

# information is beautiful

David McCandless



Collins



## Introduction

This book started out as an exploration. Swamped by information, I was searching for a better way to see it all and understand it. Why not visually?

In a way, we're all visual now. Every day, every hour, maybe even every minute, we're looking and absorbing information via the web. We're steeped in it. Maybe even lost in it. So perhaps what we need are well-designed, colourful and – hopefully – useful charts to help us navigate. A map book.

But can a book with the minimum of text, rammed with diagrams, maps and charts, still be exciting and readable? Can it still be fun? Can you make jokes in graphs? Are you even allowed to?

So I started experimenting with visualizing information and ideas in both new and old ways. I went for subjects that sprang from my own curiosity and ignorance – the questions I wanted answering. I avoided straightforward facts and dry statistics. Instead, I focussed on the relationship between facts, the context, the connections that make information meaningful.

So, that's what this book is. Miscellaneous facts and ideas, interconnected visually. A visual miscellaneum. A series of experiments in making information approachable and beautiful. See what you think.

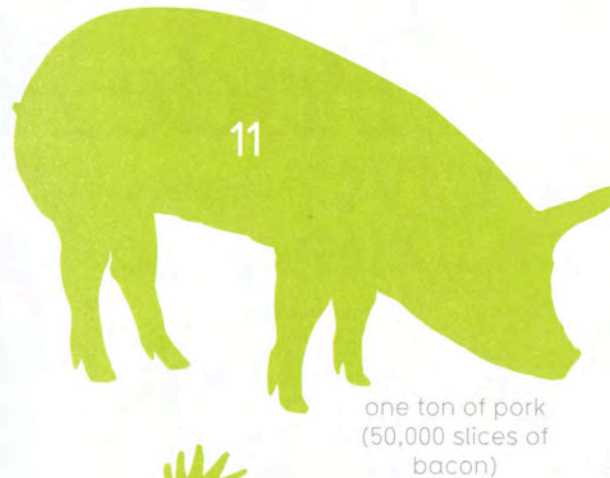
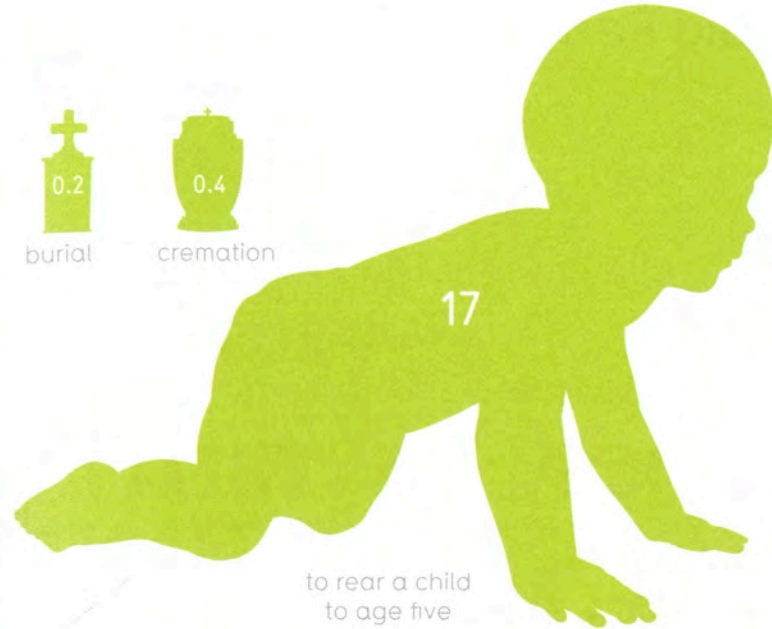
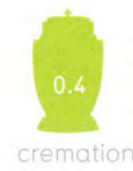
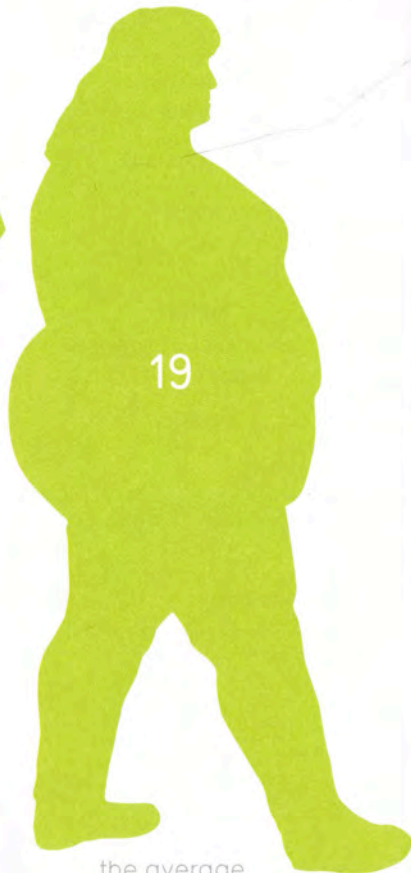
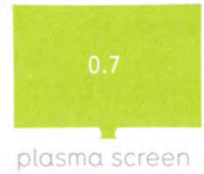
David McCandless



