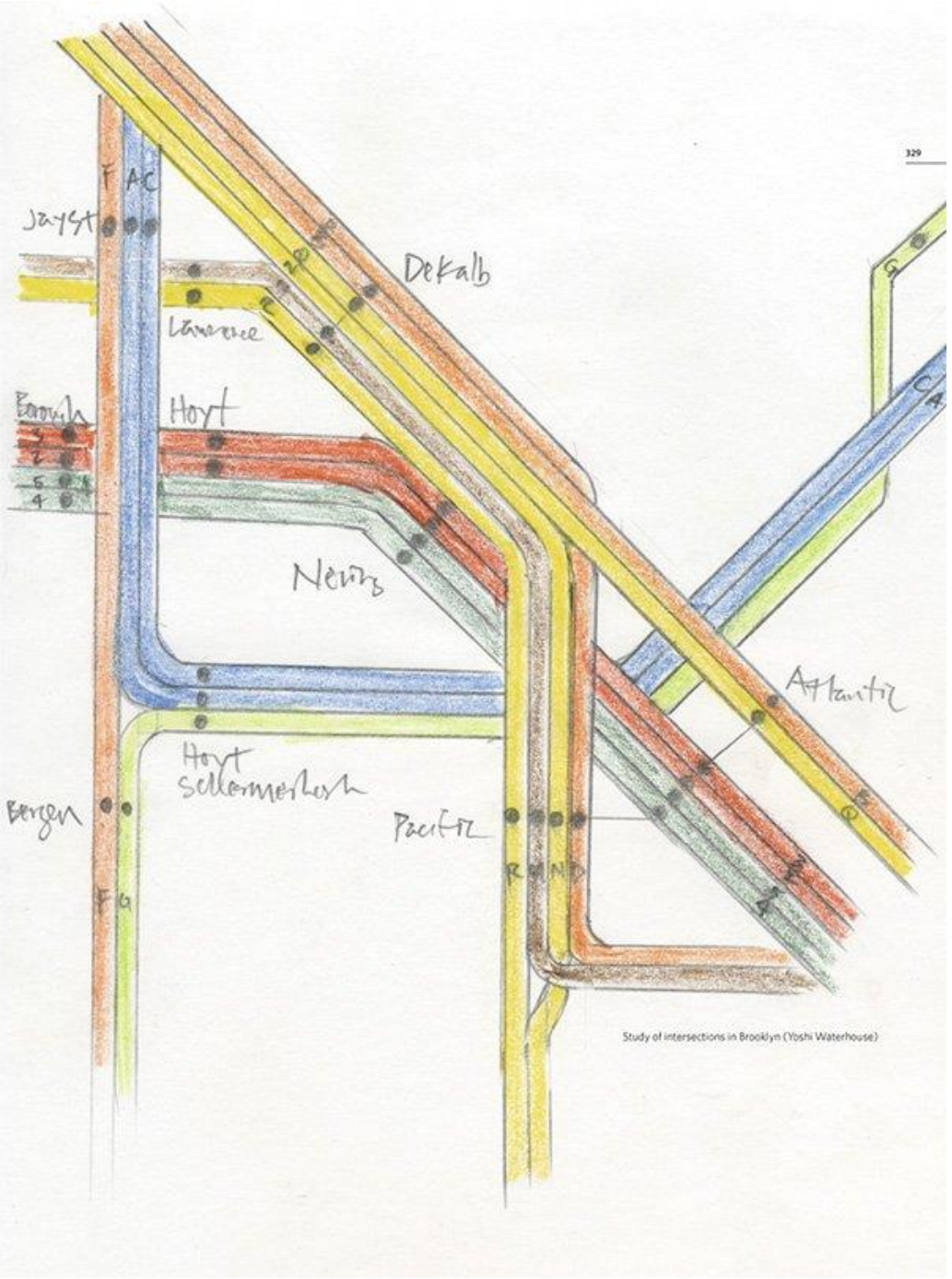
In 1972, Massimo Vignelli designed a diagrammatic for the New York City subway. He replaced the serpentine maze of geographically accurate train routes with simple, bold bands of colour that turned at 45° and 90° angles. Each route was colour-coded, its stops indicated by black dots. To make the map function more effectively, a few geographic liberties were taken, something that didn't sit well with New Yorkers. For instance, the new map showed Central Park as a square; Vignelli reasoned that for people riding underground, the park's rectangular proportions were irrelevant. There are fewer stops along Central Park West than in Midtown, so logic dictated that less map space was required. But New Yorkers wanted their rectangle back, and in 1979 the map was replaced.

As it turned out, that original map of 1972 was ahead of its time; Vignelli's economical format was perfect for web accessibility. In 2010 a new digital iteration, The Weekender (these pages), the result of the combined efforts of Vignelli and two associates, Beatriz Cifuentes and Yoshi Waterhouse, went online. One of their first acts was to re-term the map; it is now a diagram. The design process began the traditional way, using black-and-white and coloured pencils. 'Sketching forces us to concentrate on the details,' Vignelli explains. 'We use the computer to refine details, but the concept is expressed with a 3b Caran d'Ache.'

The team rebuilt the diagram geometry from scratch. 'Based on a grid and a masterplan established in advance,' Vignelli says, 'we analysed the situation and worked to find the most appropriate solution for every station with several connections by discussing and sketching alternatives until we found the best one.'



Drawing, final diagram layout with frame and legend



Study of intersections in Brooklyn (Yoshi Waterhouse)