

**An alphabet of  
things to think about  
when creating and  
polishing a poster...**

Polish my poster!

A: About

**A** is for **About** this  
**presentation**

Polish my poster!

A: Audience

**A** is for Audience

Polish my poster!

A: Audience

**A is for Audience**

**Appropriate, appealing, and accessible**

# **A** is for Audience

“

**Most academic posters are ineffective.  
This trend makes it harder for good  
posters to be created**

**(Sousa & Clark, 2019)**

Polish my poster!

A: Audience

# A is for Audience



Polish my poster!

A: Audience

# **A** is for Audience

**What are 'rules' vs. 'norms' for the conference  
(and can you challenge these?)**

Polish my poster!

A: Audience

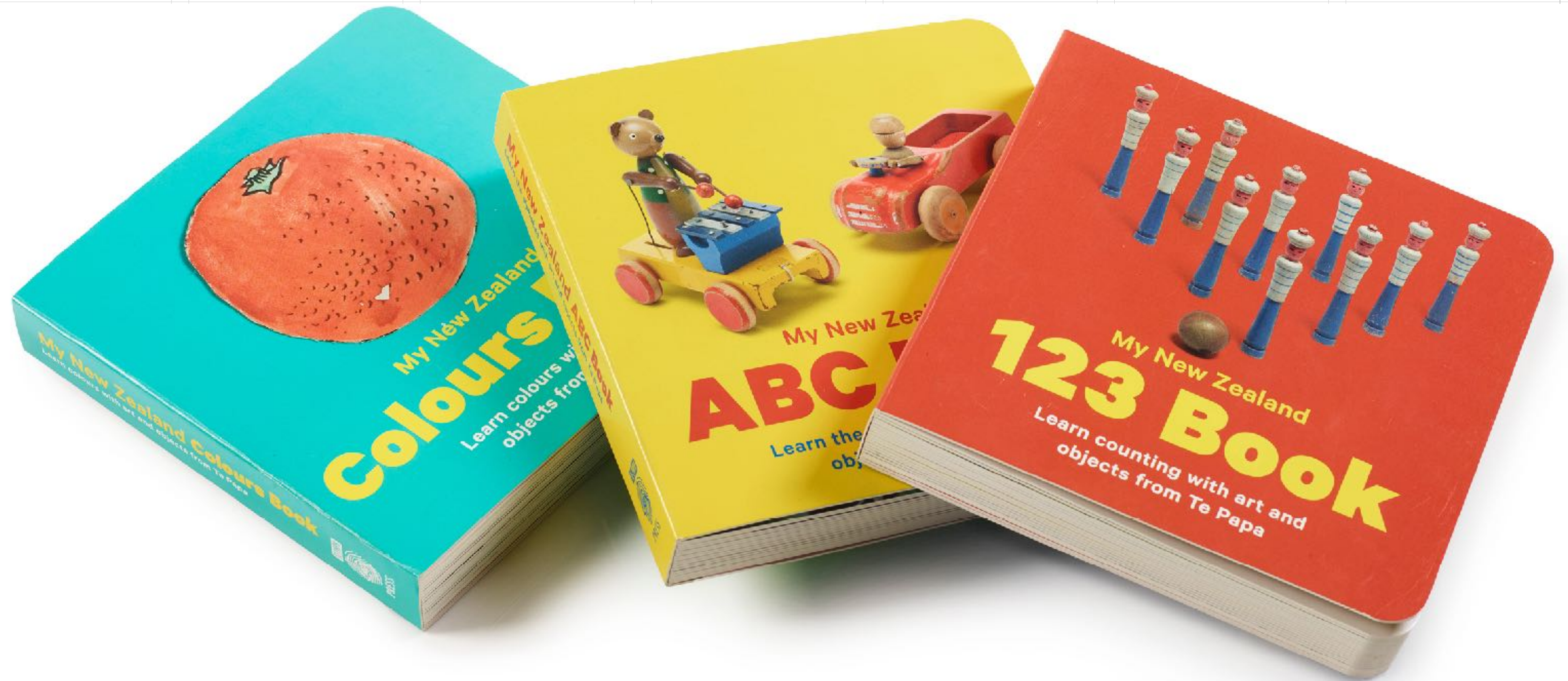
# **A** is for Audience

What do you want from your audience?  
Hone key messages, test, iterate



Polish my poster!

A: Audience



*Te Papa Board Book Series*  
Te Papa Press, 2015  
Design: Jo Bailey and  
Anna Brown

Polish my poster!

B: Balance

**B** is for **B**alance

# **B** is for Balance

Is placement helping the reading order?

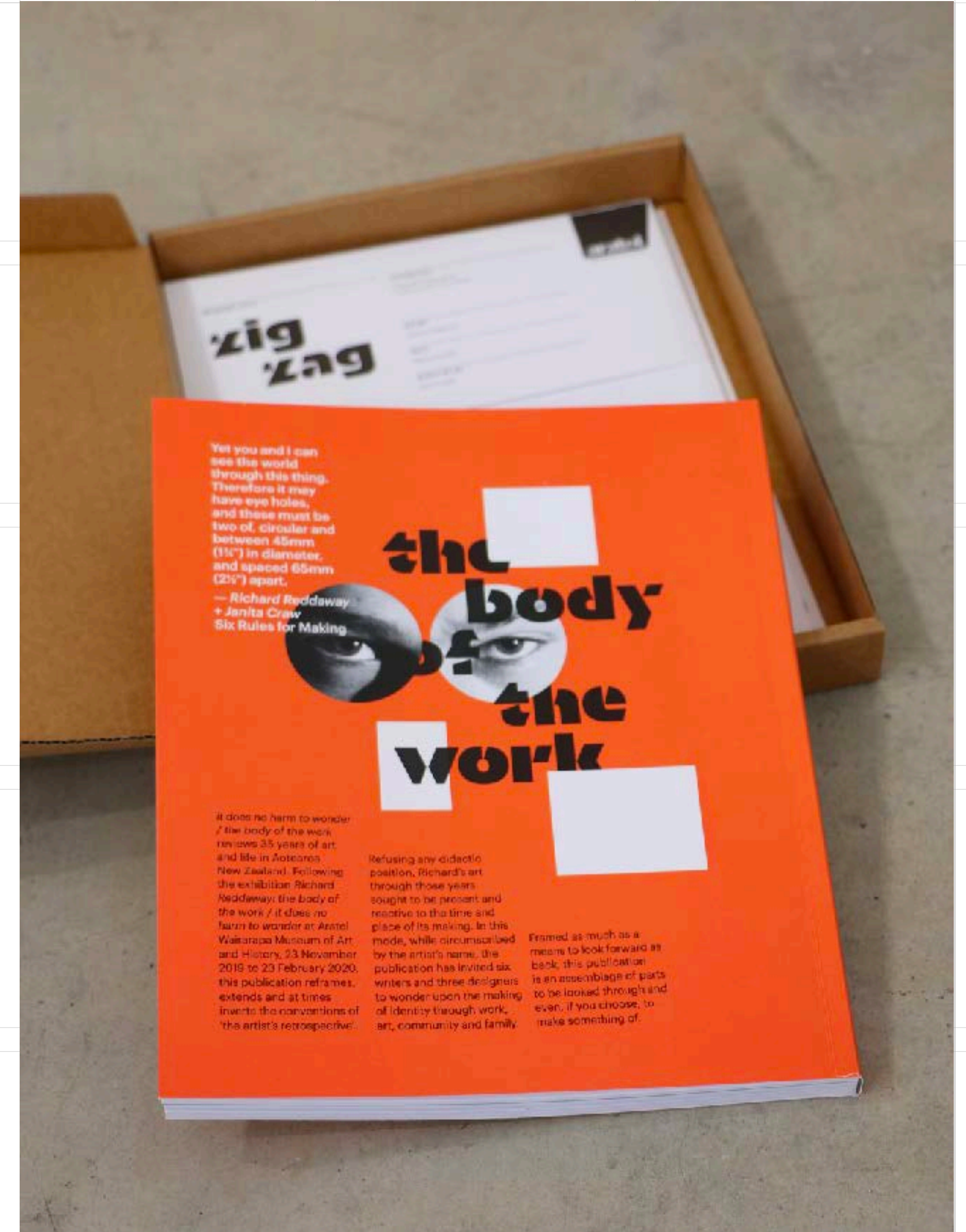
(big to little, top to bottom, left to right)

Is layout leading someone through the page?

Is it dynamic or static?

Polish my poster!

B: Balance



*It does no harm to wonder /  
The body of the work*  
Richard Reddaway, 2020  
Design: Jo Bailey and  
Anna Brown

Polish my poster!

lawa.org.nz  
**A human centred design case study for science communication**

Jo Bailey  
 Tristram Sparks  
 Massey University  
 School of Design  
 Ngā Pae Māhūtonga

**LAWA**  
 LAND AIR WATER AOTEAROA



**LAWA (Land Air Water Aotearoa) is a website designed to make scientific information on New Zealand's environment available to the public in an easily comprehensible, credible and trustworthy way.**

In this project, designers acted as a facilitating bridge between government (scientists, communicators and management at the local government and ministry level) and the audiences or users of the website.

The site presents environmental data collected by the regional council sector, and presents it in a way that gives context and allows comparison across sites and regions. Recreational information, publicly sourced events and stories, and learning resources make the site relevant to many audiences.

When LAWA launched in 2013, it was a world first in terms of making national water quality information accessible on a single platform. It has since grown to include the water quality of lakes and beaches alongside rivers, air quality, and water quantity (available for consented use), with indicators on groundwater quality and biodiversity in the pipeline.

**Design process**

An overview of the design process used in the LAWA project



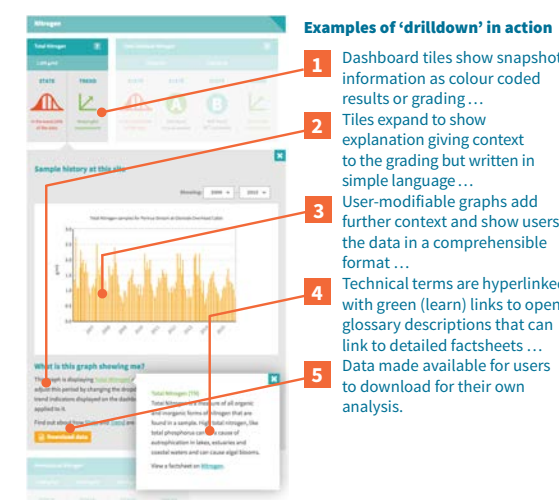
- Discover**  
Observe the data collection process, talk to scientists and stakeholders to understand needs of the client(s); define/redefine the ultimate goals of LAWA from a user perspective
- Understand audiences**  
Talk to potential user groups to gain empathy for their needs, wants and perspectives; synthesise insights into user personas representative of identifiable groups
- Research**  
Identify functional precedents, understand context socially, technologically, and functionally through desk-based research
- Generate ideas**  
How could the needs be met? What functions will allow that to happen? Iterative design; brainstorming; peer testing; rapid prototyping
- Iterative design**  
Initially functional design (wireframes and test data visualisations), later aesthetic extrapolations: test as user journeys, share, get peer feedback, refine, repeat
- Build and release**  
Hand over to developers, further feedback and self/peer testing; stakeholder testing; release. Refinements and further functional development repeats process

**Guiding communication principles**

Insight into the proposed users highlighted that within their broad variety of wants and needs, the data needed to reveal itself in a contextually relevant way; to 'talk' appropriately to the user. To enable this, information is displayed as summary grades, visualisations and descriptions, with further 'drilldown' to graphs, more detailed infographics, and ultimately to open source data sets that technical users can export for their own analysis. This is encapsulated in these principles:

- “Everything as simple as it can be, but not simpler”  
Attributed to Albert Einstein
- “Overview first, zoom and filter, then details on demand”  
Ben Shneiderman

The Eyes Have It: A Task By Data Type Taxonomy for Information Visualizations in Proceedings of the IEEE Symposium on Visual Languages, 1996



**Human centred design**

At its core, human centred design is a form of ethnographic research. A manner of investigation that allows designers to approach any given (passive or interactive) communication or sociocultural transaction from the perspective and the vernacular of the participant and the expert.

By conducting initial interviews with different audiences and balancing those multiple points of view, it is possible to develop lenses through which design outputs can be tested, and the goal of becoming a multifaceted data resource can be realised. Finally, by exercising cycles of user testing, this design process ensures that software can become harmonised with its rhetorical intent: not only by serving the audience, but by engaging relevant users into a conversation that constantly checks its communicative purpose against its current performance.

LAWA attempts to exemplify core tenants of science communication in a way that democratises access to information and flattens the hierarchy between information consumer and the environment that they interact with. It can only do this effectively if it bridges not only the environment and its representation, but also connects people to the physical environment and its resources that we rely on and value as a nation.

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For an expanded discussion of this project please see: [makinggood.design/work/lawa/](http://makinggood.design/work/lawa/)

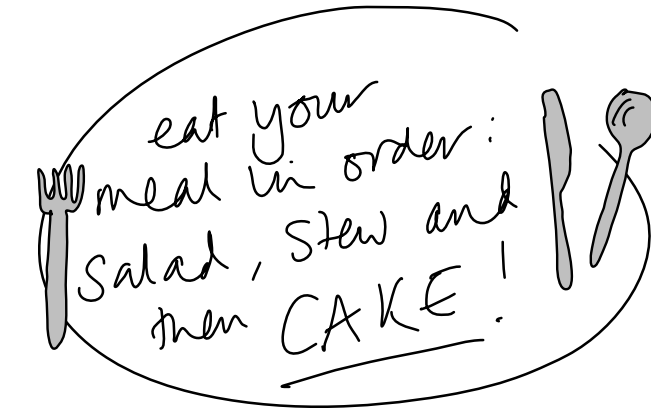
College of Creative Arts  
 MASSEY UNIVERSITY  
 UNIVERSITY OF NEW ZEALAND

# I Can Make It Tasty



Intra-/Cross-/Multi-/Inter-/Trans-Fusion cooking with disciplines!

Complex problems require us to look outside disciplinary boundaries in order to shape new modes of knowledge production. These developing models of collective and collaborative working have gained a range of words to describe them. Though these continue to evolve and different bodies of literature may employ them with subtle variations, there is a general coalescence around some terms that articulate these different levels of 'fusion' as a continuum of increasing integration. Cooking - making raw ingredients increasingly 'tasty' - can be a useful way of understanding the different degrees of blending and mixing, and the mnemonic **I Can Make It Tasty** describes this progression: **Intra**disciplinary / **Cross**disciplinary / **Multi**disciplinary / **Inter**disciplinary / **Trans**disciplinary:



More Tasty!



Te Pūnaha Matatini  
 Complexity is at our heart  
 a huge thank you to Te Pūnaha Matatini tepunahamatatini.ac.nz

Big ups to the people who did the actual research, or helped synthesise it including:  
 Stember, M. (1991). Advancing the social sciences through the interdisciplinary enterprise. *The Sociol Science Journal*, 28(1), 1-14. [https://doi.org/10.1016/0362-3319\(91\)90040-B](https://doi.org/10.1016/0362-3319(91)90040-B)  
 Choi, B. C. K., & Pak, A. W. P. (2006). Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education and policy: 1. Definitions, objectives, and evidence of effectiveness. *Clinical & Investigative Medicine*, 29(6), 351-364.  
 Jensenius, A. (2012, March 12). Disciplinarity: Intra, cross, multi, inter, trans. Retrieved 18 January 2018, from Alexander Refsum Jensenius website: <http://www.arj.no/2012/03/12/disciplinarity-2/>

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 @Jo\_Bailey for all the references!  
 © Jo Bailey CC BY-SA 4.0

Polish my poster!

C: Content

**C** is for **Content**

# **C** is for **Content**

**Less is more! Slides aren't a script, and a poster is not a paper. Think carefully about how to reduce words and use carefully chosen visuals**

Polish my poster!

C: Colour and Contrast

**C** is for **Colour**  
**+ Contrast**



# **C** is for **Colour** **+ Contrast**

**Limit the palette; check contrast;  
'borrow' from things that work**

Polish my poster!

C: Colour

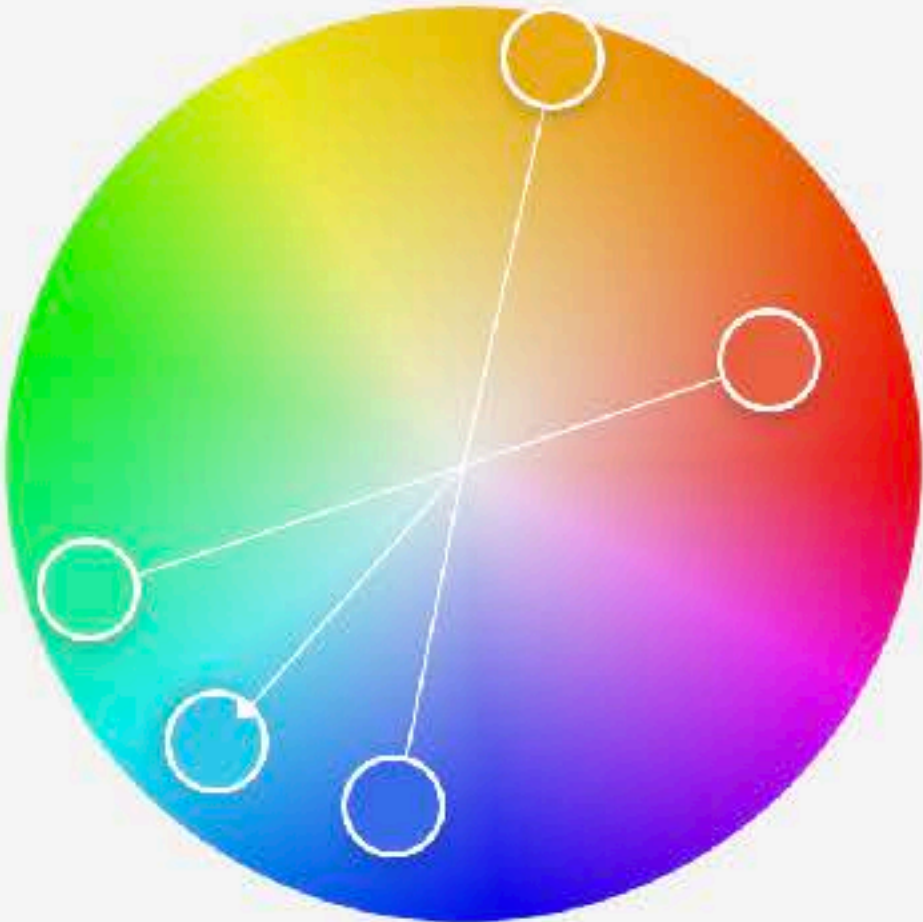
Adobe Color

CREATE EXPLORE TRENDS LIBRARIES


Color Wheel Extract Theme Extract Gradient Accessibility Tools **New**

Apply Color Harmony ?  
Rule


- Analogous
- Monochromatic
- Triad
- Complementary
- Split Complementary
- Double Split Complementary
- Square
- Compound
- Shades
- Custom



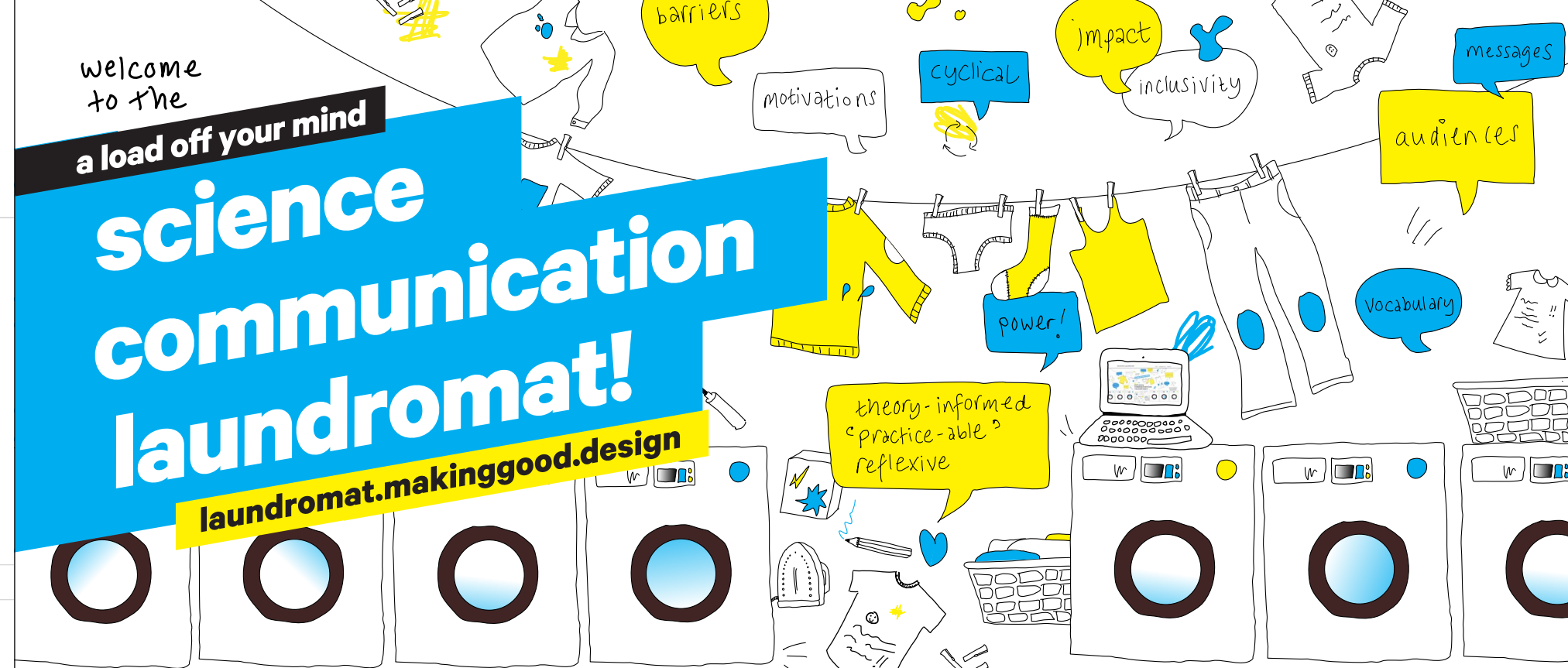
A B C D E



#386CEB #EB6244 #2DC8EB #EBAC15 #21EBA0

R 

Polish my poster!



welcome to the  
a load off your mind

# science communication laundromat!

laundromat.makinggood.design

Take a spin in the science communication laundromat, a set of tools to help embed ideas from public engagement with science (PES) theory into research, to help scientist-communicators build capacity for successful science communication.

These tools – a zine workbook, worksheets, facilitator notes, and even a template for a cardboard washing machine to do the exercises on – are available to use and adapt at [laundromat.makinggood.design](http://laundromat.makinggood.design) under a creative commons licence. The website is aimed primarily at people who would like to use the tools to deliver and facilitate their own laundromat.

### what is a scicomm laundromat?

In short, it is a workshop model (developed using design methodologies and practices) incorporating a series of exercises to help scientists/researchers think about their scicomm or public engagement in a reflexive way, in order to improve it. Improve it in the sense of being more purposeful, inclusive, more clearly designed for the people the communication is aimed at, and with a better sense of potential challenges and motivations. Key to this is making the theory 'practice-able'. The laundromat is usually delivered as a residential retreat over two or three days, but can also be done as shorter sessions, or online.