# Tons Of Carbon I

Per year unless otherwise stated

**1 TON**  
the amount a tree absorbs in its lifetime



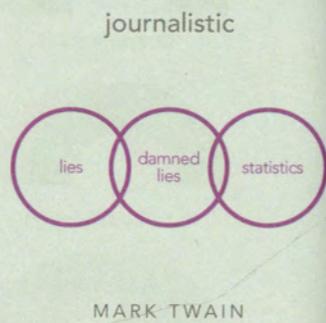
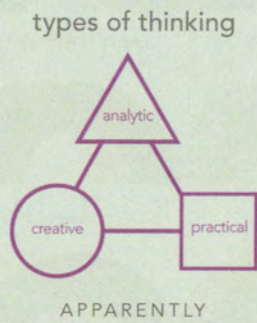
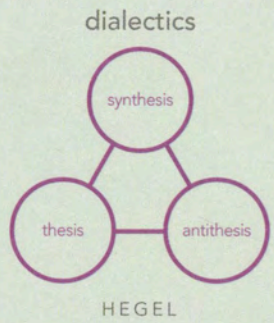


# Three's a Magic Number

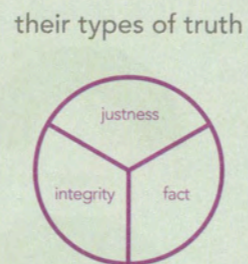
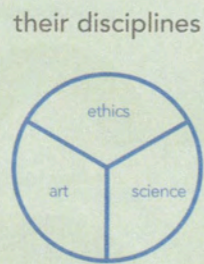
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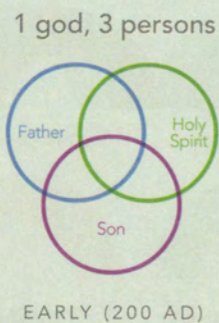
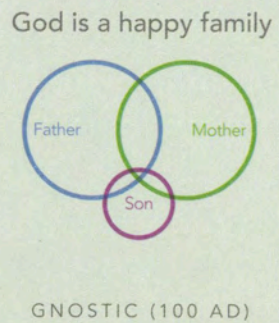
## THREE THINKING



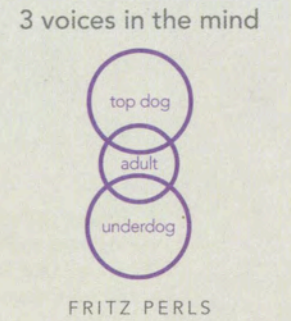
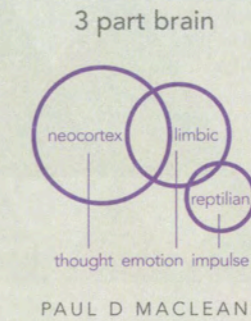
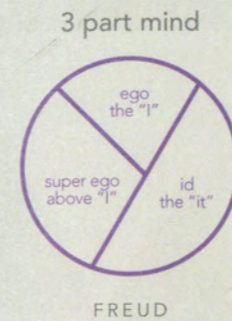
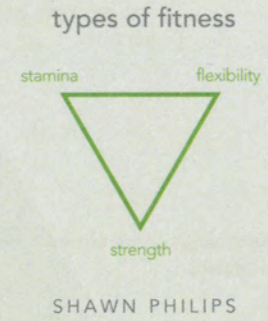
## THE THREE DOMAINS OF LIFE



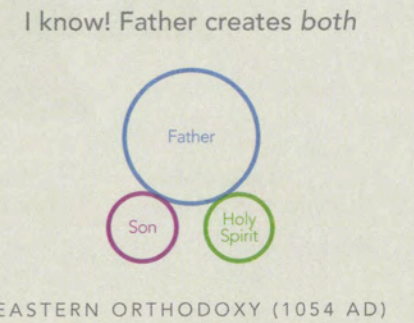
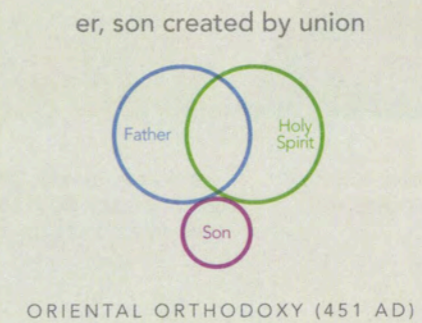
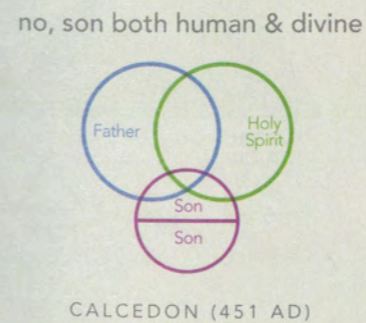
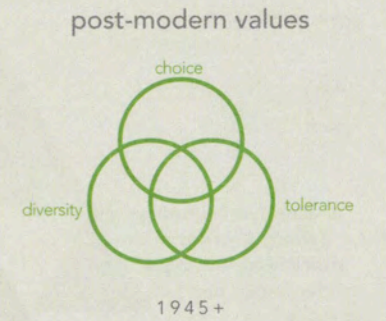
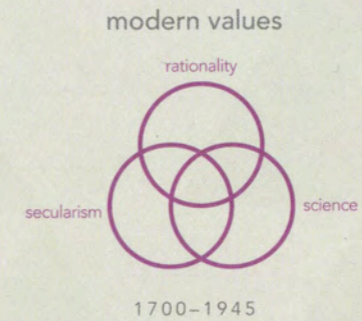
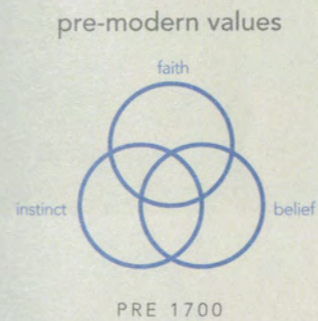
## CHRISTIAN TRINITIES



## HEALTHREE



## THREEDOM





# Types of Information Visualization

<b>Decision tree</b> 	<b>Dunno what to call it</b> 	<b>Conetree</b> 	<b>Icicle tree</b> 	<b>Treemap</b> 	<b>Flowchart</b> 	<b>Sankey</b> 	<b>Periodic table</b> 
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<b>Radar</b> 	<b>Spiral</b> 	<b>Concept fan</b> 	<b>Fan</b> 	<b>Synergy map</b> 	<b>Bubble mind map</b> 	<b>Ven bubbles</b> 	<b>Semantic polar grid</b> 
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<b>Bubbles (nested)</b> 	<b>Polar grid (segmented)</b> 	<b>Sun burst</b> 	<b>Coxcomb</b> 	<b>Polar grid</b> 	<b>Icicle pie</b> 	<b>Mandala (complex)</b> 	<b>Mandala</b> 
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<b>Infographic</b> 	<b>Charticle</b> 	<b>Word cloud</b> 	<b>Matrix</b> 	<b>Family tree</b> 	<b>Mind map (tidy)</b> 	<b>Mind map (organic)</b> 	<b>Concept map</b> 
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<b>Bubble chart</b> 	<b>Bubble comparison</b> 	<b>Bubble race</b> 	<b>Bubble race with strings</b> 	<b>Bubble clusters</b> 	<b>Bubble network</b> 	<b>Bubble treemap</b> 	<b>Bubble star ring</b> 
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## Pass the...

A table of condiments that periodically go bad

<b>Tz</b> Tzatziki 2 days	<b>Ps</b> Peanut/Salicy sauce 2 days	<b>Ss</b> Sweet and sour sauce 3 days	<b>Gs</b> Granulated sweetener 3 weeks	<b>Bs</b> Brown sauce 6 weeks	<b>Ca</b> Cayenne pepper 3 months	<b>C</b> Cocoa 1 year
<b>Gu</b> Guacamole 2 days	<b>L</b> Lemon Juice 3 days	<b>Pa</b> Parmesan cheese 3 weeks	<b>Be</b> Beef extract 3 days	<b>LC</b> Lime chutney 3 weeks	<b>Ma</b> Mayonnaise 2 months	<b>P</b> Peanut oil 1 year
<b>Sc</b> Sour cream 3 days	<b>B</b> Butter 3 weeks	<b>Fd</b> French dressing 1 month	<b>Pa</b> Parmesan chutney 3 weeks	<b>Hs</b> Hobain sauce 1 month	<b>Td</b> Thousand island dressing 6 weeks	<b>Pa</b> Palm oil 1 year
<b>M</b> Margarine 3 weeks	<b>Dm</b> Dijon mustard 1 month	<b>Ma</b> Maple syrup 1 year	<b>LC</b> Lemon curd 6 weeks	<b>Id</b> Italian dressing 6 weeks	<b>Ms</b> Maple syrup 1 year	<b>BV</b> Balsamic vinegar 5 years
<b>Fs</b> Flaxseed oil 2 months	<b>So</b> Soybean oil 1 year	<b>O</b> Oyster sauce 2 weeks	<b>Cu</b> Custard 3 weeks	<b>Ch</b> Chili sauce 1 month	<b>Sp</b> Sweet pickle 6 weeks	<b>Ta</b> Tahini 6 months
<b>Sf</b> Sunflower oil 1 year	<b>H</b> Honey Indefinite	<b>Og</b> Onion gravy 1 week	<b>PI</b> Plum sauce 1 month	<b>Bq</b> BBQ sauce 1 month	<b>Pi</b> Picallilli 6 weeks	<b>Y</b> Yeast extract 6 months
<b>Su</b> Sugar Indefinite	<b>MV</b> Malt vinegar Indefinite	<b>WC</b> Whipped cream 1 week	<b>Id</b> Italian dressing 6 weeks	<b>Vg</b> Vegetable gravy 1 month	<b>Pk</b> Pickle 6 weeks	<b>Pb</b> Peanut butter 6 months
<b>Sa</b> Salsa 2 days	<b>Sa</b> Salt Indefinite	<b>Ma'</b> home-made mayonnaise 1 week	<b>Ms</b> Maple syrup 1 year	<b>T</b> Tomato chutney 1 month	<b>Ta</b> Tartar sauce 6 weeks	<b>Ma</b> Marmalade 6 months
<b>Be</b> Beef extract 3 days	<b>H</b> Honey Indefinite	<b>Hu</b> Hummus 5 days	<b>W</b> Worcester sauce 2 years	<b>Mg</b> Mango chutney 1 month	<b>Mi</b> Mint sauce 6 weeks	<b>Wa</b> Wasabi 3 months
<b>Pa</b> Parmesan cheese 3 weeks	<b>H</b> Honey Indefinite	<b>Mg</b> Meat gravy 5 days	<b>WV</b> White wine vinegar 2 years	<b>Tr</b> Treacle 1 month	<b>K</b> Ketchup 6 weeks	<b>Bm</b> Brown mustard 3 months
<b>Fd</b> French dressing 1 month	<b>H</b> Honey Indefinite	<b>Ra</b> Raita 5 days	<b>Ym</b> Yellow mustard 18 months	<b>J</b> Jam 1 month	<b>H</b> Horsradish 6 weeks	<b>Ch</b> Chili powder 3 months
<b>Ma</b> Mayonnaise 2 months	<b>H</b> Honey Indefinite	<b>Mg</b> Mango chutney 1 month	<b>Bb</b> Black pepper 1 year	<b>Tr</b> Treacle 1 month	<b>H</b> Horsradish 6 weeks	<b>Ch</b> Chili powder 3 months
<b>Pa</b> Parmesan cheese 3 weeks	<b>H</b> Honey Indefinite	<b>Mi</b> Mint sauce 6 weeks	<b>C</b> Cocoa 1 year	<b>J</b> Jam 1 month	<b>H</b> Horsradish 6 weeks	<b>Ch</b> Chili powder 3 months
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<						