### why a laundromat?

We had been playing with an installation where a 10-6, playful cardboard laundromat was a repository for thoughts on 'airing the dirty laundry' of various disciplines at conferences, drawing on a lot of metaphors: cleaning up, ironing out, pressing on. We had also been working with scientist-communicators to help them develop reflexive, thoughtful, audience-centric science communication via design-led workshops. When we brought the two workstreams together, the metaphors just kept washing over us! The never-ending cycle that is laundry was especially resonant when thinking about public engagement practice as something that requires regular attention to 'refresh' it. You can find out more about this in our paper, linked below.

### free to use and adapt

The Scicomm Laundromat is shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International license: [creativecommons.org/licenses/by-nc-sa/4.0/](https://creativecommons.org/licenses/by-nc-sa/4.0/)

### what's 'practice-able'?

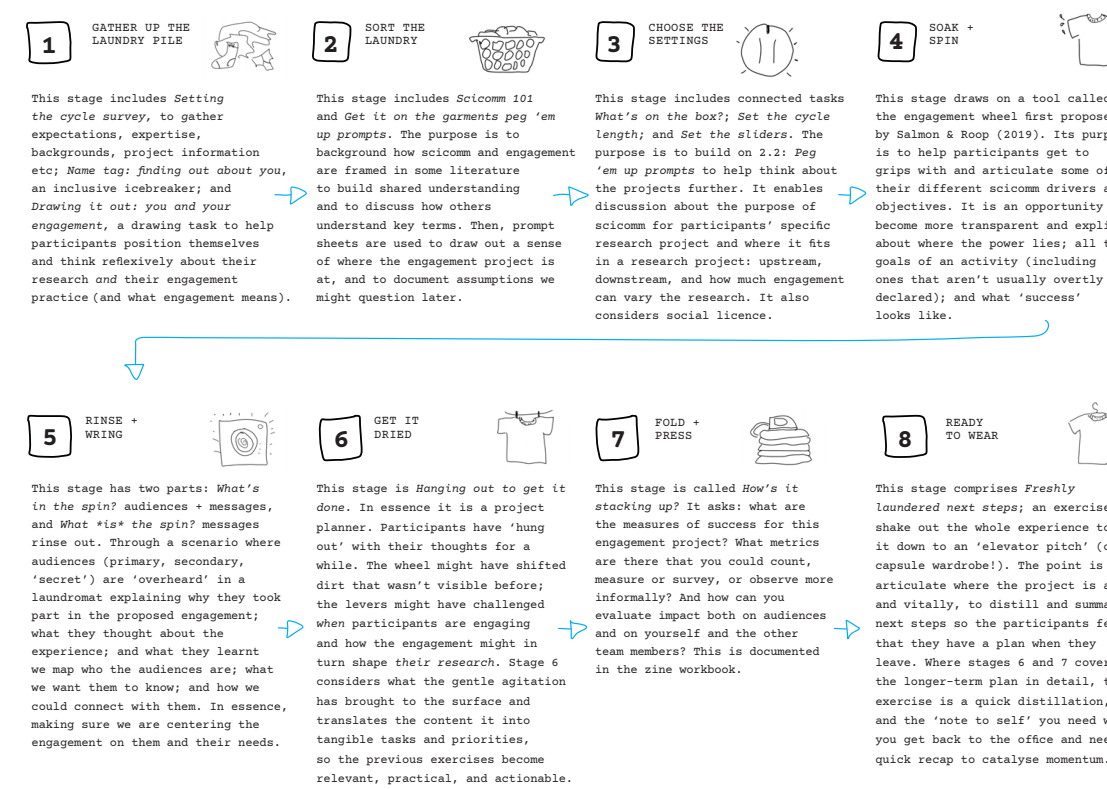
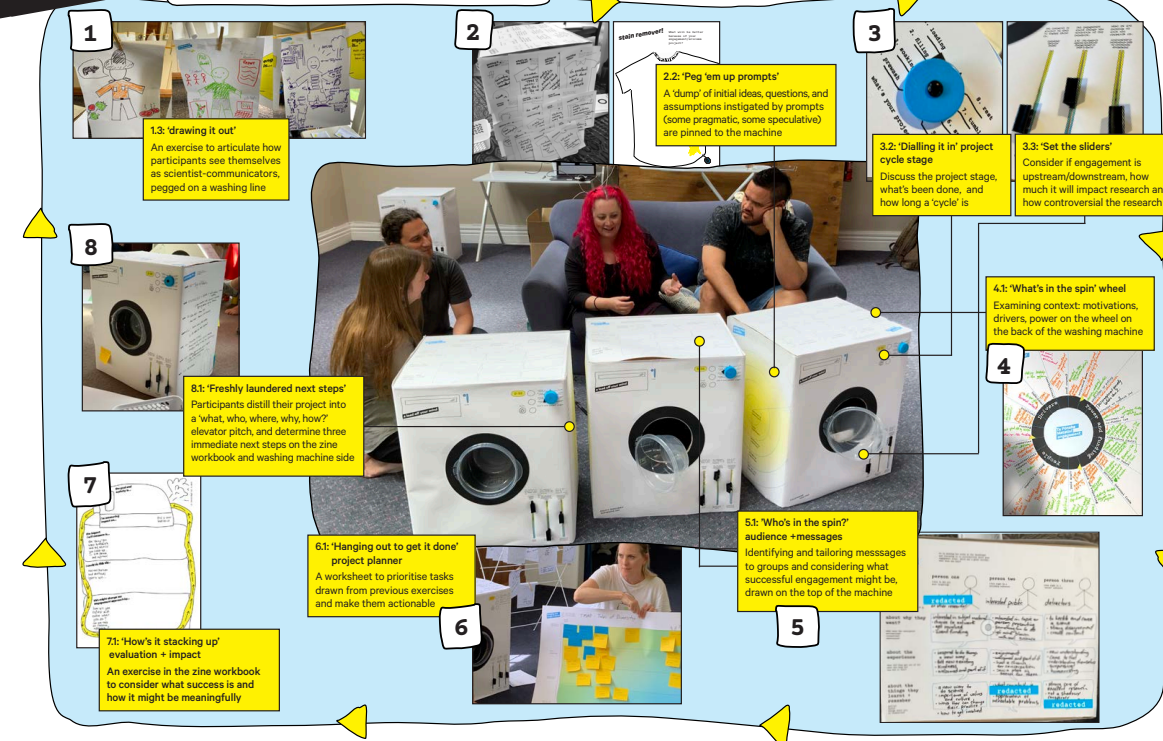
If 'practice-able' means 'able to be put into practice', but also brings to mind words like 'feasible', 'actionable' or 'viable', we decided that we meant something more than this. We wanted to aid participants in absorbing and incorporating theoretical ideas from PES into their own practice. A key part of the theoretical ideas from our perspective was a reflexive disposition, so this incorporation of theory would enable them to reflexively shape their practice, whatever that may be. We wrote more about this in JCOM in 2022; paper linked below.



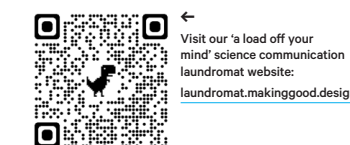
The zine workbook contains all the steps for the participants to work through.

### the laundromat cycle

All stages of the process are covered in the zine workbook. The washing machine and other props support the process, alongside A1 large-format worksheets.



### FIND OUT MORE...



Visit our 'a load off your mind' science communication laundromat website: [laundromat.makinggood.design](http://laundromat.makinggood.design)



Read our paper: Bailey, J., Salmon, R., & Horst, M. (2022). The Engagement Incubator: Using design to stimulate reflexivity about public engagement with science. *Journal of Science Communication*, 52(4), A01. doi.org/10.22323/2.2104A01

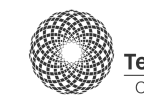
### WE ARE...

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### THANKS TO...

Special thanks to Maja Horst for an insightful and delightful collaboration; Te Pūnaha Matatini, the Aotearoa New Zealand Centre of Research Excellence for complex systems for their support; and to their research community for being our participants: [tepunahamatatini.ac.nz](http://tepunahamatatini.ac.nz)



**Te Pūnaha Matatini**  
Complexity is at our heart

Polish my poster!

C: Contrast

architects

seem to love

superfine

justified text with

poor contrast

# The Implications of Greenhouse Gas Stabilisation for International Tourism

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## Abstract

This poster presents for the first time the possible impacts of greenhouse gas stabilisation policies on the major international tourism flows. Tourism is one of the largest industries in the world and a vital component for the economy of many countries. Implementation of pro-active policies at the national and international level that will attempt to stabilise the atmospheric concentrations of greenhouse gases in the atmosphere will require substantial cuts in anthropogenic greenhouse gas emissions. But even then, the climate system will have changed, and so will the climatic conditions of tourist destinations. The Mieczkowski Tourism Climatic Index (MTCI), constructed from observed climate data is used as an analogy for a region's potential for tourism. The results from a range of General Circulation Model (GCM) integrations forced with greenhouse gas stabilisation scenarios are then used to construct the MTCI for the future. A comparative analysis is undertaken to assess how different levels of GHG stabilisation will impact upon the major international tourism flows and to identify the critical responses.

## Background

Tourism is globally the largest, and one of the fastest growing economic sectors. Its emission of greenhouse gases (GHG) is considerable, with aviation emissions estimated to be the fastest growing source. Being a transport-intensive industry, tourism is highly dependent on fossil fuels and vulnerable to GHG mitigation policies.

Climate change as such will also impact on the tourism industry. It will have a range of direct impacts by changing the environment of resorts (e.g., sea-level rise, temperature, etc.) and it will increase the vulnerability of the tourism industry to other environmental changes (Agnew and Viner, 1998). There will also be a range of indirect impacts, for example, raising conflicts in water resources; health effects; impacts on the built environment and detrimental impacts on the local environment. The interactions between climate change and tourism have to date not been examined on a large scale.

## The Mieczkowski Tourism Climatic Index (MTCI)

The Tourism Climatic Index, first developed by Mieczkowski (1985), allows quantitative evaluation of the climate for the purpose of tourism activity. Mieczkowski's TCI (MTCI) consists of five sub-indices (maximum value: 5), each of which is constituted by one or two monthly climate variables, these are: (i) daytime comfort (maximum daily temperature, minimum daily relative humidity); (ii) daily comfort (mean daily temperature, mean daily relative humidity); (iii) precipitation (total precipitation); (iv) sunshine (total hours of sunshine); and (v) wind (wind speed). A location's suitability for tourism is then rated on a scale from -30 to 100 with the help of the following formula:

$$TCI = 2 \times (4 \times \text{Daytime Comfort} + \text{Daily Comfort} + 2 \times \text{Precipitation} + 2 \times \text{Sunshine} + \text{Wind})$$

The scale itself is divided into ten categories, from "ideal" (90 to 100), "excellent" (80 to 89) and "very good" (70 to 79) to "extremely unfavourable" (10-19) and "impossible" (9 to -30). In this study, a TCI value of 70 or higher is considered attractive to the "typical" tourist engaged in relatively light activities.

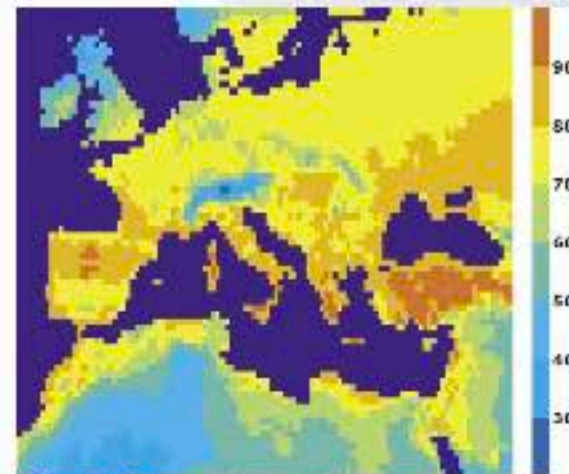


Figure 1. Europe's summer (JJA) MTCI pattern for 1961-90 (observed data).

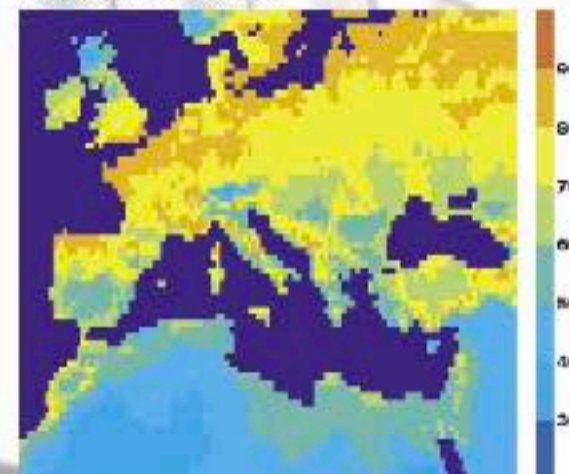


Figure 2. Europe's summer (JJA) MTCI pattern for 2040-2069, HadCM3A1F integration.

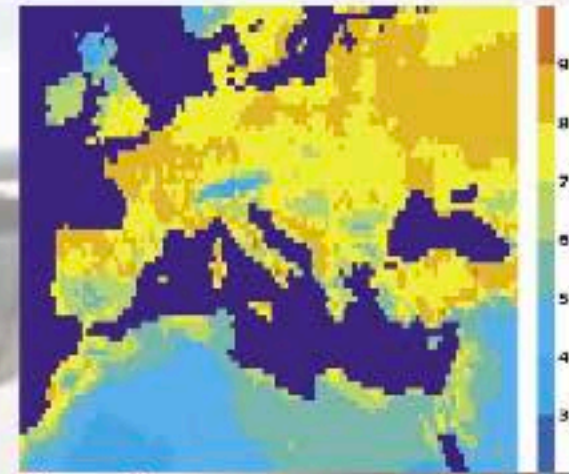


Figure 3. Europe's summer (JJA) MTCI pattern for 2040-2069 (HadCM3B1A integration; surrogate for CO2 stabilisation at 550 ppmv).

## The Implications of Climate Change Mitigation Policies

The major driver of international tourism is the search for Sun, Sea, Sand, and (increasingly) Security. A dominant flow of tourists is the movement of people from Northern European countries to those in Southern Europe (the Mediterranean Region). Figure 1 shows the summer (JJA) MTCI constructed for the 1961-90 period. It confirms the excellent conditions of the Mediterranean region for tourism, and simultaneously shows the lower MTCI in the source countries (e.g. UK, Germany, Sweden, Norway).

Whilst the direct impacts of climate change on tourism and the environment can (with further research) be quantified, it is likely to be far more difficult to quantify the impacts of climate change mitigation policies upon major international tourism flows (Viner and Amelung, 2003). The work presented here attempts to do this for the first time. General Circulation Model (GCM) experiments are forced with several SRES baseline scenarios, representing different levels of greenhouse gas stabilisation. More specifically, the SRES A1F scenario is used to represent a scenario in which low mitigation measures are taken. While this scenario is at the high end of the SRES baselines, it resembles the emission pathway that, since 1990, the global society is currently following. The B1A scenario is used as a surrogate scenario for stabilisation at 550 ppmv, as suggested by Swart et al. (2002).

Figure 2 shows a map of MTCI scores constructed for the summer (JJA) of the 2050s according to the SRES A1F scenario. In comparison with Figure 1 it shows a strong decline in the suitability of the Mediterranean region for tourism, whilst at the same time the source countries of Northern Europe move into optimum conditions for tourism. Figure 3 shows the same map for the SRES B1A scenario, a proxy scenario for stabilisation of CO<sub>2</sub> concentrations at 550 ppmv (Swart, 2002). This figure makes clear that following a pathway leading to stabilisation at 550 ppmv (rather than at levels exceeding 750 ppmv) slows down the changes in Europe's suitability pattern considerably, even though these changes are far from halted.

Besides spatial consequences for MTCI performance, climate change will have seasonal consequences. Figures 4 and 5 represent the MTCI distributions for a typical Mediterranean destination (the Balearics) and a typical northern European destination (Brighton) respectively. Both locations have their MTCI peak in summer, which for the Balearics can be shown to coincide with actual visitation levels: for MTCI < 70, visitation is very low. The Balearics (representing the Mediterranean) are projected to develop into a desanation with a bimodal MTCI distribution: good conditions in spring and autumn, poor conditions in summer. This trend is much slower, however, in the case of stabilisation at 550 ppmv, in particular for the eastern Mediterranean. For Brighton (representative of northern Europe), the holiday season is projected to get much longer, encompassing the full half-year from May to October, rather than just July and August. Stabilisation of greenhouse gas concentrations at lower levels seems to slow down rather than stop this transition.

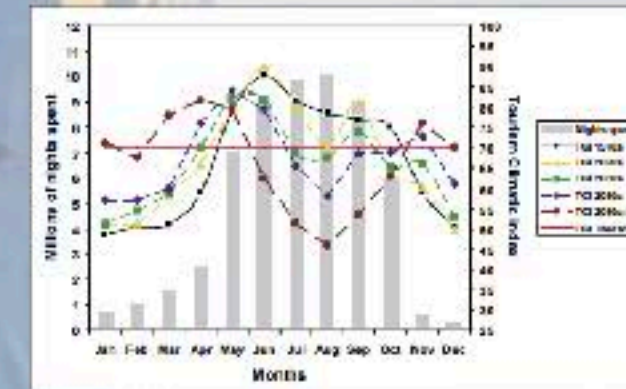


Figure 4. MTCI distributions for the Balearics (Spain), for 1961-1990 (observed data), 2010-2039, 2040-2069, 2070-2099 (HadCM3B1A integration, stabilisation at 550 ppmv) and 2070-2099 (HadCM3A1F, stabilisation at >750 ppmv), confronted with historical visitation levels (2000-2003).

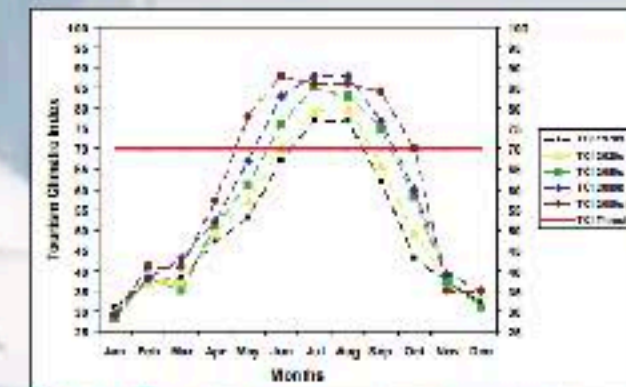


Figure 5. MTCI distributions for Brighton (UK), for 1961-1990 (observed data), 2010-2039, 2040-2069, 2070-2099 (HadCM3B1A integration, stabilisation at 550 ppmv) and 2070-2099 (HadCM3A1F, stabilisation at >750 ppmv).

## Discussion

The change in suitability of differing regions is likely to impact on the flows of numbers of tourists visiting the Mediterranean and other regions. Different emissions pathways are unlikely to substantially alter the direction of MTCI change for regions: e.g. summer conditions will improve in the UK and deteriorate in the Mediterranean region. In contrast, the rate of change in the MTCI can be significantly altered. By slowing down the changes in suitability patterns, mitigation policies would give destinations more time to adapt to the inevitable consequences of climate change.

## References

Agnew, D. and Viner, D. (2001), 'Potential impact of climate change on international tourism', *Journal of Tourism and Hospitality Research*, 21, 127-46.

Mieczkowski, J. (1985), 'The Tourism Climatic Index: Method of Ranking World Climate for Tourism', *The Canadian Geographer*, 29(1), 200-201.

Swart, R., Viner, D., Price, L. and Rogner, P. (2002), 'Global assessment of the feasibility of stabilising CO<sub>2</sub> concentrations at 550 ppmv', *Energy*, 27(1), 105-118.

Viner, D. and Agnew, D. (2002), 'Climate change, Environment and Tourism: The Implications of the World Bank's "Climate Change" for International Tourism', *Environment*, 44(1), 1-10.

## Acknowledgements

The HadCM3 and EbelCM3 used in this project has been supplied by the Climate Impact LINK Project (DEFRA Contract EPS 111854) on behalf of the Hadley Centre and UK Meteorological Office.

Further details of the eCLAT Community can be found on the website. The website contains information about on-going activities for example, workshops, papers and training projects that are relevant to the aims of eCLAT. Reports from workshops are included as is the detailed Source Plan for Climate Change and Tourism Research that was prepared at the ECLAT Workshop in Milan, June 2003.

[www.e-clat.org](http://www.e-clat.org)

Polish my poster!

D: Designers

**D** is for Designers

Polish my poster!

D: Designers

# Testing motivated cognition in pain using the Attentional Blink

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TE WHARE WAIANAKA O TE ORANGA O TE IKA A MĀUI  
VICTORIA UNIVERSITY OF WELLINGTON

COGNITIVE & AFFECTIVE NEUROSCIENCE LAB  
cenlab.org.nz

## BACKGROUND

Pain ← cognition

Dominant view = deficit only:  
↓ memory, ↓ attention,  
slow response time.

But this does not fit with current understanding of pain experience as a response to threat to bodily tissues<sup>1</sup>.

Testing an alternative to the deficit only view.

## RESULTS

Accuracy to T2 was analysed contingent on Accuracy to T1.

1. Identification of T2 was severely impaired when it appeared right after T1, however, performance on T2 recovered at longer lags (i.e. a classic Attentional Blink effect). Furthermore across all lags identification of T2 was better for pain-related than neutral T2.

Percent

Main effect of time:  $F(3,99) = 243.986, p < .001, \eta^2 = .88$

Recovery from the blink

Motivated cognition

Pain relevant information ↑

Deficits on tasks using pain-relevant information  
Enhancements on tasks using pain-relevant information

We developed a task that takes advantage of an impairment in processing of information in rapid succession<sup>2</sup>. Our aim was to test whether identification of pain-related targets was less impaired than neutral targets in the presence of pain.

## METHOD

34 pain-free participants presented words in black in a stream of words. Embedded within each stream were words which participants were required to identify.

**jbailey** 3 Nov [Reply](#) ✕

What's this picture about? I read it as taking away a memory?

**Hazel** 3 Nov

To illustrate the "deficit only" view, that pain causes an impairment in thinking.

Polish my poster!