# NATURE

vs.

# NURTURE

Your genes control everything. Hair colour. Behaviour. Intelligence. Personality. Sure, environment has a role, but it's your genes that rule you.



Most behaviour is genetic. Genes for speech, empathy and even altruism all evolved when we lived as hunter-gatherers on the ancient grasslands of Africa.



The proof is in the brain. It has evolved "modules" for all human abilities, even for religious experiences!



Oh yeah? Animal breeders know it takes only a few generations of controlled mating to influence behaviours like fierceness or tameness in dogs.



Genes change the brain too. And at a more fundamental level, before your so-called "choices" come in. Try "deciding" to override a genetic expression. You can't! Hah!



Okay then, what about behavioural problems such as depression, mental illness and autism? They're all highly inheritable.

Ahhhhh but behavioural disorders like autism are highly inheritable. In identical twins, if one twin is autistic, the other has a 60% chance of being autistic. In non-identical twins the chance is only 5%. That goes for intelligence too.



But don't intelligent parents also provide the genes for high IQ? Twins separated at birth are often remarkably similar in IQ and personality, even when they haven't met. This proves there are genetic influences for everything. Even taste in music!



But identical twins reared apart become more alike, even when they haven't met. That means that genes must shape our personalities.



Pffff.

## CONCLUSION 50-50



Grrrrr!

You learn pretty much everything you do. From standing and walking to talking and socializing. Your environment and your choices make you who you are...



The evidence for that ancient lifestyle is complete guesswork.

Nah. Those "structures" could simply be projections of human interpretation on the brain. Behavior isn't genetically evolved. We learn it.

Dogs, maybe. But complex human behaviour like musical ability or humour? C'mon. These are learnt. In fact, learning, we now know, changes the physical structure of the brain! So much for genes.

Most genetic expression, from traits to behaviours, are triggered by your environment. Nurture comes first!

Yeah it's fashionable to say that yes. But, even after years of study, researchers have failed to turn up a single gene for mental illness or depression.

In autism, maybe. But you can't then stretch it to all behaviour and certainly not intelligence. Intelligent parents *teach* their kids to be intelligent.

Yeah but if it was all genes, you'd expect identical twins to be 100% the same. Figures for IQ may be high. But it's way less to non-existent for other traits like personality.

Hmmmmmm. Many studies of twins are flawed and biased. Often they just compare identical twins reared apart after the birth. They don't use "controls" of unrelated people with the same background as the twins to check that age, gender, ethnicity and cultural environment are not also influencing personality. The whole field is biased.

Both nature and nurture each contribute (in arguable proportions) to who we are. They also "speak the same language".

That is, they both change the structure of the brain. In summary, humans are dynamic creative organisms. Learning and experience amplify the effect of genes on behaviour.