E: Evoking the right Emotion

**E** is Evoking the  
right Emotion



# **E** is Evoking the right Emotion

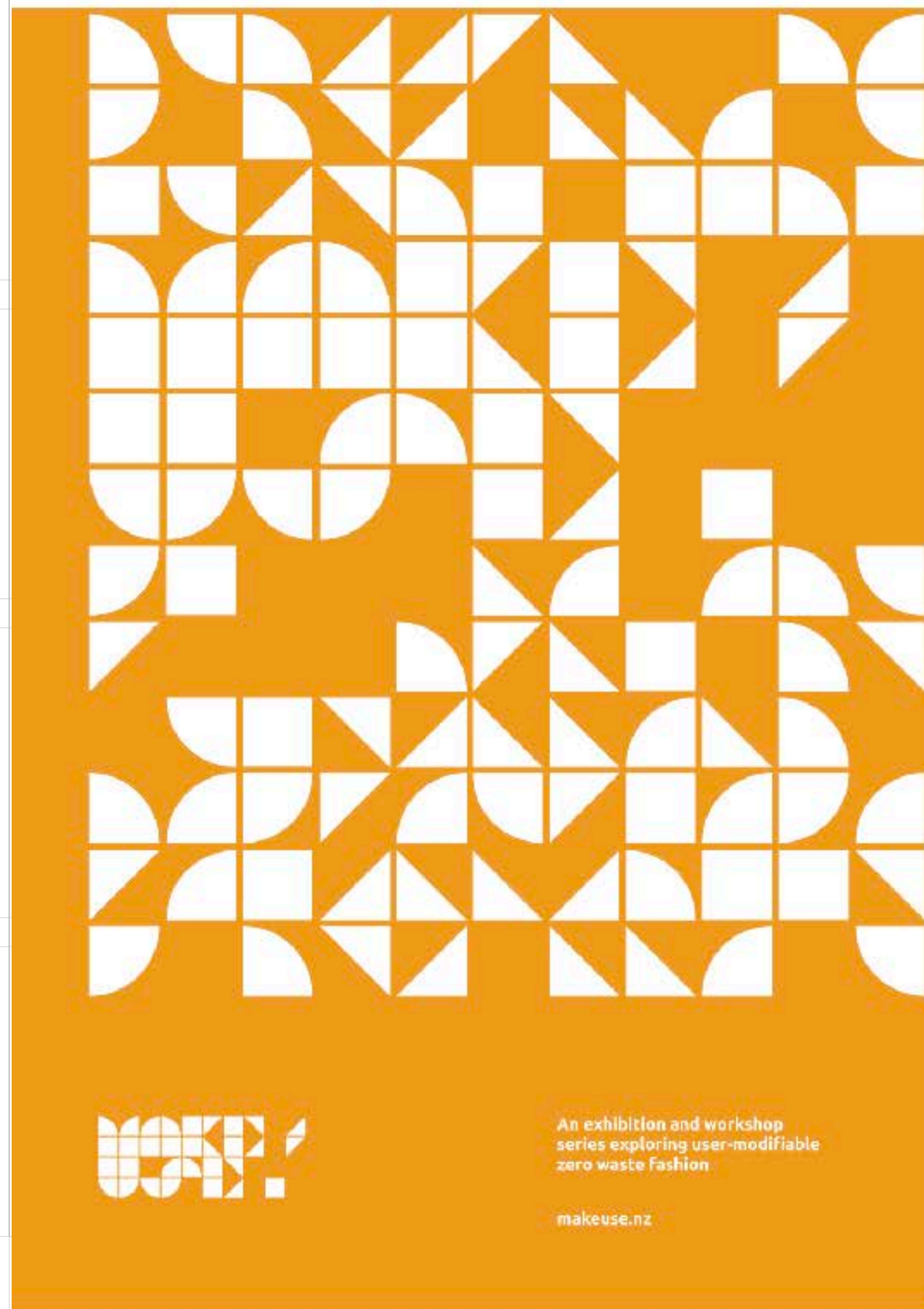
What's the personality of your research?  
How do you want people to feel?

- **Subject matter?**
- **Number/type of sections?**
- **What are the colours (literal or emotional)?**
- **Who is the audience?**
- **What will appeal to them?**
- **What five words describe the 'personality' of your project?**

Progressive	↔	Conservative
Warm	↔	Cold
Innovative	↔	Traditional
Serious	↔	Fun
'Feminine'	↔	'Masculine'
Formal	↔	Casual
Laid back	↔	Energetic
Classic	↔	Trendy
Orderly	↔	Spontaneous
Quiet	↔	Loud
Popular	↔	Solitary
Familiar	↔	Unique
Old	↔	Young

Polish my poster!

E: Evoking the right Emotion



**1** **WELCOME**  
A FREE, OPEN-ACCESS WORKSHOP SERIES FOR THE MAKE/USE PROJECT. 11 JULY - 2 AUGUST 2015.



**The Make/Use Team**  
Holly McQuillan (Lead)  
Alyson Smith (Co-lead)  
Celia Hadden (Co-lead)  
Lara-Rae Daniels (Co-lead)  
Jo Bailey (Co-lead)  
Katie Mearns (Co-lead)  
Katie Mearns (Co-lead)

**THE PROJECT**  
This exhibition and workshop series is a key part of the Make/Use project, which aims to explore user-modifiable zero waste fashion. The project is a collaboration between the Make/Use team and the Objectspace gallery.



Make/Use explores what might occur if we consider not only the aesthetic of the garments we wear, but also the way we use them and the waste we create when we make them.

This ongoing research-through-design project questions conventions of the clothing industry in relation to knowledge-keeping, production practices and material use.

Through developing open-source, user-modifiable, zero waste designs, Make/Use aims to empower users of clothing, and challenges them to question the relationships they have with their present and future garments.

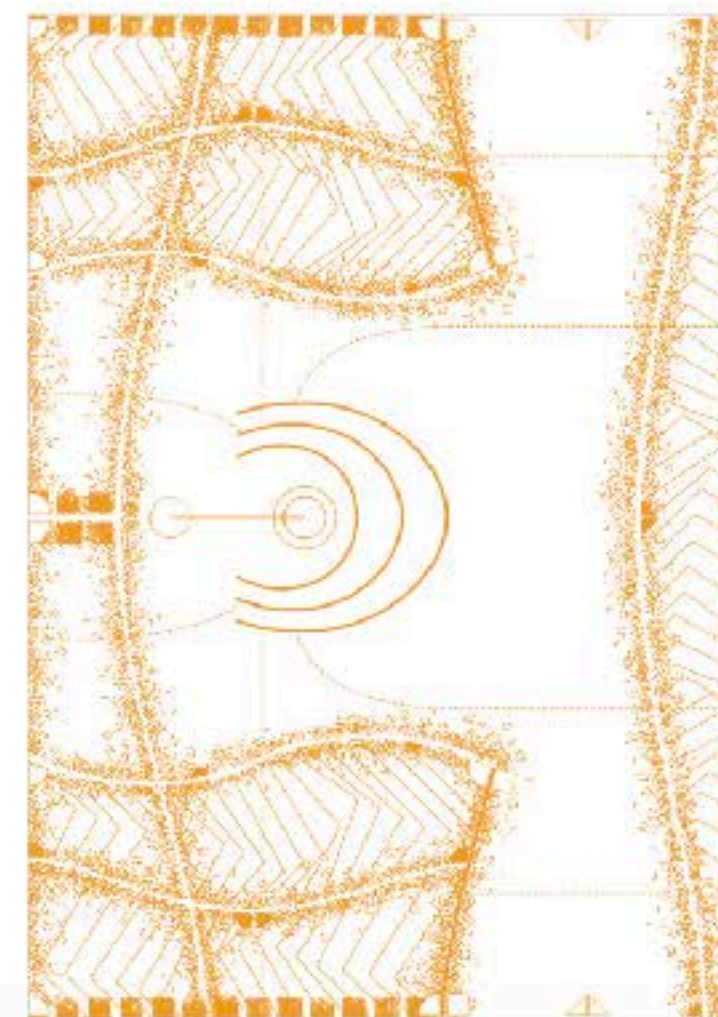


**The Big Challenges**

Make/Use is a research-through-design project that explores the possibilities of user-modifiable, zero waste fashion. The project is a collaboration between the Make/Use team and the Objectspace gallery.

**The Issue**

The fashion industry is the second largest generator of pollution and waste in the world, responsible for 10% of global greenhouse gas emissions. It is also a major contributor to water pollution and landfills.



**Make/Use @ Objectspace**

The Objectspace gallery presents the current state of the research and development of the Make/Use project. The exhibition is a collaboration between the Make/Use team and the Objectspace gallery.



The Make/Use team will also be offering three workshops at Objectspace where you can test out the Make/Use system and garments for yourself.

Make/Use Flat To Form  
17 July 2015 10am - 5pm  
Make/Use Your Style  
19 July 2015 10am - 5pm  
Make/Use x Lola Jacobs  
2 August 2015 10am - 5pm

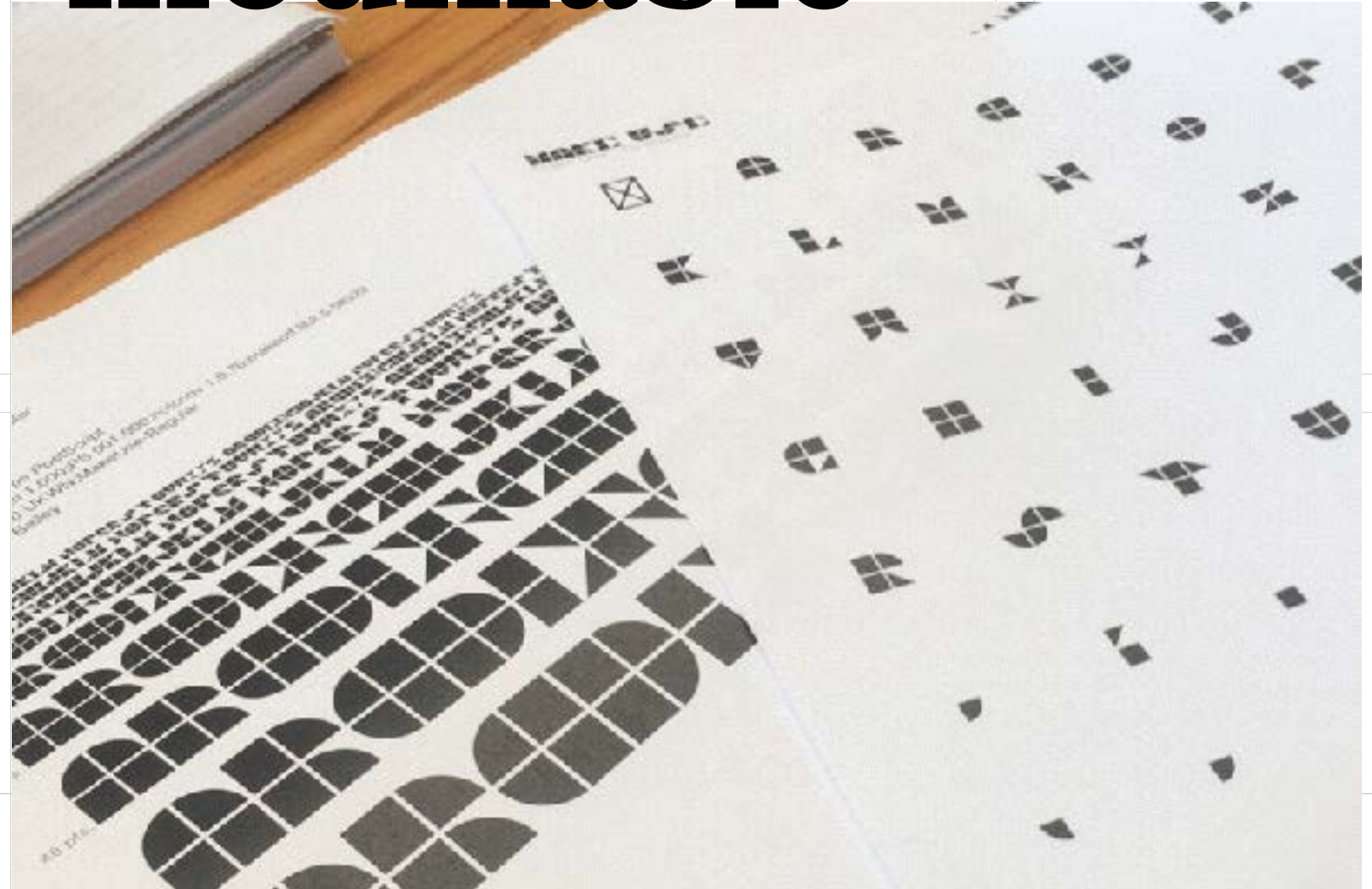


Our first workshop will be making the 'Flat To Form' garment. This is a user-modifiable, zero waste garment that can be made in a variety of sizes and styles.



- ▶ systematic
- ▶ ‘designerly’
- ▶ dynamic
- ▶ approachable
- ▶ modifiable

*Make/Use*  
Design: Holly McQuillan  
and the Make/Use team,  
Print + identity: Jo Bailey  
[makeuse.nz](http://makeuse.nz)



Polish my poster!

E: Evoking the right Emotion

Image credit:  
<https://newmediacentre.wordpress.com/2014/07/21/the-five-most-inappropriate-uses-of-comic-sans-ever/>

- serious
- authoritative
- err...

See also:  
<http://makinggood.ac.nz/practice/visual-style/>



Polish my poster!

F: Fonts

**F** is for **Fonts**

# **F** is for **Fonts**

Fonts help set the tone. Choose a good combo, or use one font throughout. There are good open source options out there

**Typeface  
(font family)**

39  
univers

45 univers 46 *univers* 47 univers 48 *univers* 49 univers

53 univers 55 univers 56 *univers* 57 univers 58 *univers* 59 univers

63 univers 65 univers 66 *univers* 67 univers 68 *univers*

73 univers 75 univers 76 *univers* **Font**

83 univers

UNIVERS

## **Sans serif (no pointy bits)**

e.g

Helvetica Neue

Arial

Avenir

Ubuntu\*

IBM Plex Sans\*

Merriweather Sans\*

## **Serifs (with pointy bits)**

e.g

Baskerville

Times New Roman

Caslon

Tiempos

IBM Plex Serif\*

Merriweather\*



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F: Fonts



[ij] vol. 17, no. 01 2020 interior technicity research paper lydia kallipoliti jestin george learning from mars; or: facing our shit 29

## learning from mars; or, facing our shit

Lydia Kallipoliti The Cooper Union  
Jestin George University of Technology Sydney  
0000-0003-2035-3295 0000-0002-8225-827X

**abstract**  
The intent to inhabit Mars carries many self-contradicting intentions, especially given our clear plan to extract Martian resources, domesticate the planet, and transfer the ideological framework of establishing territory in a newly found space free from jurisdiction. To that end, research into sustaining human life on Mars is highly problematic. Interplanetary habitation is arguably an escape from Earth. The latent narrative is defeat; that is succumbing to the climate crisis, while making alternative plans for a selected privileged population. Nevertheless, research into life on Mars forces us to face our shit on Earth, where resources for sustaining all forms of life have been abundant. Not until recently have we been mandated to consider their finite worth or replacement, or deal with the excessive waste we generate as a by-product of our daily production processes. On Mars, where every resource for sustaining life is precious and rare within a fully enclosed life support, waste becomes integral to our survival. This view from afar, in the words of Claude Levi Strauss, changes our viewpoint on how to retain and recycle waste. Arguably, it is not only insightful for Mars-based habitats, but also for helping in altering daily patterns of dealing with waste and the climate crisis on Earth.

This article presents *LIFE ON MARS*, a research–design project investigating closed-loop life-support living systems for Mars as giant living machines of ingestion and excretion. It is neither a complete project, nor a ‘solution’ to extra-terrestrial inhabitation. *LIFE ON MARS* looks at the minimum use of in-situ resources avoiding extraction, as well as the regenerative properties of Earth-based biology and our ability to engineer and tinker with resources through the field of synthetic biology. The project also brings to light emergent forms of habitation in extreme interiorisation and the problem of sustaining life in a sealed interior when the exterior world becomes prohibitive. In this format, it is presented as an inquisitive visual narrative, which raises both existential and scientific questions for further exploration.

**citations:**  
Kallipoliti, Lydia and Jestin George. Learning from Mars: Or, Facing our Shit, *Idea Journal* 17, no. 01 (2020): 29–50. <http://dx.doi.org/10.2136/idea.v17i01.29>

**keywords:**  
life support, waste-tolerant digestive machines, excrements, colonisation, closed-loop

welcome to the  
a load off your mind

# science communication laundromat!

laundromat.makinggood.design

motivations

theory  
practice  
reflection

**the laundromat cycle**  
All stages of the process are on the washing machine and other alongside A1 large-format work

1  
1.1 'drawing it out'  
An exercise to articulate how participants see themselves as scientist-communicators, pegged on a washing line

8  
8.1 'Freshly laundered next steps'  
Participants distill their project into a 'what, who, where, why, how?' elevator pitch, and determine three immediate next steps on the zine workbook and washing machine side

7  
7.1 'Staging a project plan'  
A worksheet to draw from print and make their

Take a spin in the science communication laundromat, a set of tools to help embed ideas from public engagement with science (PES) theory into research, to help scientist-communicators build capacity for successful science communication.

These tools – a zine workbook, worksheets, facilitator notes, and even a template for a cardboard washing machine to do the exercises on – are available to use and adapt at [laundromat.makinggood.design](http://laundromat.makinggood.design) under a creative commons licence<sup>1</sup>. The website is aimed primarily at people who would like to use the tools to deliver and facilitate their own laundromat.

**what is a scicomm laundromat?**

In short, it is a workshop model (developed using design methodologies and practices) incorporating a series of exercises to help scientists/researchers think about their scicomm or public engagement in a reflexive way, in order to improve it. Improve it in the sense of being more purposeful, inclusive, more clearly designed for the people the communication is aimed at, and with a better sense of potential challenges and motivations. Key to this is making the theory ‘practice-able’<sup>2</sup>. The laundromat is usually delivered as a residential retreat over two or three days, but can

Polish my poster!

F: Fonts



[ij] vol. 17, no. 01 2020 interior technicity research paper lydia kallipoliti justin george learning from mars; or: facing our shit 29

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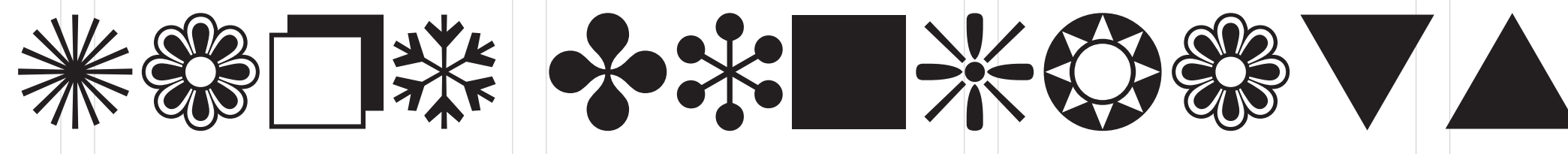
**Then everything else...**

Glyphics like **Albertus Nova**

Scripts like *Snell Roundhand* and **Marker Felt**

Blackletter like **Fette Fraktur**

Decorative like 

Symbols like 

\*like Zapf Dingbats

Polish my poster!

F: Fonts

*The Architecture of  
Closed Worlds*  
Lydia Kallipoliti  
Design: Pentagram

Image credit:  
<https://www.pentagram.com/work/closed-worlds>

# CLOSED WORLDS

## 1928 CUNNINGHAM SANITARIUM

ORVAL J. CUNNINGHAM & HENRY H. TIMKEN,  
CLEVELAND, OH, US

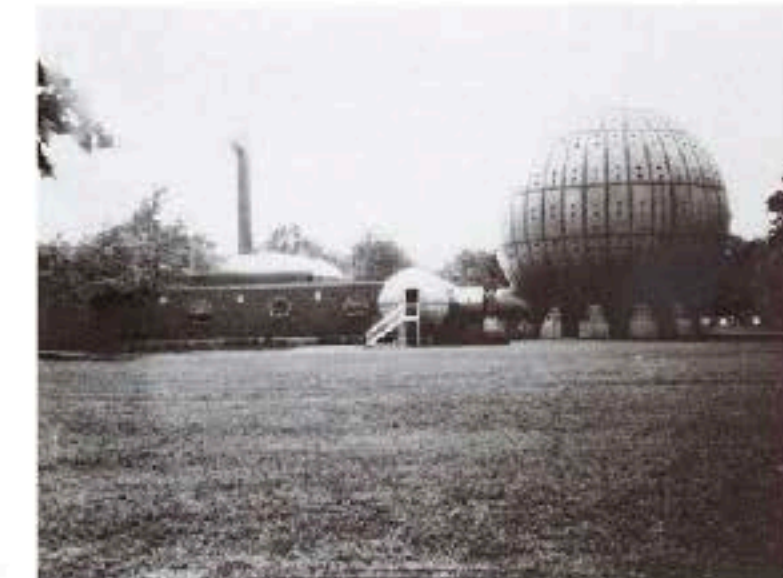


The Cunningham Sanitarium sphere, designed by Orval J. Cunningham for the Timken Co., 1928. Photograph by Walker Photo. Cleveland: 1928 Collection.

The Cunningham Sanitarium was an "air-curing" hospital that was built according to the theories of physician Orval J. Cunningham, who believed in healing respiratory diseases by providing patients with abundant oxygen and a low toxicity, "hyperbaric medicine." Patients were admitted to a sealed metallic sphere with a pressurized environment secured with an airtight door. The spherical shape of the main tank, when operated like an industrial gasometer, was assumed to offer the best ratio of surface to volume for withstanding the interior pressure. The sphere hospital was one of the first experiments that involved artificially recreating the freshness of mountain air within a hermetically sealed living tank.

During the 1870s, Cunningham, a professor of anesthesia at the University of Kansas medical school in Kansas City, observed that patients with circulatory disorders deteriorated when living at high altitudes, whereas they improved when returning to sea level. He also suggested that increasing atmospheric pressure was critical to curing respiratory problems and that decomposed air therapy helped inhibit anaerobic organisms, which could not be "cultured" and were responsible for a host of diseases, including typhoid fever, uremia, diabetes, and cancer. Cunningham's bacteriologic and highly controversial medical theories were tested during the flu pandemic of 1918, when he closed a medical young resident physician in a chamber that had been used for animal studies by compressing the air in the patient's chamber to two atmospheres. Cunningham successfully oxygenated him during his hypoxic crisis. With this test as proof of concept, Cunningham proceeded to construct a 26-by-34-meter cylindrical chamber in Kansas City to treat a multitude of diseases. Although highly controversial, Cunningham's unique method of treatment was brought to the attention of Henry Timken of Canton, Ohio, an inventor who founded the Timken Roller Bearing Company, later called the Timken Company. One of Timken's close friends came under Cunningham's care and apparently had a spontaneous recovery from uremia while in Cunningham's chamber. As a token of his gratitude, Timken financed the largest hyperbaric chamber ever constructed, at an approximate cost of \$1 million, to test further Cunningham's therapies of "abundant oxygen." Besides bringing monetary capital to the project, Timken also lent his expertise in processing metals, which he had honed in manufacturing complex machinery used in railroad cars.

In 1928, the Health Tanks at the Cunningham Sanitarium opened its doors in Cleveland, Ohio, as an extension of an existing hospital. The facility consisted of two cylindrical tanks and a larger spherical one, all of which were connected by an airlock. The sphere, measuring



Aerial view of the spherical chamber of the Cunningham Sanitarium, a 26-meter diameter, 34-meter long, cylindrical structure, built in 1928. Photograph by Walker Photo. Cleveland: 1928 Collection.



Polish my poster!