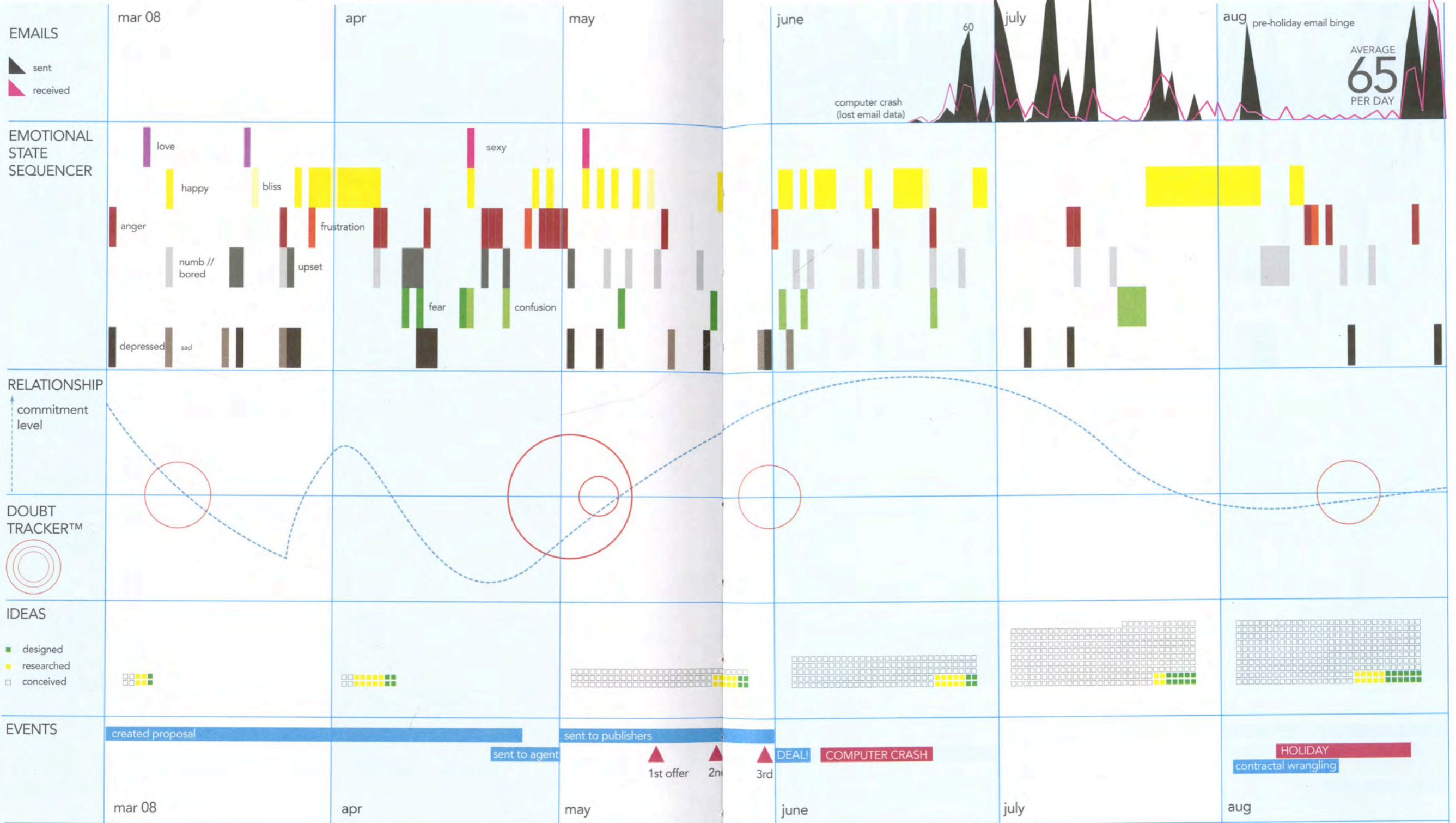






# Making a Book

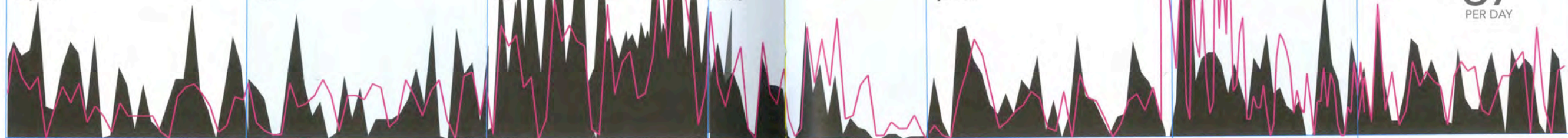
The first six months



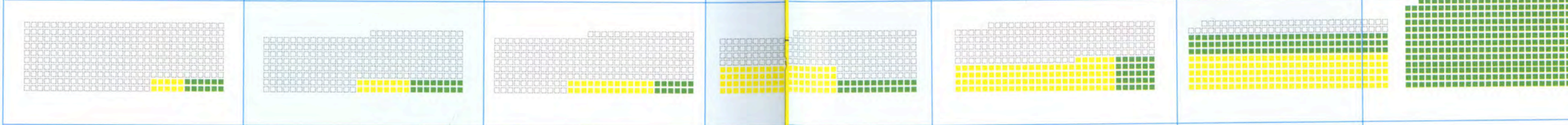
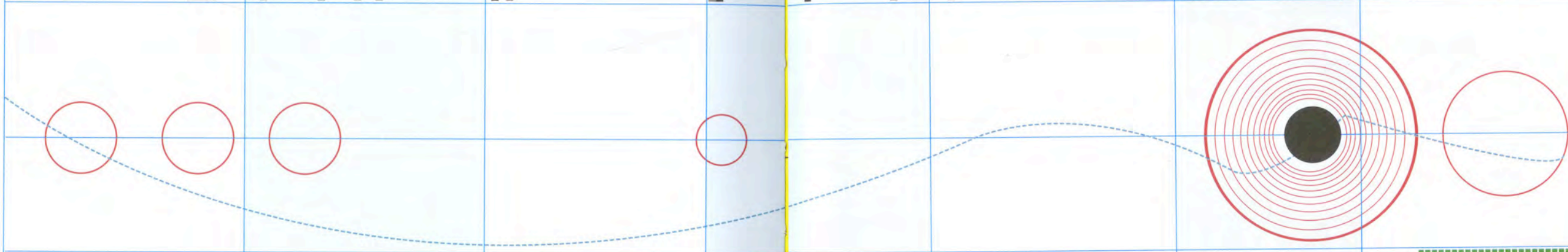
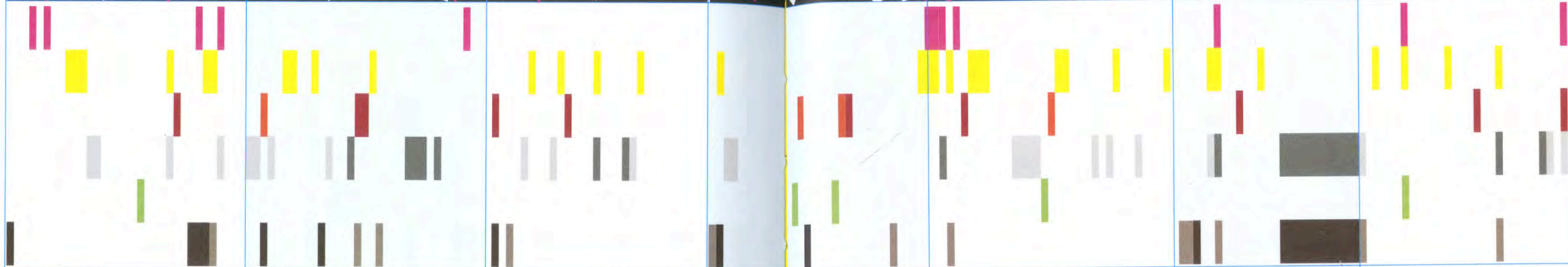


# Making a Book

The last six months  
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AVERAGE  
**87**  
PER DAY