F: Fonts

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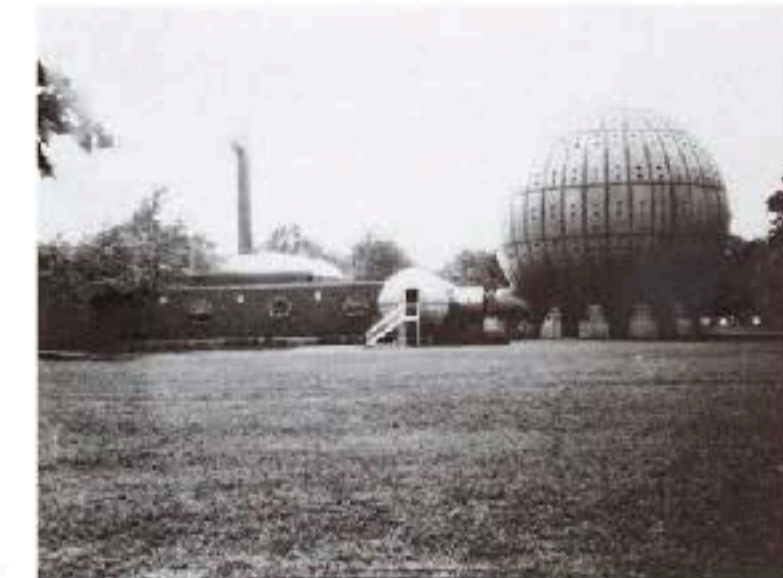


The Cunningham Sanitarium sphere during construction by Orval Cunningham for the war effort, 1917. Photograph by Walker Krieger. Cleveland: 1928 Collection.

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Aerial view of the spherical chamber of Cunningham Sanitarium, a 26-meter, 34-meter, 1928 hyperbaric chamber constructed out of 1.27-centimeter-thick steel plates. Photograph by Cleveland: 1928 Collection.



## In essence...

**AVOID NOVELTY**

(Though you can choose an interesting font for **titles**)

Limit your palette: stick to one or two typefaces

Typefaces do have personality (think, does this feel right?)

That 'only serif for reading' thing isn't actually true...

Buy well-crafted typeface (or use open source)

# Polish my poster!

# F: Fonts

<https://fonts.google.com/featured/Plex>

<https://www.fontpair.co/all>

<https://www.typewolf.com/google-fonts>

Google Fonts

Browse fonts **Featured** Artists About

Featured Collection: Plex

Styles

Typeface presentation

IBM Plex Sans — Thin  
*IBM Plex Sans — Thin Italic*  
 IBM Plex Sans — Regular  
*IBM Plex Sans — Regular Italic*  
**IBM Plex Sans — Bold**  
*IBM Plex Sans — Bold Italic*  
 IBM Plex Sans Condensed — Regular  
*IBM Plex Sans Condensed — Regular Italic*  
 IBM Plex Serif — Regular  
*IBM Plex Serif — Regular Italic*  
 IBM Plex Mono — Regular  
*IBM Plex Mono — Regular Italic*

About this collection

IBM Plex™ is the new corporate typeface for IBM worldwide and an open source project developed by the IBM Brand & Experience team (BX&E). It is an international typeface family designed to capture IBM's broad spirit and history and to stand out in the digital landscape between on-line and on-screen. It is a typeface for IBM since 1911 and for the industry. The result is a novel, not overly decorative, design that balances design with the experienced design that "sans Plex"™ delivers. The family includes a core Sans Condensed, Mono, and Serif and has excellent legibility in print, web, and mobile interfaces. Piece three designs work well independently and even better together. Like the Sans as a contemporary workhorse, the Serif is a classic, sophisticated, and modern in character. The Mono is a classic's successor. The unexpected perspective taken in the Italics give you even more options for your designs.

Created by  
 IBM Brand Experience & Design  
 Create

IBM Brand Experience & Design (BX&E) creates the experience and so it's not exclusive of other IBM brands and self-brand.

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**DM Serif Display & DM Sans**  
 All of this text is editable. Simply click anywhere in the paragraph or heading text and start typing. You can copy and paste your own content in to see what it looks like with these font combinations.

**Ultra & PT Serif**  
 All of this text is editable. Simply click anywhere in the paragraph or heading text and start typing. You can copy and paste your own content in to see what it looks like with these font combinations.

**IBM Plex Sans Condensed & IBM Plex Sans**  
 All of this text is editable. Simply click anywhere in the paragraph or heading text and start typing. You can copy and paste your own content in to see what it looks like with these font combinations.

**Work Sans & Merriweather**  
 All of this text is editable. Simply click anywhere in the paragraph or heading text and start typing. You can copy and paste your own content in to see what it looks like with these font combinations.

**Oswald & Source Sans Pro**  
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**Barlow Condensed & Montserrat**  
 All of this text is editable. Simply click anywhere in the paragraph or heading text and start typing. You can copy and paste your own content in to see what it looks like with these font combinations.

**Alegreya (Bold & Regular)**  
 All of this text is editable. Simply click anywhere in the paragraph or heading text and start typing. You can copy and paste your own content in to see what it looks like with these font combinations.

**Karla & Merriweather**  
 All of this text is editable. Simply click anywhere in the paragraph or heading text and start typing. You can copy and paste your own content in to see what it looks like with these font combinations.

Typewolf

What's Trending in Type

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The 40 Best Free Fonts Available on Google Fonts

Created by: @twinkl | January 5, 2024

Check out the 40 best free fonts available on Google Fonts for your next creative project. Browse through hundreds of free Google Font pairings to use for your next creative project. Sort by pair you like? Suggest a pairing.

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1. Typewolf  
 Typewolf is a free font pairing website. It features a variety of font combinations that are perfect for your next creative project. You can browse through hundreds of font pairings and find the perfect one for your needs.

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Polish my poster!

G: Grids

**G** is for **Grids**  
**or Guides**



# **G** is for **Grids** **or Guides**

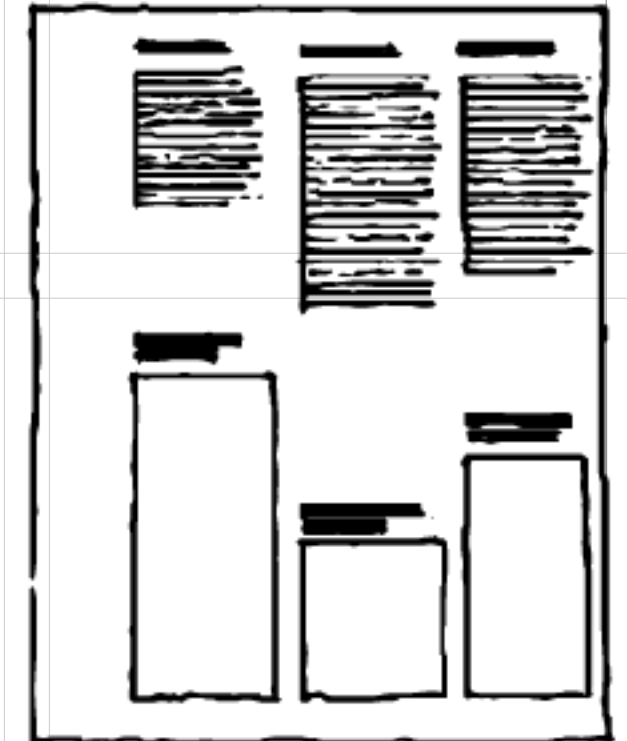
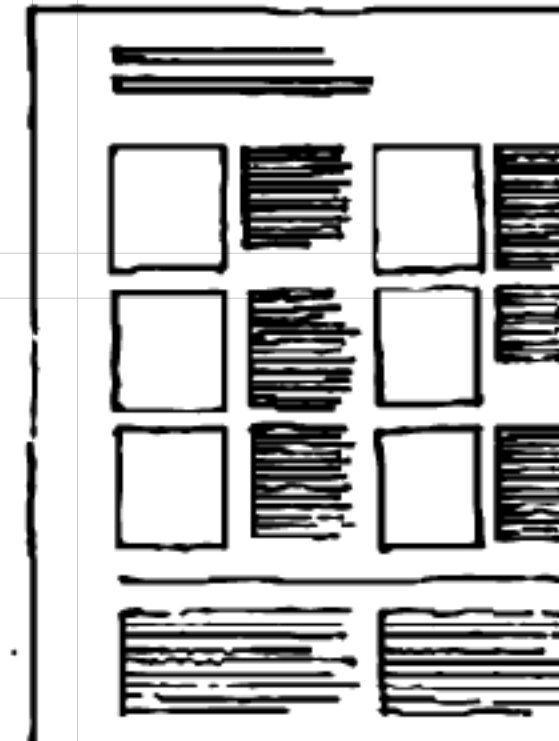
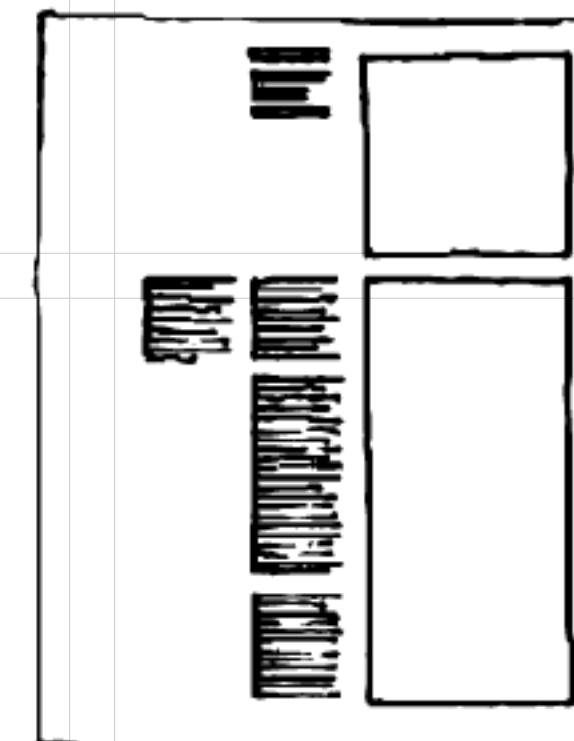
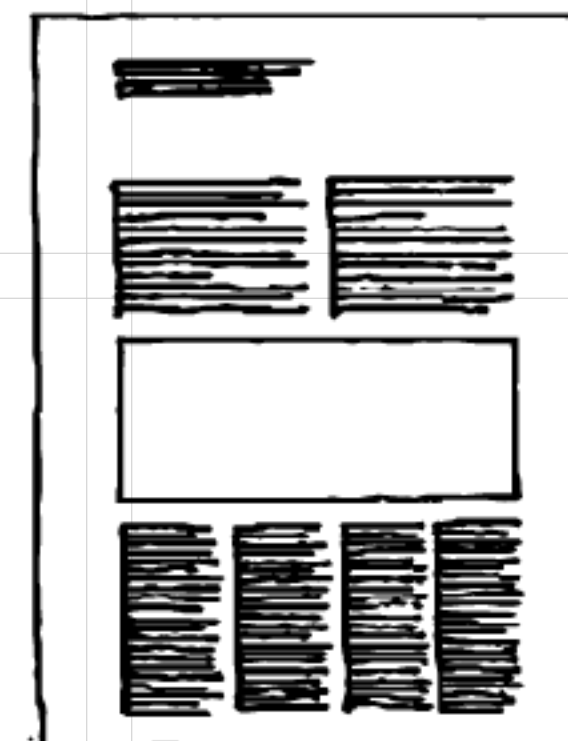
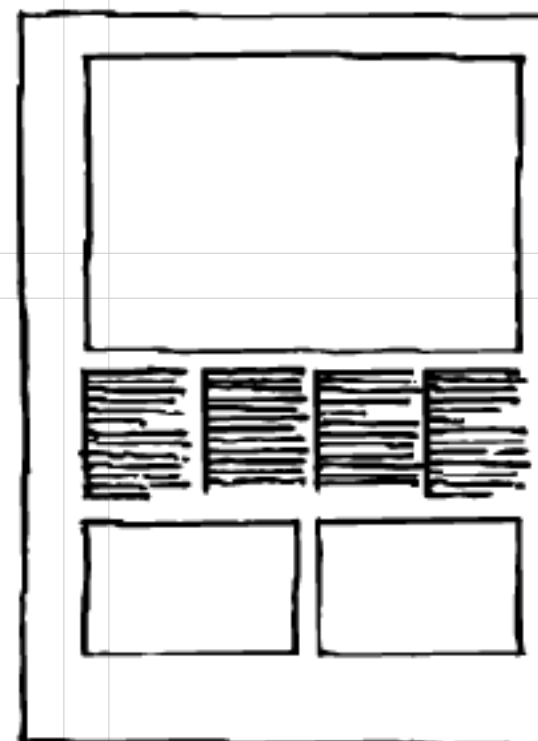
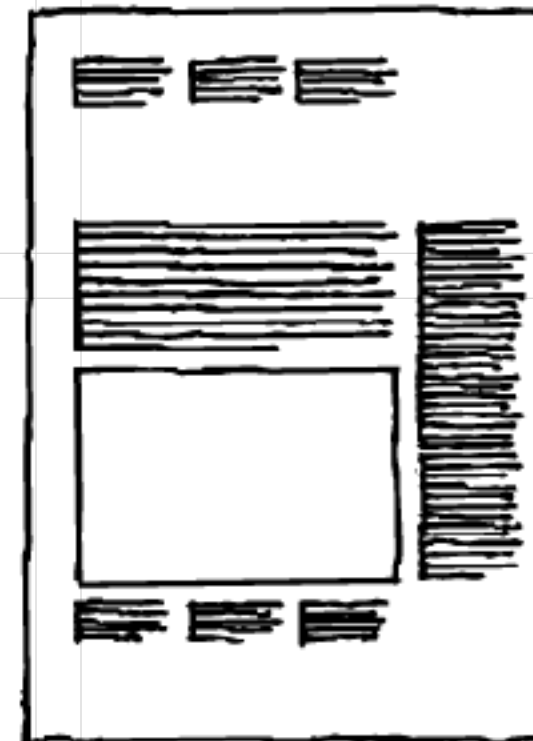
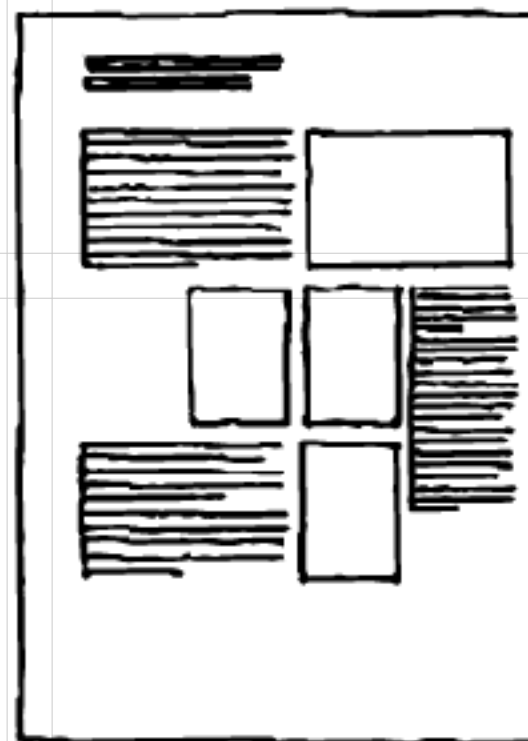
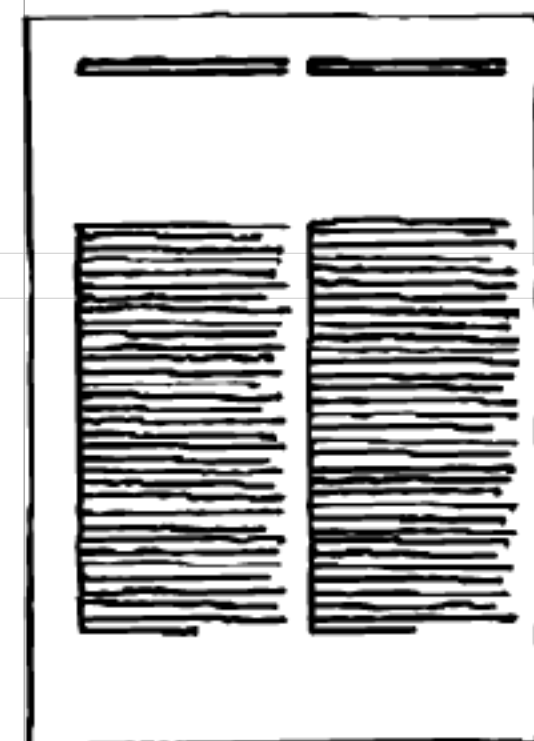
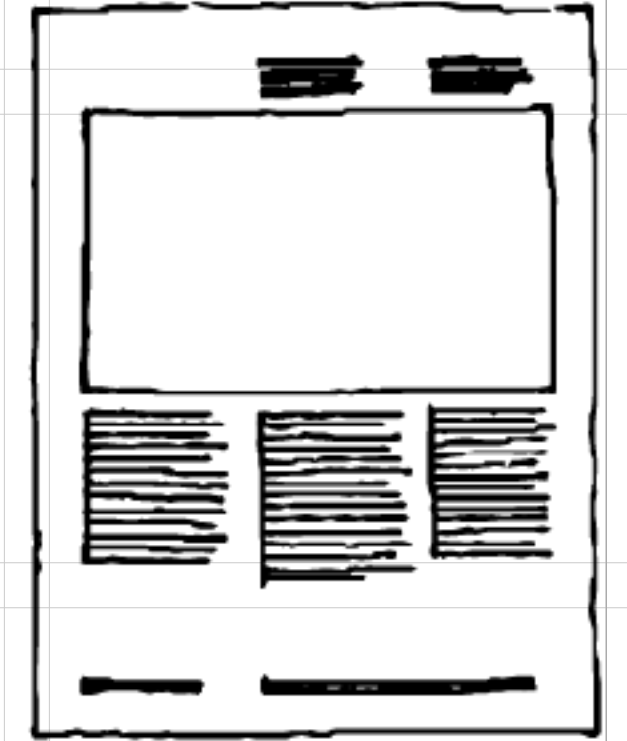
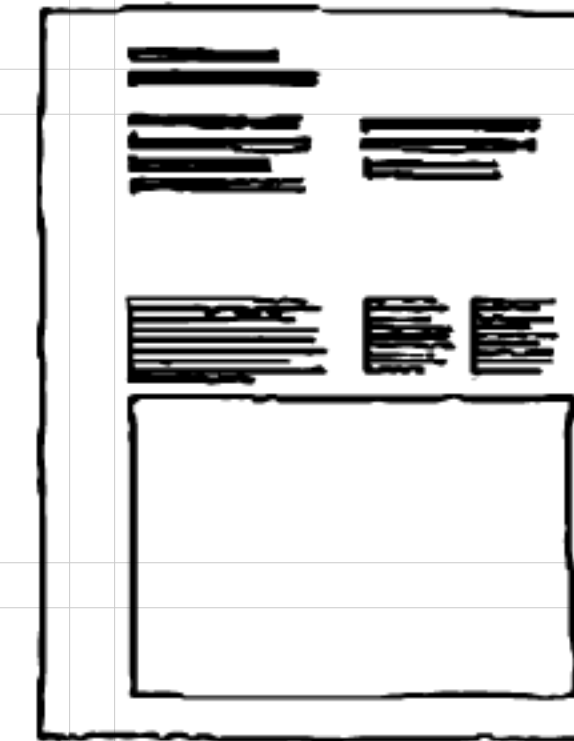
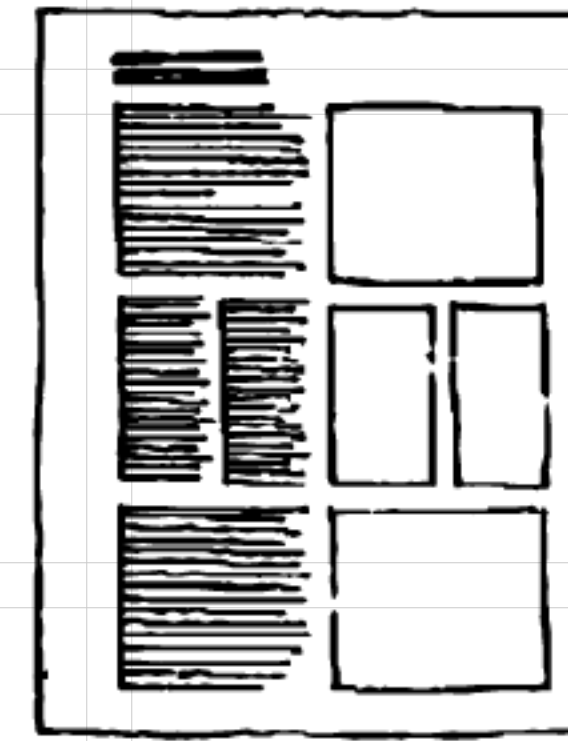
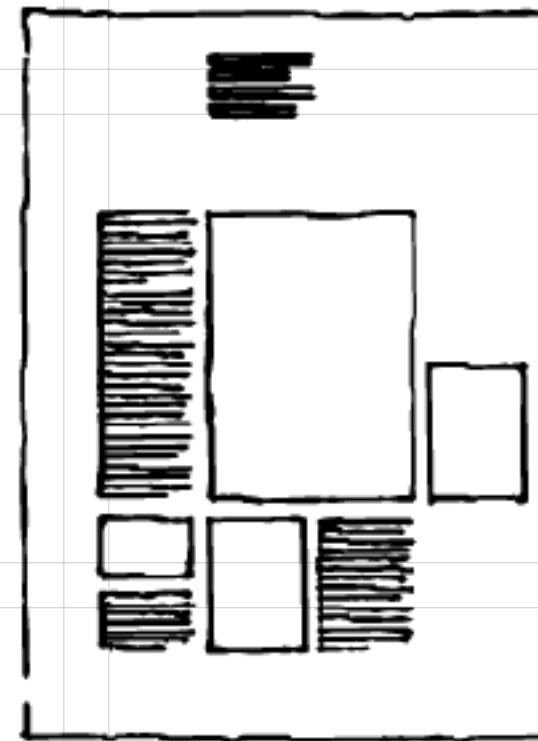
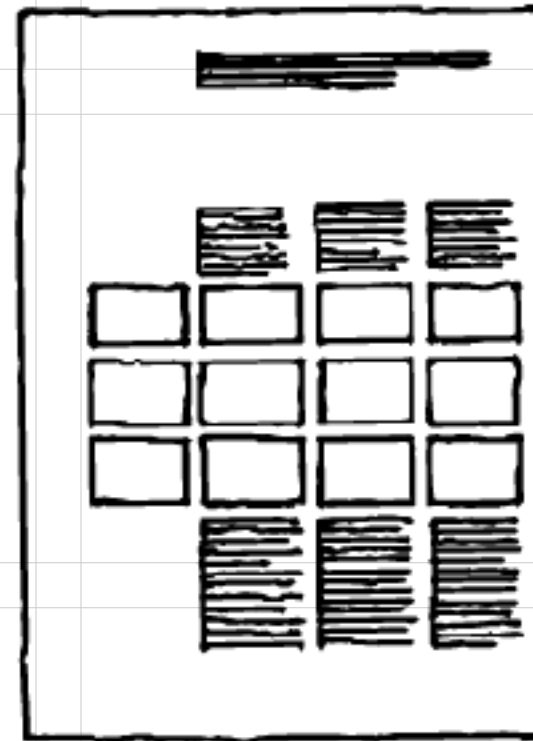
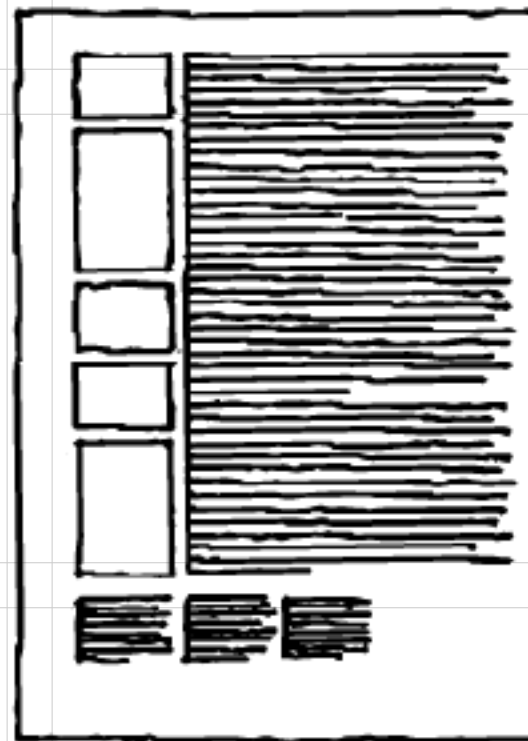
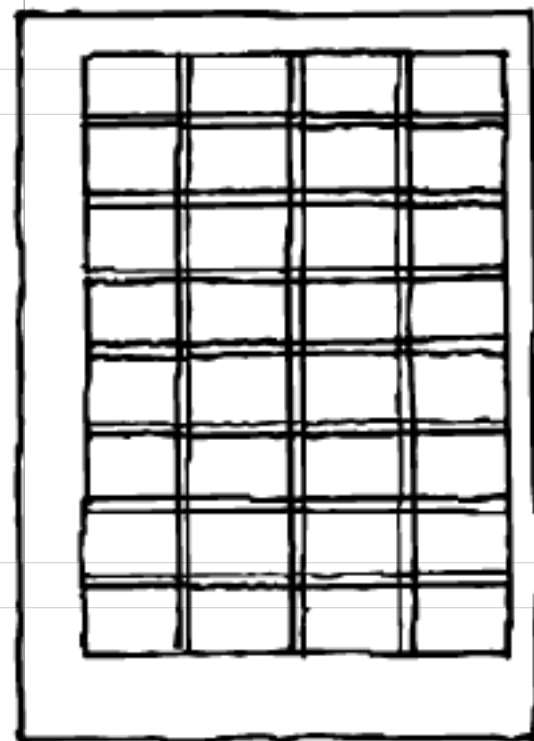
**Don't attempt to build a house without a  
blueprint and scaffolding!**

Polish my poster!