research phase

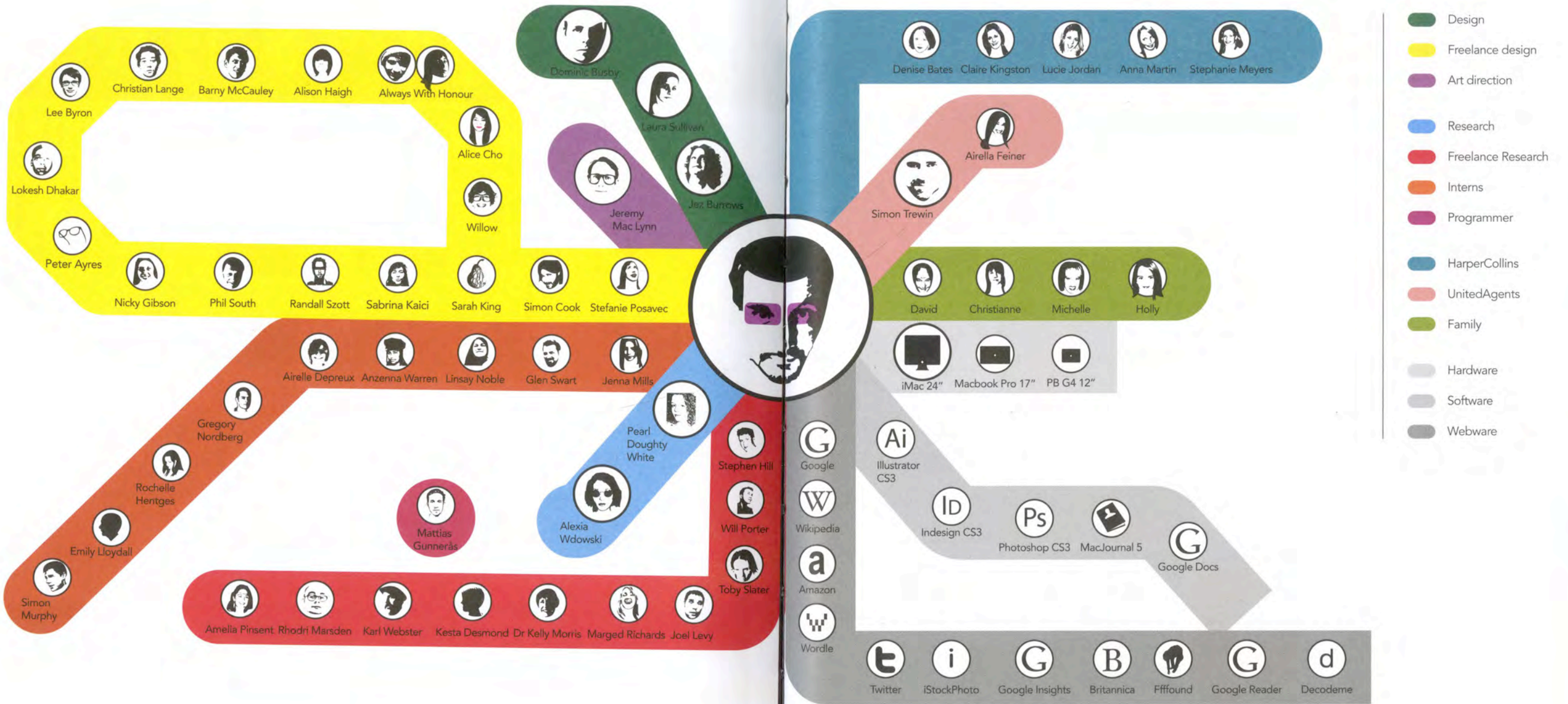
design phase  
broke ankle!

refinement phase  
panic phase



# Acknowledge Map

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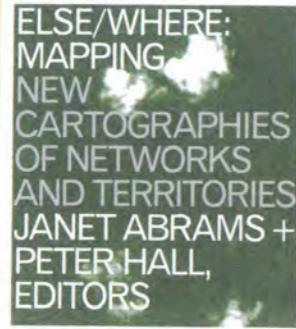
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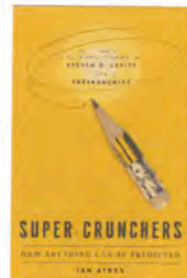
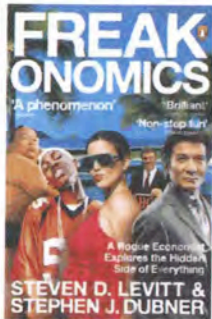
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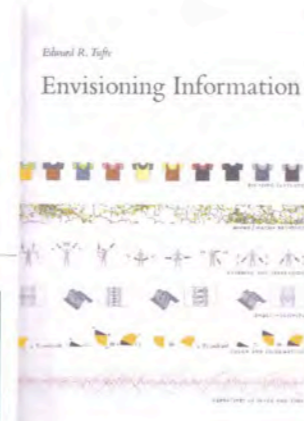
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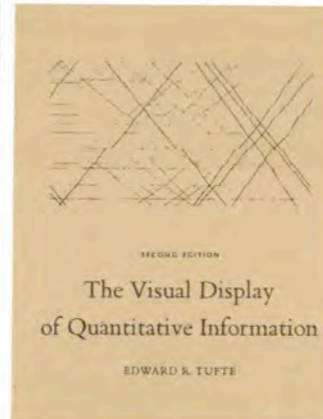
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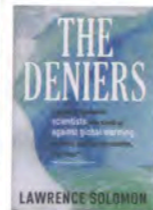