## G: Grids

Joseph Müller-Brockmann's hand sketches from *Grid Systems in Graphic Design*

Image credit: <https://medium.com/subform/better-grid-systems-in-ui-design-tools-495dc35c5791>



Polish my poster!

G: Grids

The image shows a Microsoft PowerPoint window titled "Presentation1 UNCLASSIFIED\*". The ribbon is set to "Home", and the "Layout" group is active. A red poster is being edited, featuring the text "Powerful posters in Powerpoint are possible!" and "Kia ora, judgy designer Jo here! I've seen some shocker academic posters in my time, but it needn't be that way. I've put together some simple tips to help you out. And out of an abundance of empathy for those without fancy software, I've made this in Powerpoint, to show you a good-looking". A "Grid and Guides" dialog box is open, showing settings for "Snap to" (checked), "Grid Settings" (Spacing: 5cm, Display grid on screen: checked), and "Guide Settings" (Display drawing guides on screen: checked, Display smart guides when shapes are aligned: checked). The dialog box also has "Set as Default", "Cancel", and "OK" buttons. The background of the slide is red with white text and a white grid overlay. The text on the slide includes "Powerful posters in Powerpoint are possible!" and "Kia ora, judgy designer Jo here! I've seen some shocker academic posters in my time, but it needn't be that way. I've put together some simple tips to help you out. And out of an abundance of empathy for those without fancy software, I've made this in Powerpoint, to show you a good-looking". The text is centered and aligned with the grid lines. The "Grid and Guides" dialog box is positioned over the bottom right of the slide content.

Polish my poster!

G: Grids

welcome to the  
a load off your mind

# science communication laundromat!

laundromat.makinggood.design

theory-informed practice-able reflexive

motivations cyclical impact inclusivity audiences messages power! vocabulary

Take a spin in the science communication laundromat, a set of tools to help embed ideas from public engagement with science (PES) theory into research, to help scientist-communicators build capacity for successful science communication.

These tools – a site workbook, worksheets, facilitator notes, and even a template for a cardboard washing machine to do the exercises on – are available to use and adapt at [laundromat.makinggood.design](http://laundromat.makinggood.design) under a creative commons licence. The website is aimed primarily at people who would like to use the tools to deliver and facilitate their own laundromat.

**what is a scicomm laundromat?**

In short, it is a workshop model (developed using design methodologies and practices) incorporating a series of exercises to help scientists/researchers think about their scicomm or public engagement in a reflexive way, in order to improve it. Improve it in the sense of being more purposeful, inclusive, more clearly designed for the people the communication is aimed at, and with a better sense of potential challenges and motivations. Key to this is making the theory 'practice-able'. The laundromat is usually delivered as a residential retreat over two or three days, but can also be done as shorter sessions, or online.

**why a laundromat?**

We had been playing with an installation where a lo-fi, playful cardboard laundromat was a repository for thoughts on 'airing the dirty laundry' of various disciplines at conferences, drawing on a lot of metaphors: cleaning up, ironing out, pressing on. We had also been working with scientist-communicators to help them develop reflexive, thoughtful, audience-centric science communication via design-led workshops. When we brought the two workstreams together, the metaphors just kept washing over us! The never-ending cycle that is laundry was especially resonant when thinking about public engagement practice as something that requires regular attention to 'refresh' it. You can find out more about this in our paper, linked below.

**free to use and adapt**

The Scicomm Laundromat is shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International license: [creativecommons.org/licenses/by-nc-sa/4.0/](https://creativecommons.org/licenses/by-nc-sa/4.0/)

**what's practice-able?**

If practice-able means 'able to be put into practice', but also brings to mind words like feasible, actionable or viable, we decided that we meant something more than this. We wanted to add something in absorbing and incorporating theoretical ideas from PES into their own practice. A key part of the theoretical ideas from our perspective was a reflexive disposition, so this incorporation of theory would enable them to reflexively shape their practice, whatever that may be. We wrote more about this in [DOI: 10.2202/2020.2104](https://doi.org/10.2202/2020.2104) paper linked below.

**the laundromat cycle**

All stages of the process are covered in the site workbook. The washing machines and other props support the process, alongside A1 large-format worksheets.

1. GATHER UP THE LAUNDRY FILE
2. SORT THE LAUNDRY
3. CHOOSE THE SETTINGS
4. IRON & PRESS
5. RINSE & WING
6. GET IT DRIED
7. FOLD & PRESS
8. READY TO WEAR

**1. GATHER UP THE LAUNDRY FILE**  
This stage includes setting the cycle survey, to gather expectations, expertise, backgrounds, project information etc. done top-down about you. An inclusive icebreaker and drawing it out, you and your engagement, a drawing task to help participants position themselves and think reflexively about their research and their engagement practice (and what engagement means).

**2. SORT THE LAUNDRY**  
This stage includes Scicomm 101 and set it on the garment peg 'em up project. The purpose is to background how scicomm and engagement are framed in some literature to build shared understanding and to discuss how others understand 'peg' terms. Then, prompt sheets are used to draw out a sense of where the engagement project is at, and to document assumptions you might question later.

**3. CHOOSE THE SETTINGS**  
This stage includes connected tasks to help participants 'hang out' with their thoughts for a while. The goal is to help think about the project further. It enables discussion about the purpose of actions for participants' specific research project and where it fits in a research project: upstream, downstream, and how much engagement can vary the research. It also considers social licence.

**4. IRON & PRESS**  
This stage draws on a tool called the engagement wheel, first proposed by Salome Stone (2019). Its purpose is to help participants get to grips with and articulate some of their different scicomm drivers and objectives. It is an opportunity to become more transparent and explicit about where the power lies; all the goals of an activity (including ones that aren't usually overtly declared); and what 'success' looks like.

**5. RINSE & WING**  
This stage has two parts: 'shorts' in the spirit of audience + message and what 'fix the spin?' message rinse out. Through a scenario where audience (primary, secondary, 'secret') are 'overheard' in a laundromat explaining why they took part in the proposed engagement; what they thought about this experience; and that they learn we map who the audience are; what we want them to know; and how we could connect with them. In essence, making sure we are centering the engagement on them and their needs.

**6. GET IT DRIED**  
This stage is 'hanging out to get done'. In essence it is a project planner. Participants have 'hung out' with their thoughts for a while. The goal is to help think about the project further. It enables discussion about the purpose of actions for participants' specific research project and where it fits in a research project: upstream, downstream, and how much engagement can vary the research. It also considers social licence.

**7. FOLD & PRESS**  
This stage is called 'how to ironing up!' It asks what are the measures of success for this engagement project? What metrics are there that you could object, measure or survey, or observe more intentionally? And how can we evaluate impact both on audience and on yourself and the other team members? This is documented in the site workbook.

**8. READY TO WEAR**  
This stage 'presses' freshly ironed-out steps: an exercise to shake out the whole experience to get it down to an 'elevator pitch' (or a specific verbage). The point is to articulate where the project is at, and vitally, to distill and summarise next steps for the participants (and that they have a plan when they leave. Where steps 6 and 7 cover the longer-term plan in detail, this exercise is a quick distillation, and the 'note to self' you need when you get back in the office and need a quick recap to catalyse something.

**FIND OUT MORE...**

Visit our 'a load off your mind' science communication laundromat website: [laundromat.makinggood.design](http://laundromat.makinggood.design)

Read our paper: Bailey, J., Salmon, R., & Horst, M. (2022). The Engagement Incubator: Using design to stimulate reflexivity about public engagement with science. *Journal of Science Communication*, 20(4), A01. [doi.org/10.2202/2020.2104](https://doi.org/10.2202/2020.2104)

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**THANKS TO...**

Special thanks to Maja Horst for an insightful and delightful collaboration. Te Pūnaha Matatini, the Advance New Zealand Centre of Research Excellence for complex systems for their support and to their research community for being our participants.

**Te Pūnaha Matatini**  
Complexity is at our heart

Polish my poster!

H: Hierarchy

**H** is for Hierarchy  
(and Headings)

Polish my poster!

H: Hierarchy



## Colorful Crossroads From Paper to the Crystal Palace

Dickinson's *Comprehensive Pictures of the Great Exhibition of 1851* (1854) *Waiting for the Queen*  
(OCA G&E) MT690 (p)12723

### Printing color, building color

The year 1851 saw the publication of many architectural books illustrated with chromolithographs. Among them, two books on ancient Greek architecture permit an investigation of the nature of the relationship between the images in architectural books and the design and perception of buildings: *L'Architecture polychrome chez les Grecs* by Jacques Ignace Hittorff (1792–1867),<sup>1</sup> a compilation of research (both his own and others') on polychromy;<sup>2</sup> and *An Investigation of the Principles of Athenian Architecture* by Francis Cranmer Penrose (1817–1903), a geometric analysis of the entasis of the Parthenon.<sup>3</sup> Both books feature chromolithographs and black-and-white engravings.

Penrose was not unaware of the use of color in the Parthenon,<sup>4</sup> but his main focus was optical correction: the way the Greeks achieved the illusion of perfect geometry in building form by adjusting elements to avoid potential visual distortions caused by the human eye. These adjustments are documented in the book in plain measured drawings that record the shape of the building and its geometrical deformations. Despite the exactitude of the information provided, the images are somewhat dull. Even in the chromolithographic plates, where Penrose recorded “some evidence of colour,” the most significant images are in *chiaro oscuro* to emphasize the solid and massive appearance of the Parthenon's northwest corner. Hittorff's perspective from the same point of view is in vivid color and exploits the full range of possibilities offered by the chromolithographic process. Because Hittorff's research interest lay in

1. Michael Klein, Jacques Ignace Hittorff, *Préface au Plan de l'Académie* (Paris: Éditions du Patrimoine, Centre des Monuments Nationaux, 2010); Hittorff, *Des architectes du XIX<sup>e</sup> siècle* (Paris: Musée Carnavalet, 1984).
2. Jacques Ignace Hittorff, *Restitution du temple d'Épidaure à Salomonie, ou, L'Architecture polychrome chez les Grecs* (Paris: Perrin Edouard, 1820).
3. Francis Cranmer Penrose, *An Investigation of the Principles of Athenian Architecture* (London: Longman Co. & Intercontinental Book & Jobb Murray, 1850).
4. Ibid., plate 1: “View of the north-west angle of the Parthenon showing in chiaro oscuro the entasis inscribed on the mouldings & together with the evidence of colour.”

*The Anatomy of the  
Architectural Book*  
Lars Müller Publishers,  
2014  
Design: Drop/João Faria

Polish my poster!

H: Hierarchy



## Title

# Colorful Crossroads

## From Paper to the Crystal Palace

## Heading

Printing color, building color

## Body copy

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## Image caption

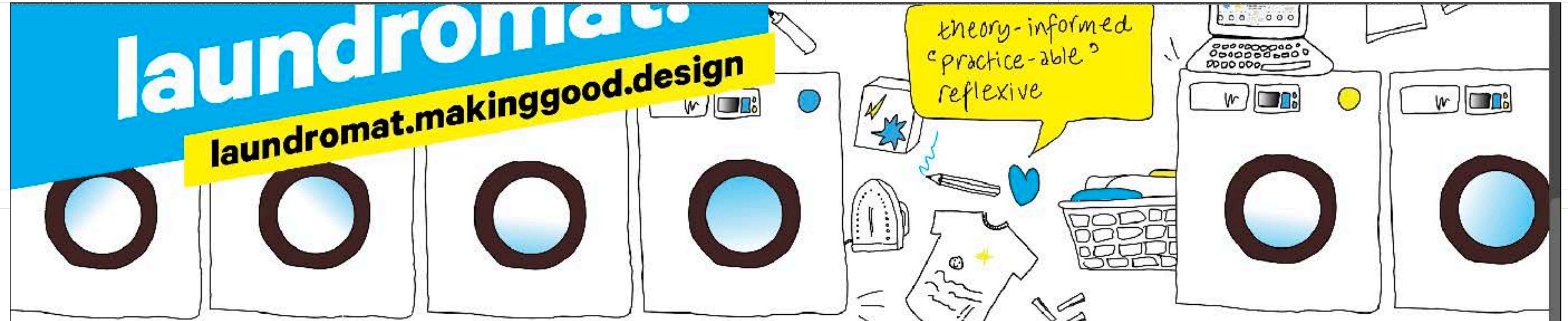
Dickinson's *Comprehensive Pictures of the Great Exhibition of 1851* (1854) *Waiting for the Queen* (CCA/CGE/MT690/0912272)

## Footnotes

1. Michael Kleebe, *Jacques Ignace Hittorff: Précurseur du Petit Palais* (Paris: Éditions du Petit Palais, Centre des Monuments Nationaux, 2010); Hittorff, *Des architectes du XIX<sup>e</sup> siècle* (Paris: Musée Carnavalet, 1984).
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*The Anatomy of the Architectural Book*  
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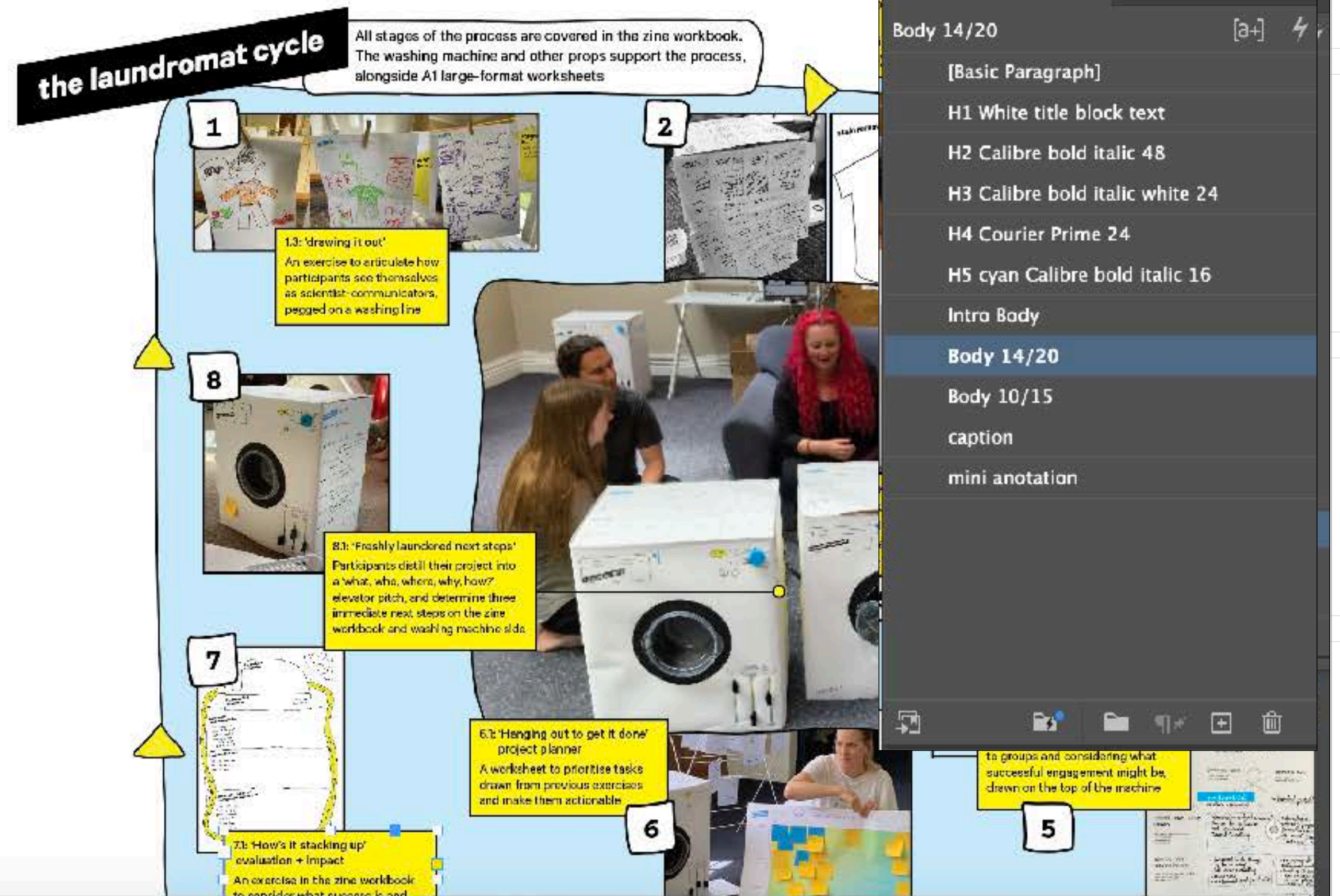


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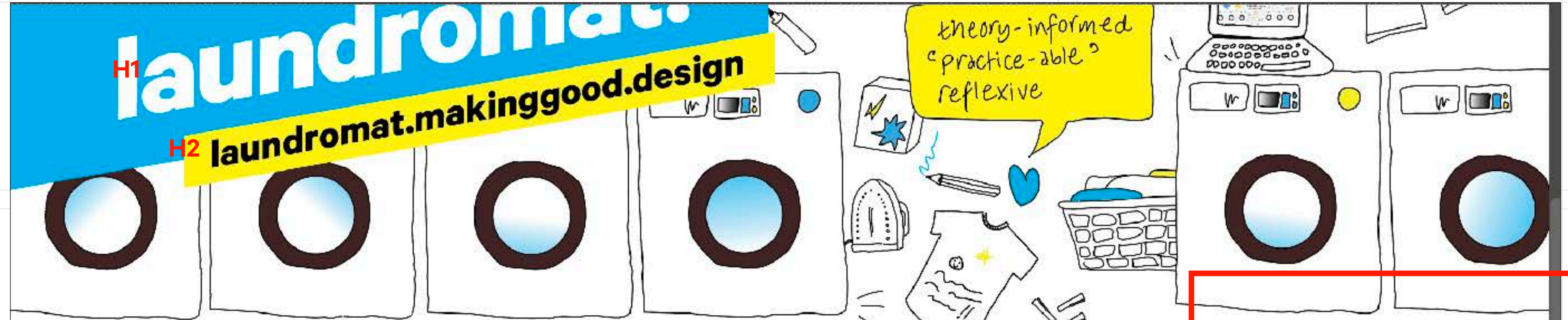
Paragraph Styles

Body 14/20

- [Basic Paragraph]
- H1 White title block text
- H2 Calibre bold italic 48
- H3 Calibre bold italic white 24
- H4 Courier Prime 24
- H5 cyan Calibre bold italic 16
- Intro Body
- Body 14/20
- Body 10/15
- caption
- mini anotation



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Caption

**Intro body** Take a spin in the science communication laundromat, a set of tools to help embed ideas from public engagement with science (PES) theory into research, to help scientist-communicators build capacity for successful science communication.

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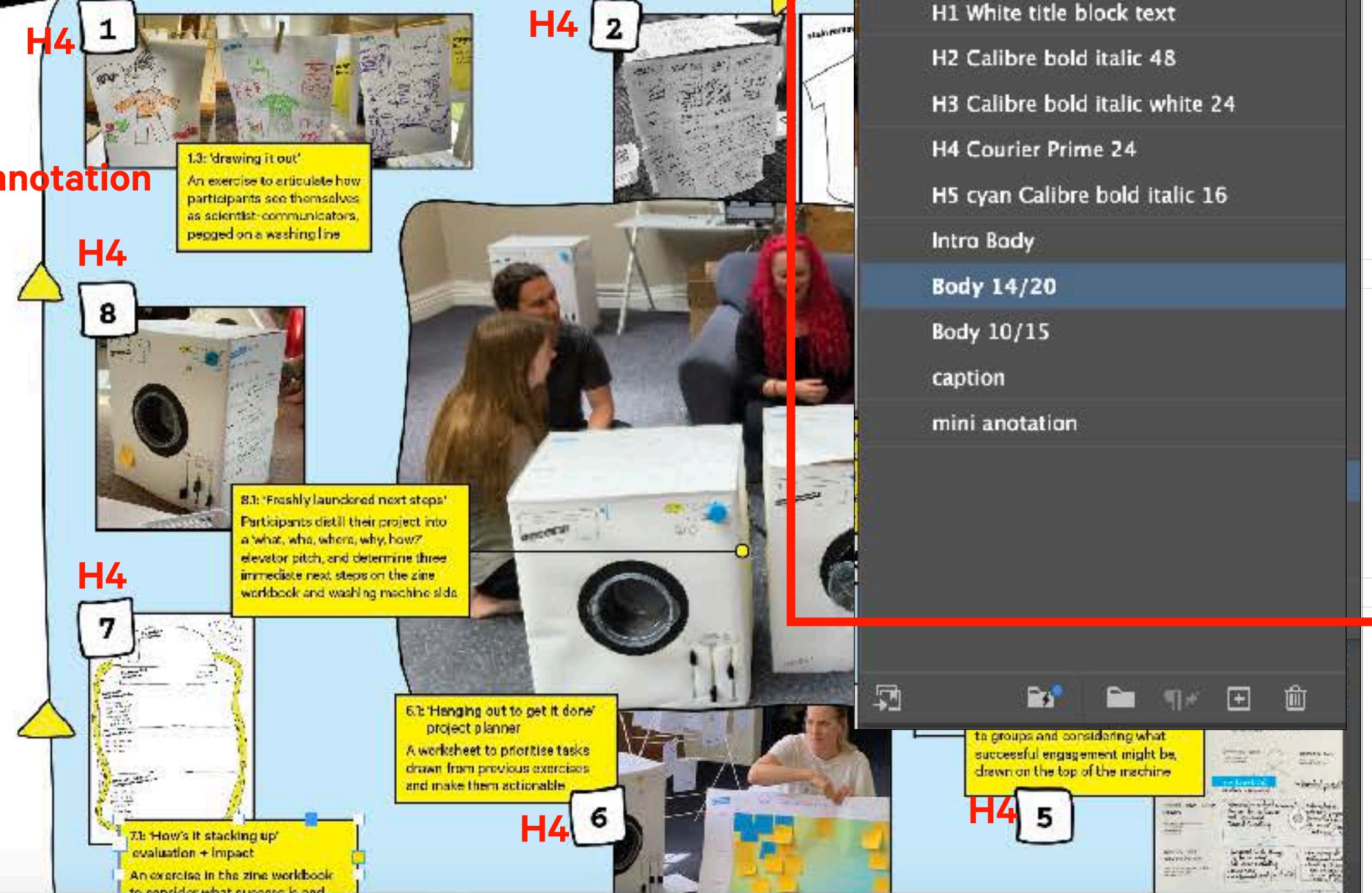
### H3 what is a scicomm laundromat?

Body 14/20

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Mini annotation



Paragraph Styles

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- Body 10/15
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Polish my poster!

I: Imagery

**I** is for Imagery

Polish my poster!

I: Imagery

# **I** is for Imagery

A hero image can hook in a reader  
from a distance

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I: Imagery

# ROLES OF RESTORATION COLLECTIVES



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I: Imagery

# PREPARE WELLINGTON

**Civil Defence**

## Prepare Wellington

### Trans-situational mapping in a crisis

What can contextually relevant information offer science communication?

*Prepare Wellington* posited a user-centred map that encouraged contribution of relevant resource, space and crisis plan information in advance of a crisis.

This information would then be made visible post-crisis in a way that responded to a user's location and context.

The creation of a platform that employed a limited, contextual view could contribute to the formation of a **trans-situational picture** of immediately available resources and hazard information for use after a crisis had occurred.

This trans-situational map would also leverage pre-existing crisis management frameworks to coordinate understanding of how an event is unfolding from a strategic viewpoint, or perhaps more valuably specific to the individual in a specific location.

Areas of understanding and response to events caused by climate change will come to demand more of our attention. If that information is offered contextually to the community at large, then it may become possible to present science information for a specific individual or group from their perspective.

Information that will become as relevant as a weather report is for planning a day.

This research paper primarily seeks to offer the science communication community an idea that creates a bridge between citizen-sourced, in-situ or centralised data and makes this contextually relevant as trans-situational information.

Is there a balance where scientific data can be formed so that it approaches us on our terms?

Can that data become part of our lifestyle and prompt behavioural change and social adaptation?

Australian Science Communicators – 9th National Conference  
Online see *Prepare Wellington* in "Climate Science"  
11:00am Thursday 23 February 2017

Design research originally commissioned by PGGMO  
at Request for Proposal Emergency Management Department  
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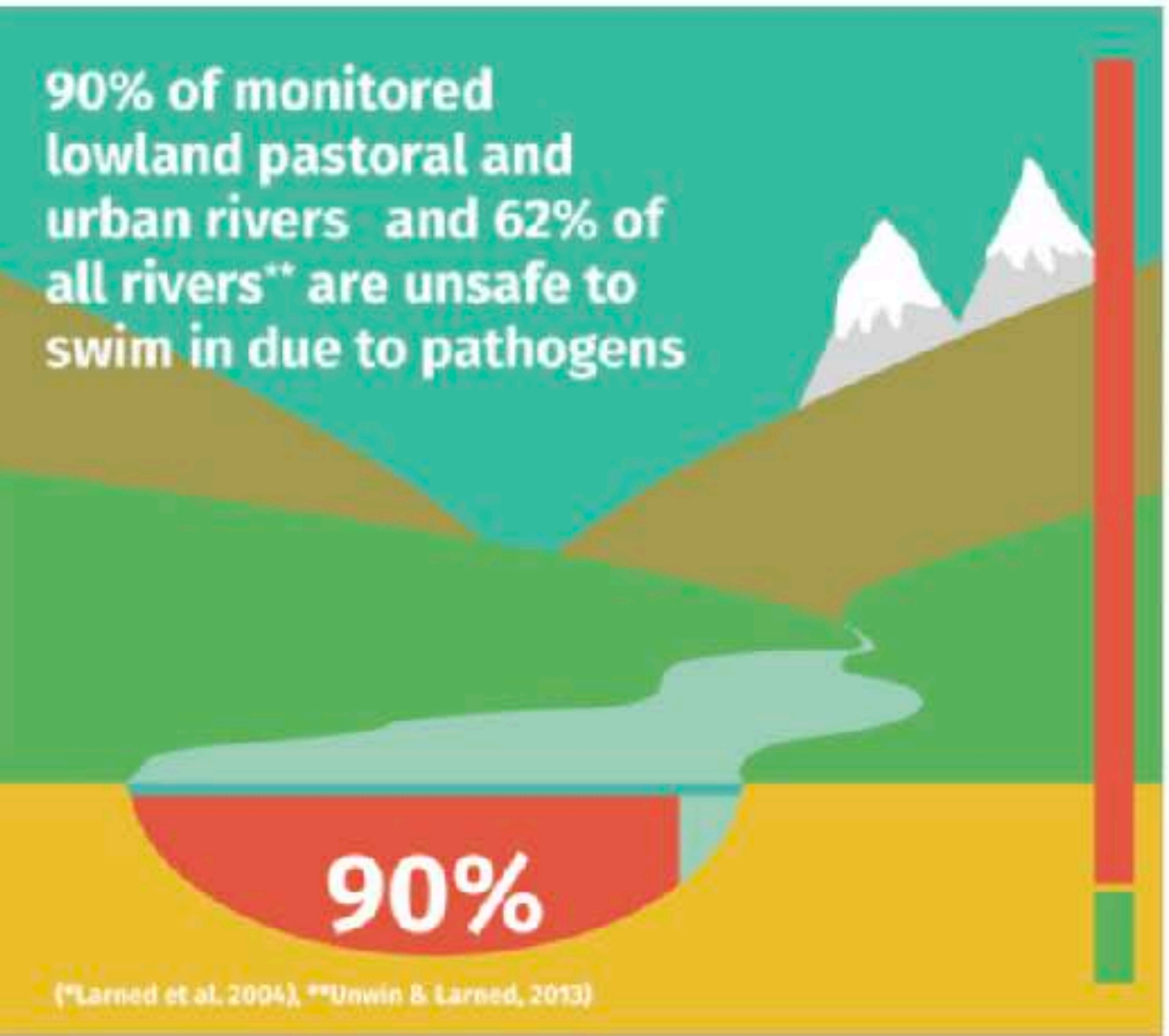
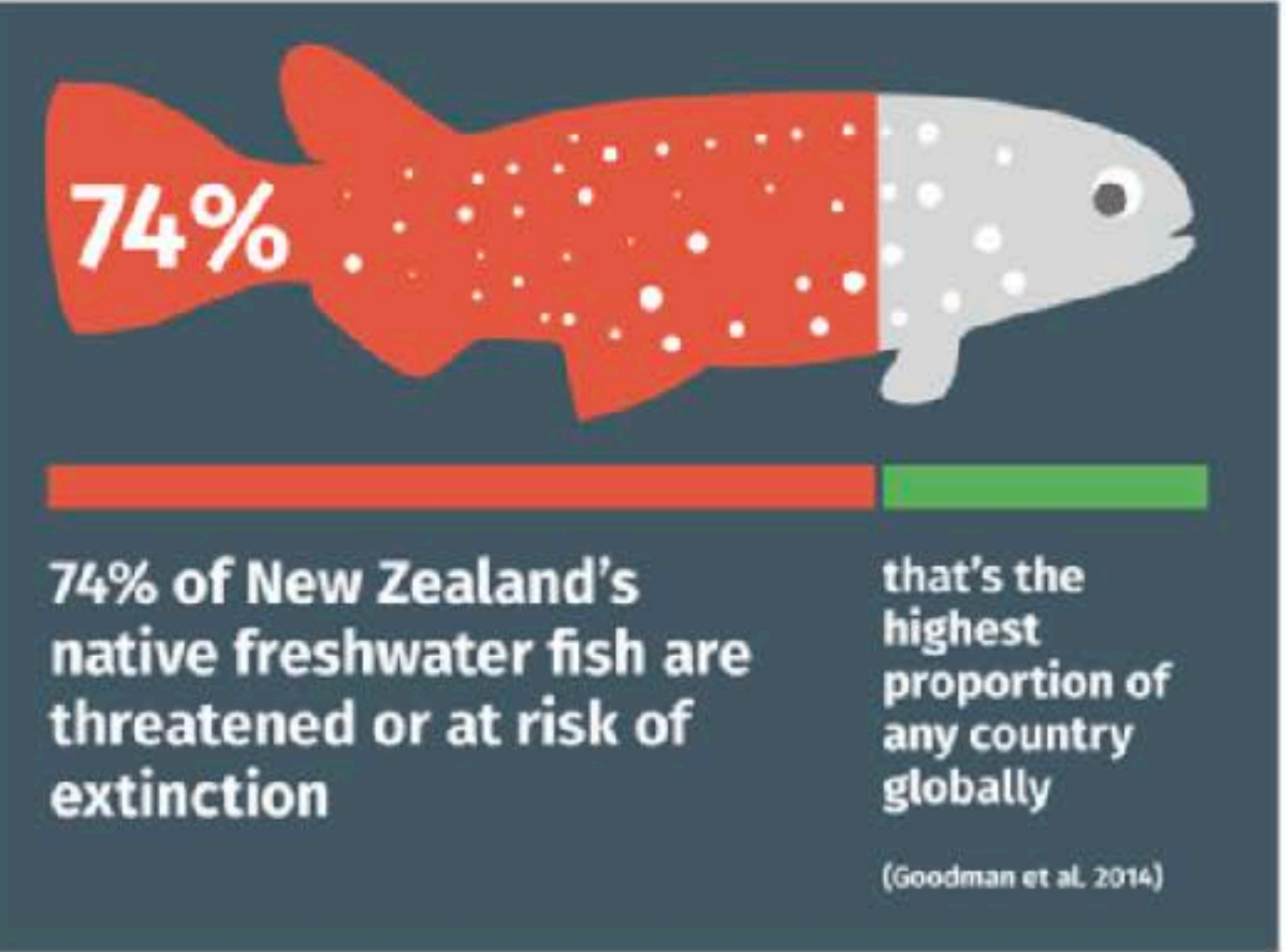
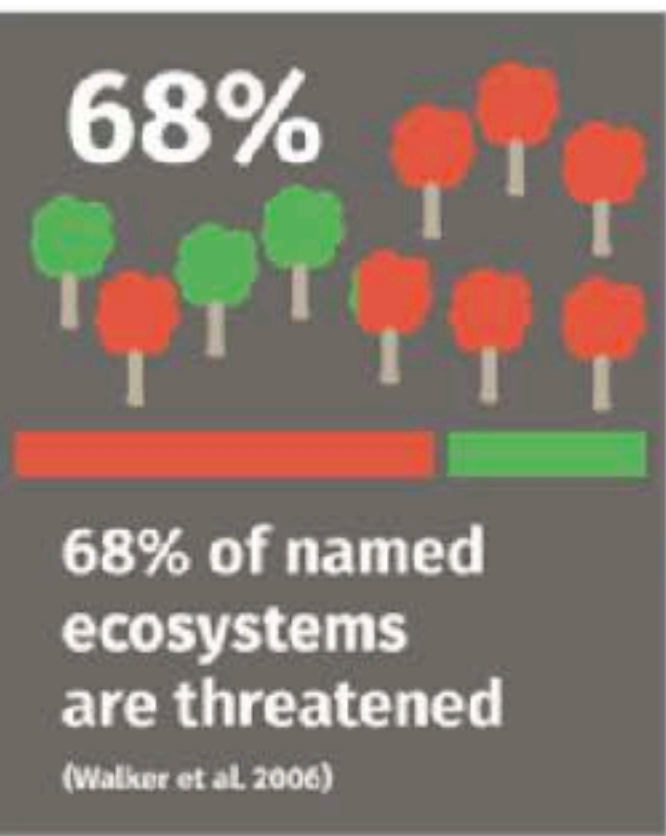
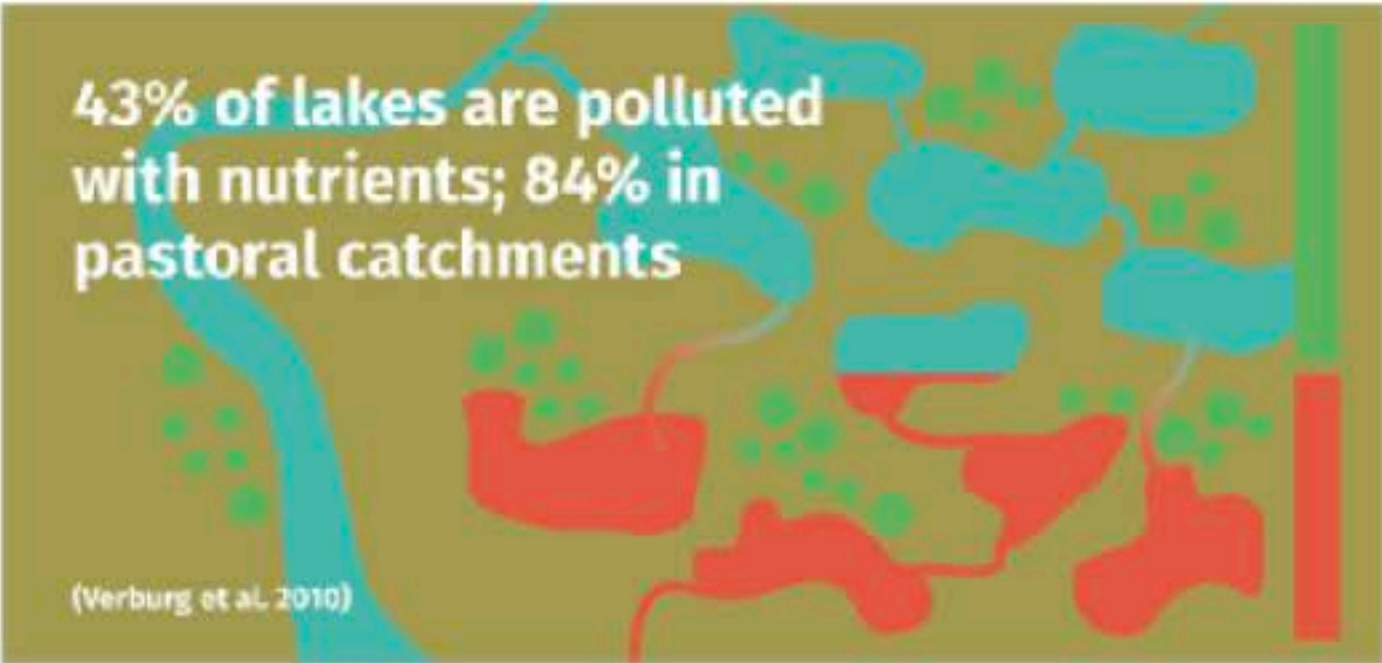
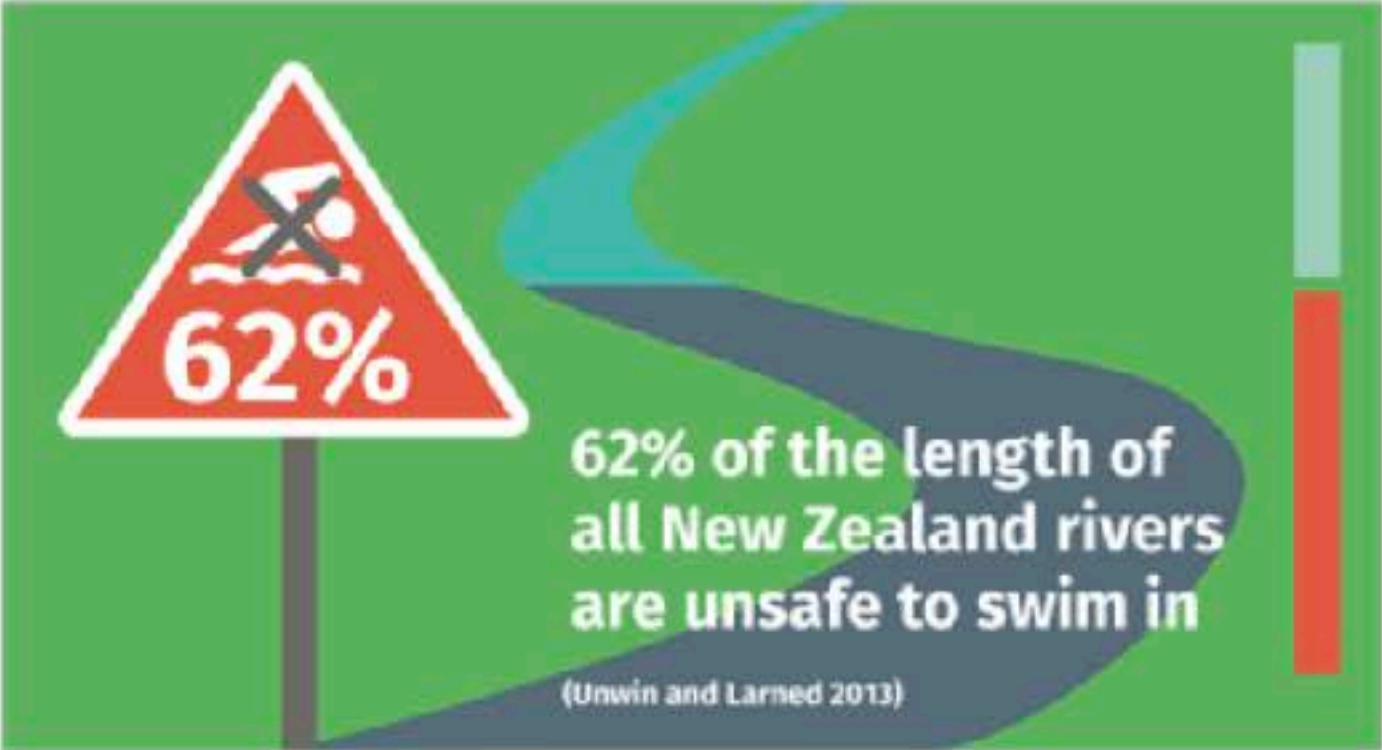
Visit the project: <http://preparewellington.govt.nz>

creative@maney.ac.uk

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I: Imagery

New Zealand's environment is not as clean and green as the adverts suggest. More than ever before, it is under pressure from increased agricultural intensification and other issues; the Resource Management Act has been compromised, our freshwater environmental protection weakened. Here are some of the reasons to be worried...



makinggood.design/work/freshwater/



# REDUCING UNCERTAINTY IN CITIZEN SCIENCE DATA



CHRISTCHURCH, NEW ZEALAND



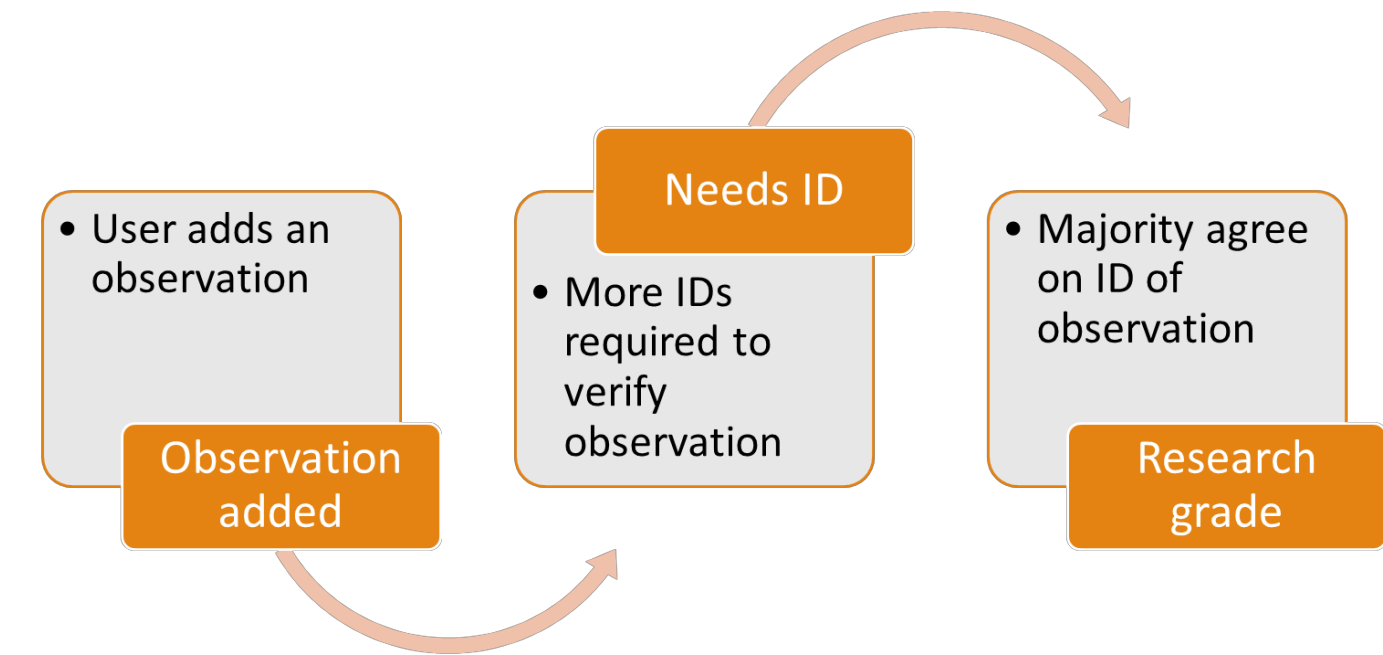
Julie Mugford <sup>1</sup>, Alex James <sup>1,2</sup>, Elena Moltchanova <sup>1</sup>, Andrea Byrom <sup>3</sup>, Jon Sullivan <sup>4</sup>

1. University of Canterbury
2. Te Punaha Matatini
3. Manaaki Whenua Landcare research
4. Lincoln University

## INTRODUCTION

Citizen science or public participation in scientific research (PPSR) is the involvement of non-scientific members of the community in helping scientists collect and analyse information. This method of information collection is growing in popularity among researchers and citizens. Citizen science opens up a large amount of data for researchers from a vast range of locations at unprecedented frequencies with minimal costs. At the same time it provides users with the opportunity to be involved in a range of projects from environmental management by contributing to time lapses of glaciers with 'Snap Shot Me' to galaxy detection with 'Galaxy Zoo' projects .

Many citizen science projects are based on users classifying images. These images can range from satellite photos of Earth for users to identify land types, to images of flora and fauna for users to help build a map of biodiversity.