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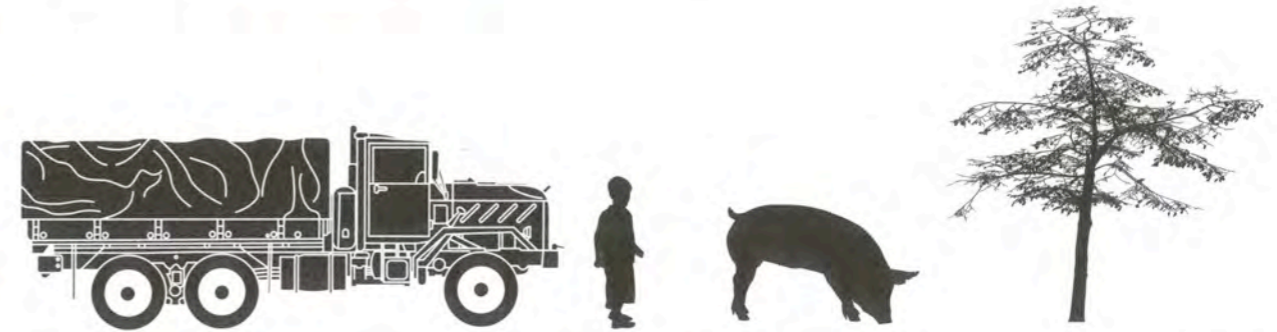
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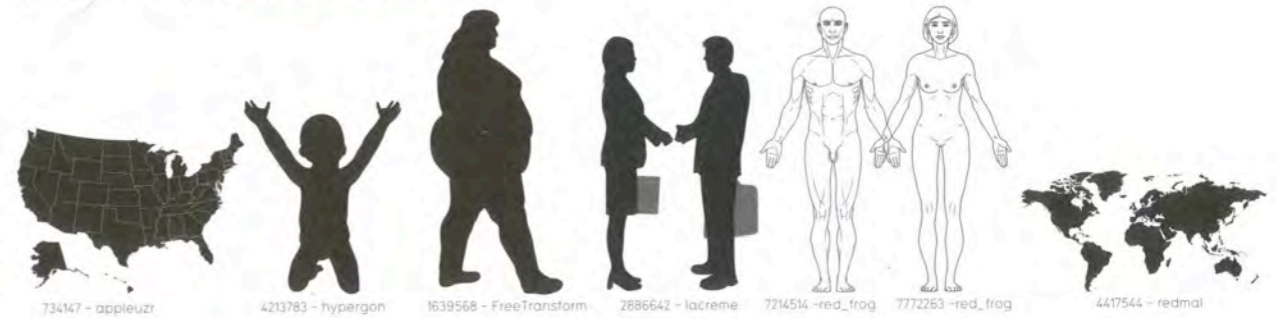
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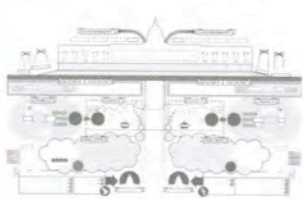








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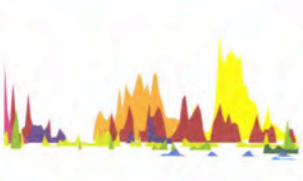
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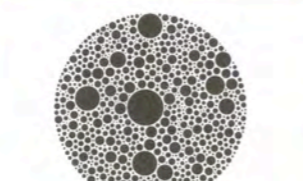
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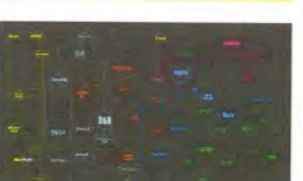
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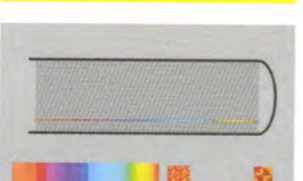
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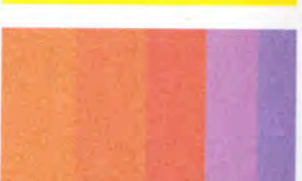
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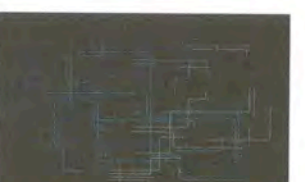
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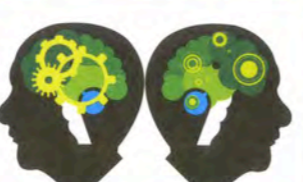
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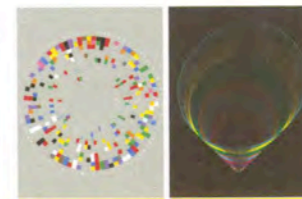
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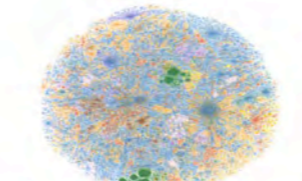
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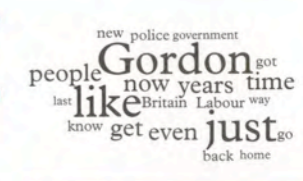
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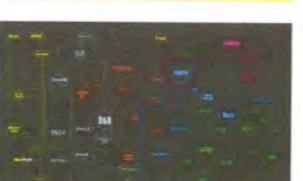
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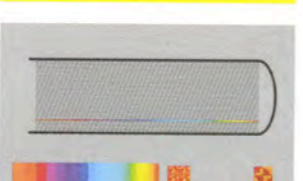
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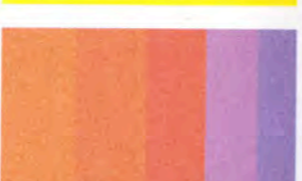
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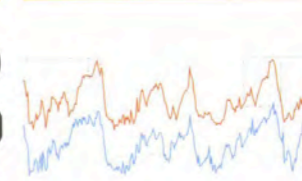
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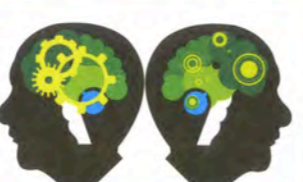
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