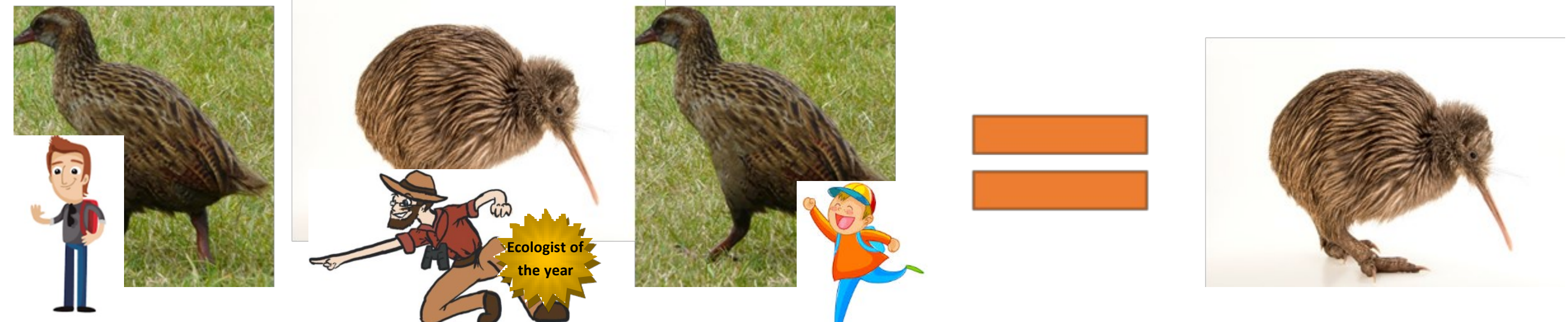


## MAJORITY VOTE WINS

It is common practice for citizen science projects to decide the final classification of an image based on the majority vote of the users that identified the image.

## BUT, WE'RE NOT ALL EQUAL

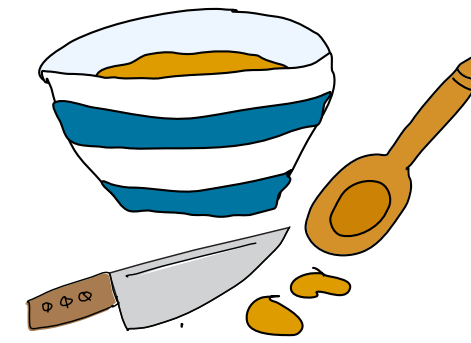
Majority vote does not take into account differences in users accuracies at identifying images. If we account for this difference we can base our final image classification on a weighted vote.



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# I Can Make It Tasty



Intra-/Cross-/Multi-/Inter-/Trans-Fusion cooking with disciplines!

Complex problems require us to look outside disciplinary boundaries in order to shape new modes of knowledge production. These developing models of collective and collaborative working have gained a range of words to describe them. Though these continue to evolve and different bodies of literature may employ them with subtle variations, there is a general coalescence around some terms that articulate these different levels of 'fusion' as a continuum of increasing integration. Cooking - making raw ingredients increasingly 'tasty' - can be a useful way of understanding the different degrees of blending and mixing, and the mnemonic I Can Make It Tasty describes this progression: Intradisciplinary / Crossdisciplinary / Multidisciplinary / Interdisciplinary / Transdisciplinary:

eat your meal in order:  
Salad, Stew and then CAKE!



Intradisciplinary working is within one discipline. Like a single ingredient, clearly distinguishable...

Crossdisciplinary working views one discipline from the frame of reference of another. It's like lots of different ingredients on a plate, but without chopping them up and mixing them...

Multidisciplinary working brings disciplines together so they can learn from each other, drawing on the mix of disciplinary knowledge. It's like a salad: the original ingredients are intact, but the flavours begin to blend...

Interdisciplinary working starts to take a new form, integrating knowledge and methods from different disciplines and synthesising into a new whole. It's like a stew: the original ingredients are still partly distinguishable, but the overall is a blended pot of mixed flavours...

Transdisciplinary working produces a new, novel form or way of working beyond the original disciplinary boundaries. It's like a cake: you can no longer see the form of the ingredients as they have taken on a different shape and flavour.



Te Pūnaha Matatini  
Complexity is at our heart  
a huge thank you to  
Te Pūnaha Matatini  
tepunahamatatini.ac.nz

Big ups to the people who did the actual research, or helped synthesise it including:  
Stember, M. (1995). Advancing the social sciences through the interdisciplinary enterprise. *The Social Science Journal*, 28(1), 1-14. [https://doi.org/10.1016/0360-5310\(91\)90040-B](https://doi.org/10.1016/0360-5310(91)90040-B)  
Choi, S. C. K., & Pak, A. W. F. (2006). Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education and policy: 1. Definitions, objectives, and evidence of effectiveness. *Clinical & Investigative Medicine*, 29(6), 551-564.  
Janssens, A. (2012, March 12). *Disciplinarity: Intra, cross, multi, inter, trans*. Retrieved 18 January 2018, from Alexander Refsum Jensenius website: <http://www.arj.no/2012/03/12/disciplinarity-2/>

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@Jo\_Bailey for all the references!  
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Polish my poster!

! Imagery

Help get out the vote with Noun Project + Vote.org



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# Icons and Photos For Everything

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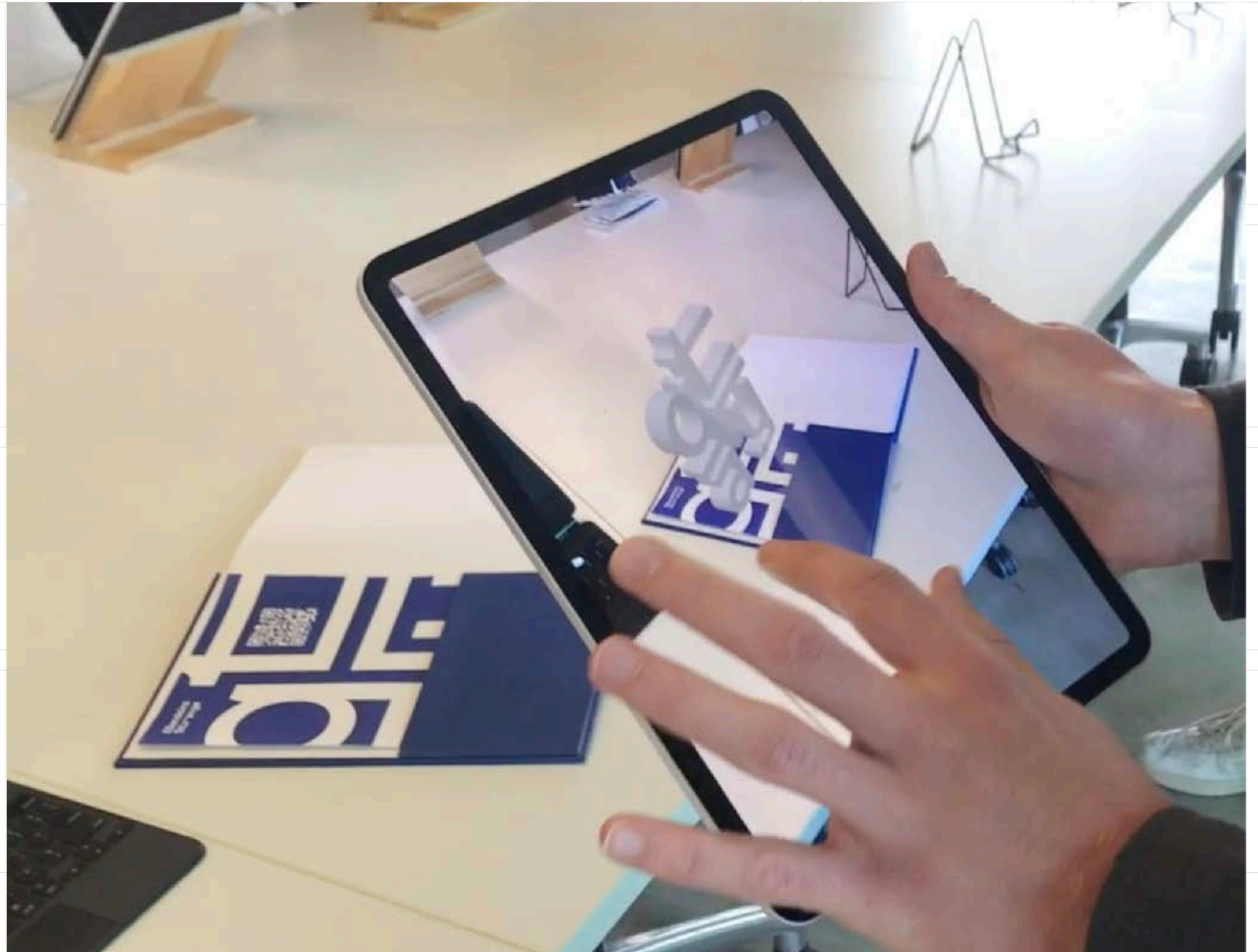


thenounproject.com

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I: Imagery to interaction?

# Crowdsourcing? AR?



Polish my poster!

!: Imagery to interaction?

# Format to augment meaning?



Polish my poster!

J: Justified

**J** is for **Justified**

Polish my poster!

J: (Not) Justified

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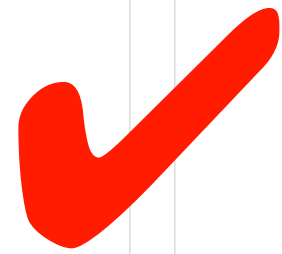
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# Justification

## Rarely justified!

When type is set in short line-lengths, the number of words that fit into a line means that people often justify the text. This presents particular problems, in that the type is then forced to fit an enclosed form that it does not naturally fit. This is the stage at which word-spaces and letter-spaces become the unintended victims.

When type is set in short line-lengths, the number of words that fit into a line means that people often justify the text. This **LAKE** presents particular problems, in that the type is then forced to fit an enclosed form that it does not naturally fit. This is the stage at which word-spaces and **PUDDLE** letter-spaces become **L A K E** the unintended victims.

RIVER

Polish my poster!

J: Justified

# Justification Rarely justified!

...power of science®

...diagnosis of harmful algae i

Lincoln MacKenzie, Jonathan Banks  
Cawthron Institute, Nelson, New Zea

The recent appearance of PSP-toxin contamination in major aquaculture regions and the establishment of large scale offshore shellfish cultivation in New Zealand, presents new challenges for harmful algal bloom (HAB) monitoring. To provide the earliest warnings possible, clearly delineate affected areas, and minimise monitoring logistics and costs, new methods are required. These will need to provide identification and enumeration of problem species from multiple samples collected over large areas in near real-time.

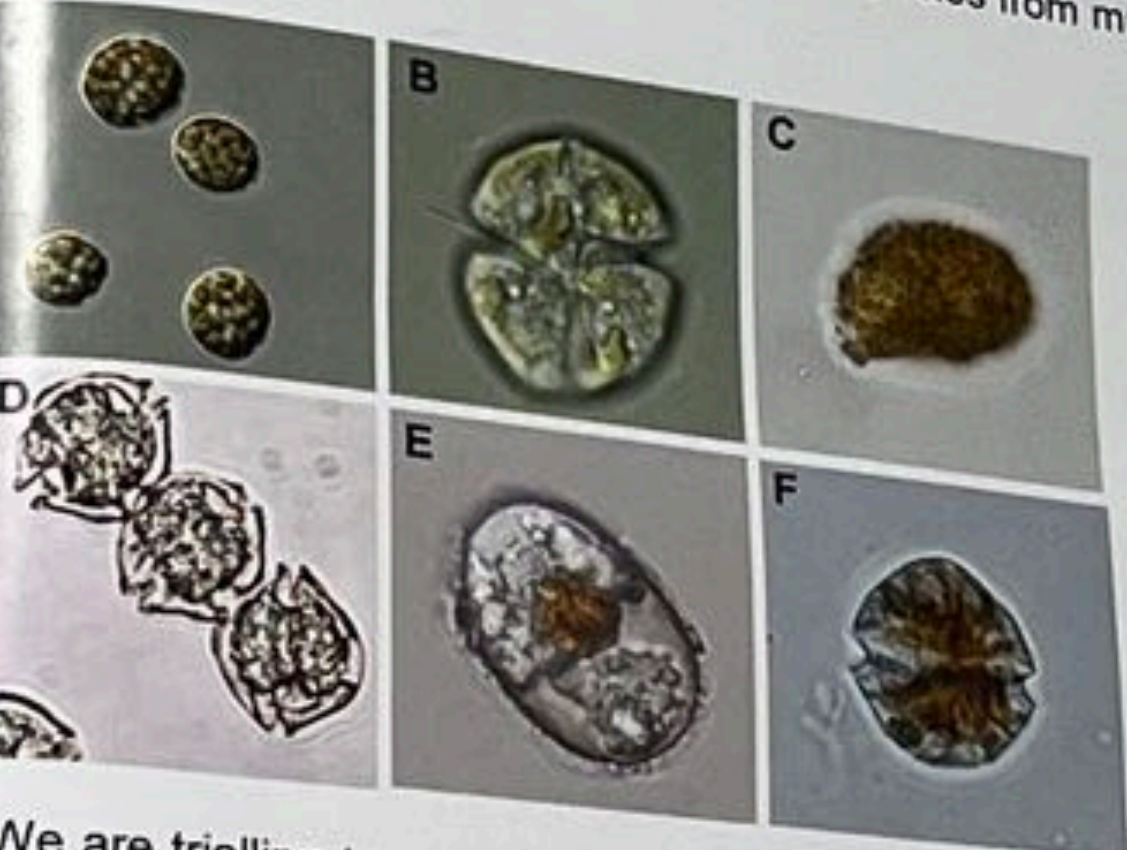


Fig. 1 Five species of harmful micro-algae that cause problems for aquaculture in New Zealand have been chosen as targets for field based qPCR assays.

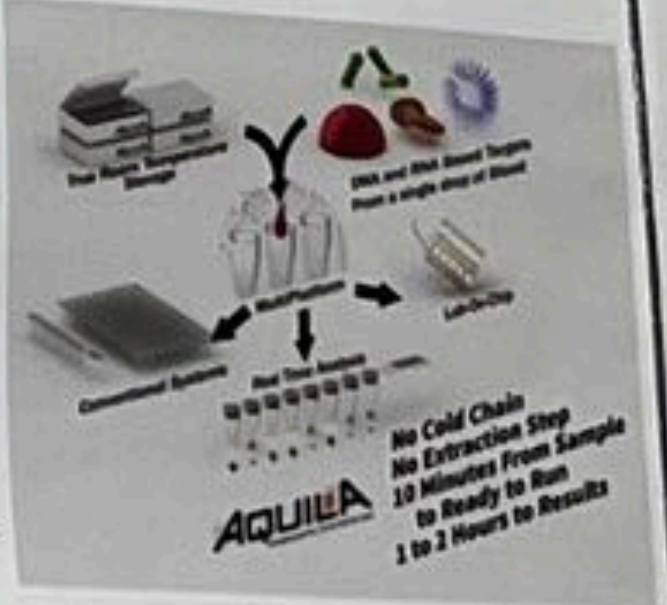
A. *Heterosigma akashiwo*; B. *Karenia brevisulcata*; C. *Pseudochattonella verruculosa*; D - E. *Alexandrium pacificum* and its resting cysts; F. *Alexandrium minutum*.

We are trialling two real time quantitative polymerase chain reaction (qPCR) assays that can be run in the field on portable thermocycling instruments, to identify and quantify several fish-killing and shellfish toxin producing species (Fig. 1). To date most work has focussed on motile cells of *Alexandrium pacificum* in the water column and their resting cysts in the sediments.

### Methods

Two rapid qPCR assay formats are being trialled; the Aquila Diagnostic's Hydrogel™ assay and Diagnostic Technology's Phytoxigene™ DinoDTec assay.

The Hydrogel™ assay (SYBR Green) targets a sequence in the D1-D2 region of LSU rRNA gene in *A. pacificum*. All qPCR reagents are contained in a pre-st gel in the reaction tubes, all that is required is the addition of a 10 µL DNA extract.



(www.aquiladiagnostics.co)




Fig. 3 Vertical profiles of the concentration of the toxin in the coastal Sound.



Polish my poster!

J: Justified

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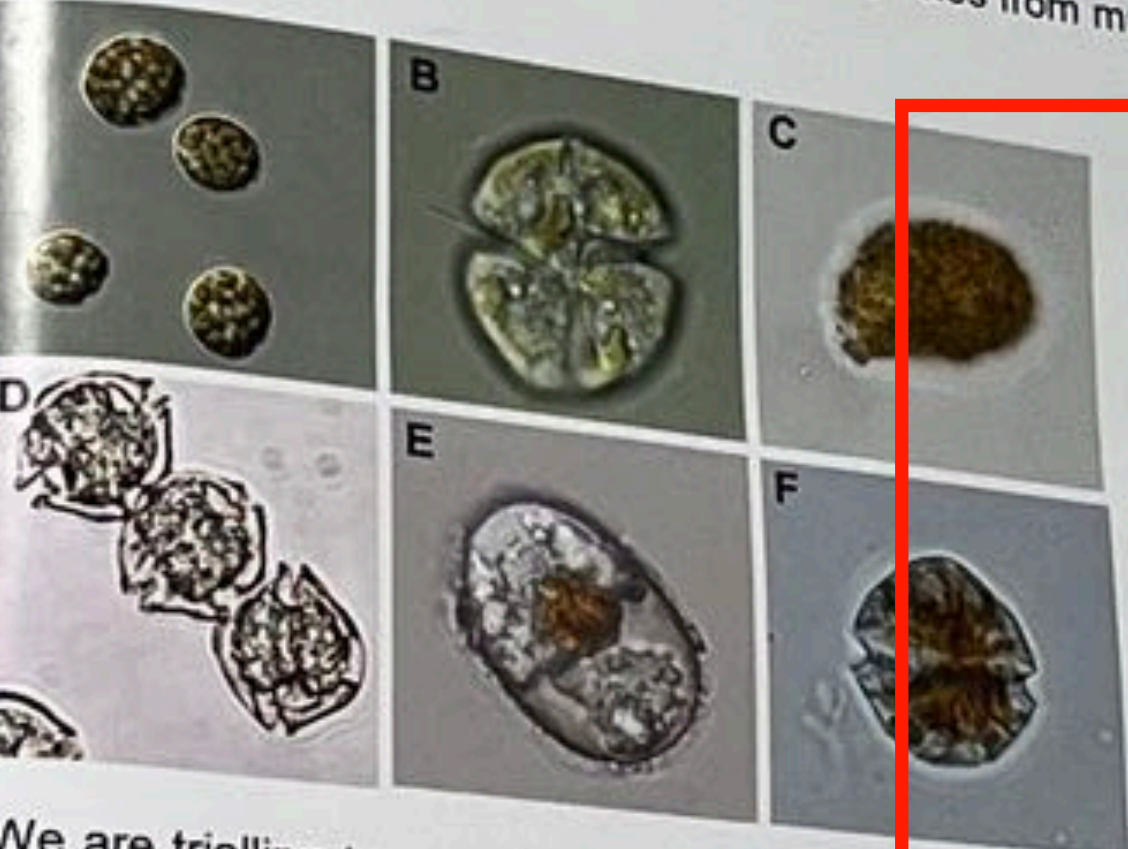


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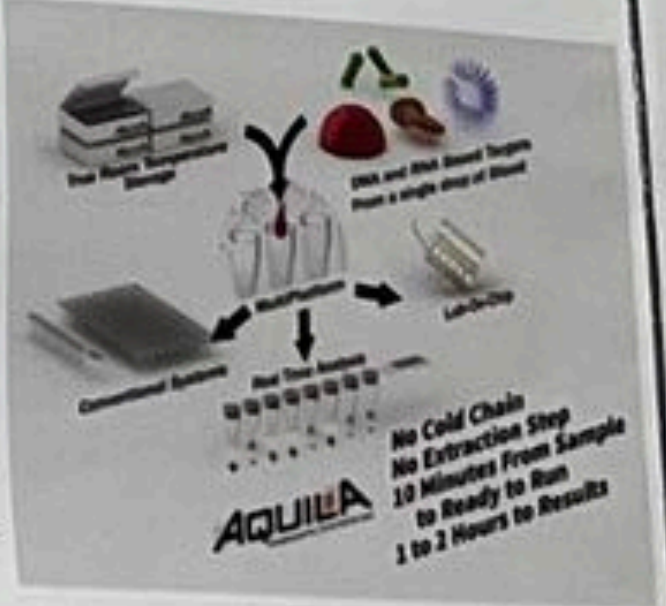
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No Cold Chain  
No Extraction Step  
10 Minutes From Sample  
to Ready to Run  
1 to 2 Hours to Results

(www.aquiladiagnostics.co)




Fig. 3 W  
convent  
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Sound.

Polish my poster!

K: Kerning

**K** is for Kerning  
(and tracking)

# **K** is for Kerning (and tracking)

Kerning=relationship between pairs of letters

Tracking=universal spacing over words/paragraphs

Polish my poster!

K: Kerning



Polish my poster!

K: Kerning

# Kern for optically balanced text



IF YOU REALLY HATE SOMEONE, TEACH THEM TO RECOGNIZE BAD KERNING.

# Tracking aka letterspacing

- You shouldn't need to add positive tracking to lower case letters
- But capitals respond well to positive tracking and can look more elegant



-5

**Response Essay:  
PlaceTime**

+100 (don't do this)



**Response Essay:  
PlaceTime**

+5



**RESPONSE ESSAY:  
PLACETIME**

+100



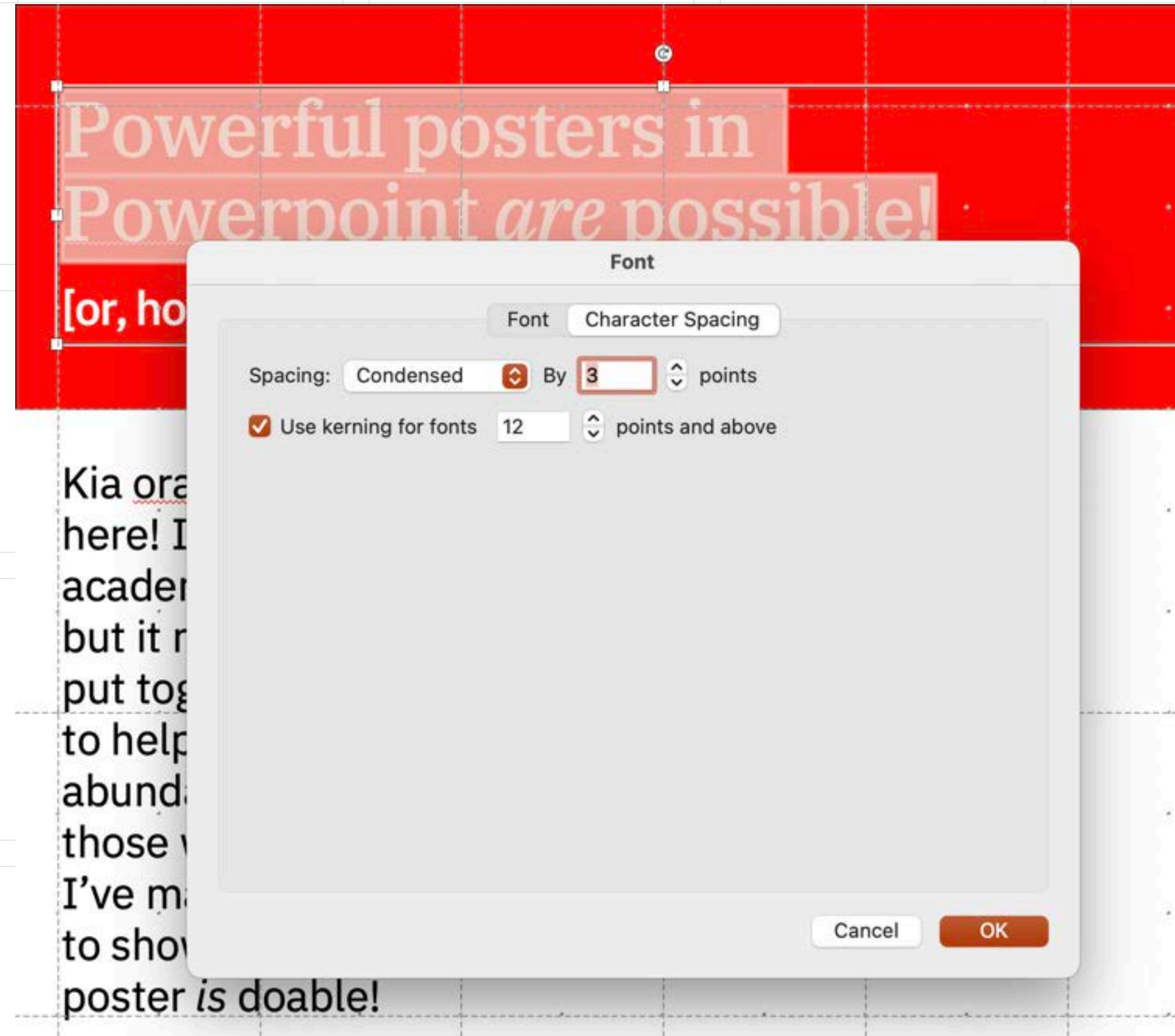
**RESPONSE ESSAY:  
PLACETIME**

Polish my poster!

K: Kerning (actually, tracking/letterspacing)

# Tracking aka letterspacing

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- But capitals respond well to positive tracking and can look more elegant



Polish my poster!

L: Line length

**L** is for **Line** length



# **L** is for **Line length**

Use line lengths (aka column widths) to reinforce your hierarchy. E.g, your caption line length will be shorter (and the text smaller) than your body copy

Polish my poster!

L: Line length



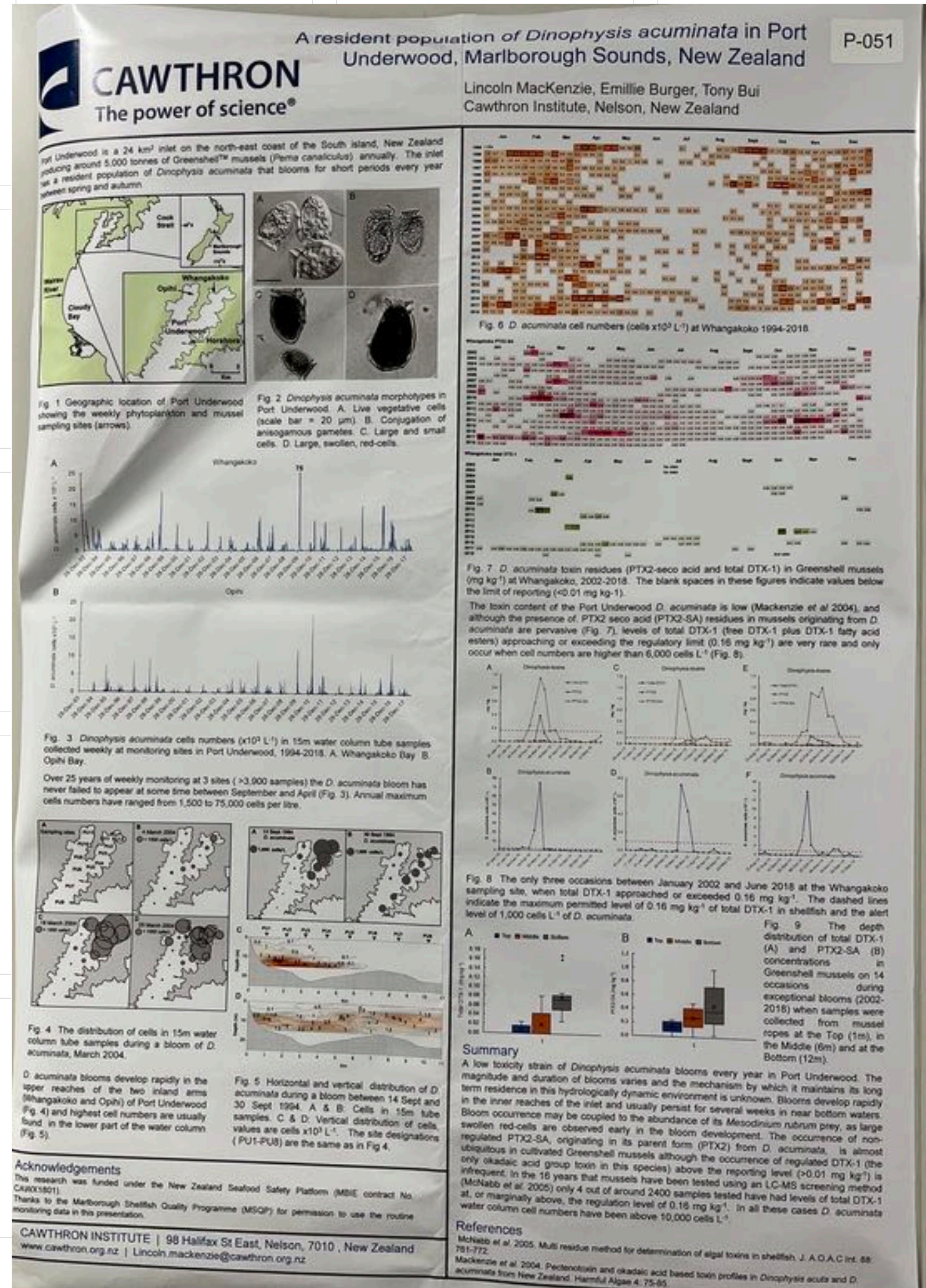
Modern: New Zealand  
Homes from 1938 to 1977  
Random House, 2014  
Design: Inhouse



Image credit: <https://bestawards.co.nz/graphic/editorial-and-books/inhouse/modern/>

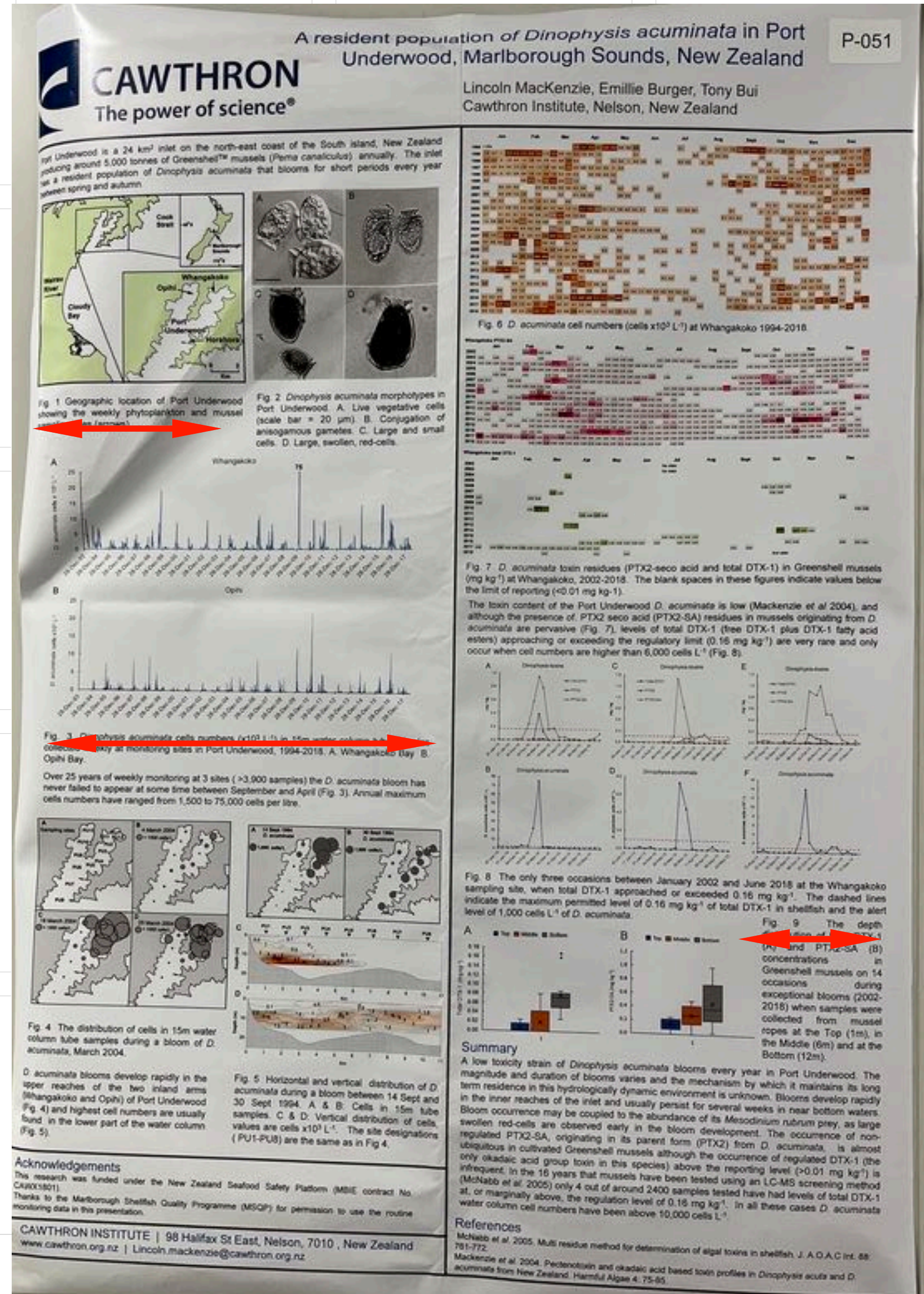
Polish my poster!

L: Line length



Polish my poster!

L: Line length



Polish my poster!

L: Line length

**CAWTHRON**  
The power of science®

A resident population of *Dinophysis acuminata* in Port Underwood, Marlborough Sounds, New Zealand

Lincoln MacKenzie, Emillie Burger, Tony Bui  
Cawthron Institute, Nelson, New Zealand

**Fig 1** Geographic location of Port Underwood showing the weekly phytoplankton and mussel collections (grey) at monitoring sites in Port Underwood, 1994-2018. A. Whangakoko Bay B. Ophi Bay.

**Fig 2** *Dinophysis acuminata* morphotypes in Port Underwood. A. Live vegetative cells (scale bar = 20 µm). B. Conjugation of anisogamous gametes. C. Large and small cells. D. Large, swollen, red-cells.

**Fig 3** *Dinophysis acuminata* cell numbers ( $\times 10^3$  L<sup>-1</sup>) in the water column (grey) at monitoring sites in Port Underwood, 1994-2018. A. Whangakoko Bay B. Ophi Bay.

**Fig 4** The distribution of cells in 15m water column tube samples during a bloom of *D. acuminata*, March 2004.

**Fig 5** Horizontal and vertical distribution of *D. acuminata* during a bloom between 14 Sept and 30 Sept 1994. A & B. Cells in 15m tube samples. C & D. Vertical distribution of cells, values are cells  $\times 10^3$  L<sup>-1</sup>. The site designations (PU1-PU8) are the same as in Fig 4.

**Fig 6** *D. acuminata* cell numbers (cells  $\times 10^3$  L<sup>-1</sup>) at Whangakoko 1994-2018.

**Fig 7** *D. acuminata* toxin residues (PTX2-seco acid and total DTX-1) in Greenshell mussels (mg kg<sup>-1</sup>) at Whangakoko, 2002-2018. The blank spaces in these figures indicate values below the limit of reporting (<0.01 mg kg<sup>-1</sup>).

**Fig 8** The only three occasions between January 2002 and June 2018 at the Whangakoko sampling site, when total DTX-1 approached or exceeded 0.16 mg kg<sup>-1</sup>. The dashed lines indicate the maximum permitted level of 0.16 mg kg<sup>-1</sup> of total DTX-1 in shellfish and the alert level of 1,000 cells L<sup>-1</sup> of *D. acuminata*.

**Fig 9** The depth of PTX2-seco acid (A) and PTX2-SA (B) concentrations in Greenshell mussels on 14 occasions during exceptional blooms (2002-2018) when samples were collected from mussel ropes at the Top (1m), in the Middle (6m) and at the Bottom (12m).

**Summary**  
A low toxicity strain of *Dinophysis acuminata* blooms every year in Port Underwood. The magnitude and duration of blooms varies and the mechanism by which it maintains its long term residence in this hydrologically dynamic environment is unknown. Blooms develop rapidly in the inner reaches of the inlet and usually persist for several weeks in near bottom waters. Bloom occurrence may be coupled to the abundance of its *Mesodinium rubrum* prey, as large swollen red-cells are observed early in the bloom development. The occurrence of non-regulated PTX2-SA, originating in its parent form (PTX2) from *D. acuminata*, is almost ubiquitous in cultivated Greenshell mussels although the occurrence of regulated DTX-1 (the only okadaic acid group toxin in this species) above the reporting level (>0.01 mg kg<sup>-1</sup>) is infrequent. In the 16 years that mussels have been tested using an LC-MS screening method (McNabb et al. 2005) only 4 out of around 2400 samples tested have had levels of total DTX-1 at, or marginally above, the regulation level of 0.16 mg kg<sup>-1</sup>. In all these cases *D. acuminata* water column cell numbers have been above 10,000 cells L<sup>-1</sup>.

**Acknowledgements**  
This research was funded under the New Zealand Seafood Safety Platform (MBIE contract No. CA900301). Thanks to the Marlborough Shellfish Quality Programme (MSQP) for permission to use the routine monitoring data in this presentation.

**References**  
McNabb et al. 2005. Multi residue method for determination of algal toxins in shellfish. J. AOAC Int. 88: 701-772.  
Mackenzie et al. 2004. Pectenotoxin and okadaic acid based toxin profiles in *Dinophysis acuta* and *D. acuminata* from New Zealand. Harmful Algae 4: 75-95.

Welcome to the  
**a load off your mind**

**science communication laundromat!**  
laundromat.makinggood.design

**Body text**

Take a spin in the science communication laundromat, a set of tools to help embed ideas from public engagement with science (PES) theory into research, to help scientist-communicators build capacity for successful science communication.

These tools – a zine workbook, worksheets, facilitator notes, and even a template for a cardboard washing machine to do the exercises on – are available to use and adapt at laundromat.makinggood.design under a creative commons licence<sup>1</sup>. The website is aimed primarily at people who would like to use the tools to deliver and facilitate their own laundromat.

**what is a scicomm laundromat?**  
In short, it is a workshop model (developed using design methodologies and practices) incorporating a think about their scicomm or public engagement in a reflexive way, in order to improve it. Improve it in the sense of being more purposeful, inclusive, more clearly designed for the people the communication is aimed at, and with a better sense of potential challenges and motivations. Key to this is making the theory 'practice-able'. The laundromat is usually delivered as a residential retreat over two or three days, but can also be done as shorter sessions, or online.

**why a laundromat?**  
We had been playing with an installation where a 10-6, playful cardboard laundromat was a repository for the ideas on 'raising the dirty laundry' across disciplines at conferences, drawing on a lot of metaphors: cleaning up, ironing out, pressing on. We had also been working with scientist-communicators to help them develop reflexive, thoughtful, audience-centric science communication via design-led workshops. When we brought the two workstreams together, the metaphors just kept washing over us! The never-ending cycle that is laundry was especially resonant when thinking about public engagement. Public practice as something that requires regular attention to 'refresh' it. You can find out more about this in our paper, linked below.

**Footnotes**  
<sup>1</sup>free to use and adapt  
The Scicomm Laundromat is shared under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.  
<sup>2</sup>what's 'practice-able'?  
If practicable means 'able to be put into practice', but also brings to mind words like feasible, achievable, and doable. It means participants in sharing and discussing their theoretical ideas from PES into their own practice. A key part of the theoretical ideas from our perspective was reflexive disposition, so this incorporation of theory would enable them to reflexively shape their practice, whatever that may be. We wrote more about this in JCOM in 2022 paper linked below.

**the laundromat cycle**  
All stages of the process are covered in the zine workbook. The washing machine and other props support the process, alongside A4 large-format worksheets.

**Diagram annotations**

**1 GATHER UP THE LAUNDRY PILE**  
This stage involves setting the scene for the workshop. Participants are invited to bring their 'dirty laundry' (ideas, challenges, questions, expertise, etc.) to the workshop. Drawing it out on your own engagement, a drawing task to help participants position themselves in relation to their own research (and what engagement means).

**2 SORT THE LAUNDRY**  
This stage includes sorting the 'dirty laundry' into piles. Participants are invited to share their ideas, challenges, questions, expertise, etc. and to discuss how others understand any terms. Their props are used to draw out a sense of what engagement means for them, and to explore what engagement means for practice (and what engagement means).

**3 CHOOSE THE SETTINGS**  
This stage includes connected tasks and the 'dirty laundry' is used to build on 2.1. Participants are invited to think about their different scicomm drives and objectives. It is an opportunity to become more transparent and explicit about where the power lies: all the time, most of the time, or only when needed. This is documented in the zine workbook. It also considers social licence.

**4 SOAK + SPIN**  
This stage draws on a tool called 'what's in the spin?' (see Salomon & Rupp (2019)). Its purpose is to help participants get to grips with and articulate some of their different scicomm drives and objectives. It is an opportunity to become more transparent and explicit about where the power lies: all the time, most of the time, or only when needed. This is documented in the zine workbook. It also considers social licence.

**5 RINSE + WRING**  
This stage has two parts: what's in the spin? and what's in the spin? Participants are invited to think about their different scicomm drives and objectives. It is an opportunity to become more transparent and explicit about where the power lies: all the time, most of the time, or only when needed. This is documented in the zine workbook.

**6 GET IT DRIED**  
This stage is bringing out to get it dry. Participants are invited to think about their different scicomm drives and objectives. It is an opportunity to become more transparent and explicit about where the power lies: all the time, most of the time, or only when needed. This is documented in the zine workbook.

**7 FOLD + PRESS**  
This stage is called 'what's in the spin?' and 'what's in the spin?'. Participants are invited to think about their different scicomm drives and objectives. It is an opportunity to become more transparent and explicit about where the power lies: all the time, most of the time, or only when needed. This is documented in the zine workbook.

**8 READY TO WEAR**  
This stage completes the 'laundromat cycle'. Participants are invited to think about their different scicomm drives and objectives. It is an opportunity to become more transparent and explicit about where the power lies: all the time, most of the time, or only when needed. This is documented in the zine workbook.

**Find out more...**  
Visit our website: [laundromat.makinggood.design](http://laundromat.makinggood.design)

**Supplementary info**  
Read our paper: Bailey, J., Salomon, R., & Horst, M. (2022). 'Engagement with science'. *Journal of Science Communication*, 20(04), A01. doi:10.22323/2.20040201

**WE ARE...**  
J. Bailey  
R. Salomon  
M. Horst

**THANKS TO...**  
Special thanks to Maja Horst for an insightful and delightful collaboration. Te Pūnaha Matatini. Excellence for complex systems for their support and for their research community for being our participants. [tepunahamatatini.ac.nz](http://tepunahamatatini.ac.nz)

**Te Pūnaha Matatini**  
Complexity is all our Heart

Polish my poster!

L: Leading

**L** is for **Leading**

Polish my poster!

L: Leading

# Interline spacing, aka leading

## Good

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**Isthmus: Coast,  
Country,  
Neighborhood, City  
6pt Press, 2015  
Design: Inhouse**

## Meeting place by the sea. Beachlands-Maraetai Walkway

With its sunny, sea-facing northern aspect, the geographical situation of the Beachlands-Maraetai Walkway is enviable. The six-kilometre-long coastal walkway and cycleway, completed in 2014, was designed to connect Maraetai with Beachlands; two increasingly populated settlements on Auckland's 'Pohutukawa Coast'.

The walkway follows the coastal contours of this south-eastern slice of land, sensitively tiptoeing past sites of archaeological and cultural significance – the result of the region's hundreds of years of occupation by Ngāi Tai – while offering up long views of the Hauraki Gulf, Waiheke Island and Coromandel Peninsula. The coastal landscapes include the popular Maraetai beachfront, where white sands, grass, pohutukawa and swim-ability make a classic summer location, and the cliff-topping Traceys Walk, with its shell-lined path and views to Waiheke. The rocky headlands of Te Pene Point, which ease into the sandy Omana Esplanade, are a good place from which to watch birds working while the tides ebb and flow. Fast-paced walkers, having filtered in from the urban edge, might approach from Omana Esplanade while, at Omana Esplanade Reserve, adjacent to very large and old pohutukawa, children play as they have always done. A road accompanies the walkway through to Omana Regional Park along a rolling foreshore and an expansive sea and, at this junction between coastal housing and farm park, it is easy to imagine the woolsheds, sheepdogs and stock transportation barges that are part of the history of this area – especially with the farming legacy of Omana Regional Park close at hand: an elevated cliff front with rolling grasslands. It is this landform that contains the strategic Omana-watere Pā, the physical representation of Mātauranga Māori for Ngāi Tai, who exercised the role of mana whenua through support of the walkway and the educational aspects that it brings.

**Right** Maraetai is a relaxed settlement but is under increased pressure from population growth. The walkway offers non-road-based connectivity between burgeoning communities.

**Below right** Battened balustrades of irregular vertical heights are a nod to palisade styles of fencing.



**Above** A visually light timber boardwalk intersects with the beach.

Polish my poster!

M: Macrons

**M** is for **Macrons**



# **M** is for **Macrons**

**11**

eleven

tekau mā tahi

We can't eat karaka berries.  
They are for kererū bellies.



Polish my poster!

M: Manipulation

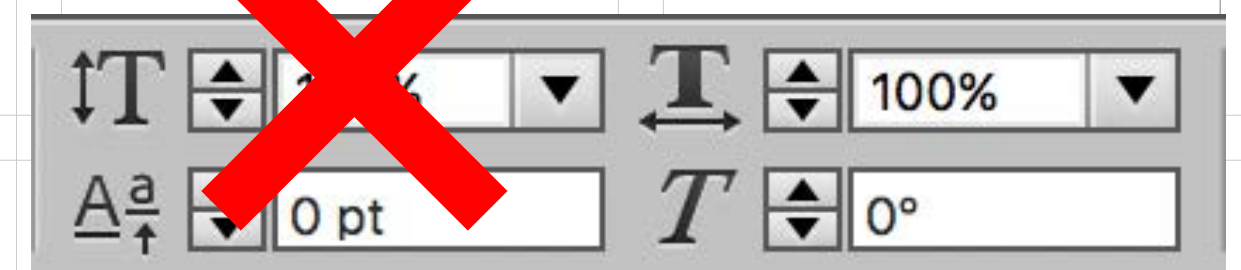
**M** is for

**Manipulation**

# Manipulating text (just don't!)

**I'm all good**  
**I'm stretched!**  
**I'm squashed!**  
*I'm skewed!*

Don't touch these in InDesign!



Polish my poster!

N: Negative space

**N** is for

**Negative space**

Polish my poster!

N: Negative space

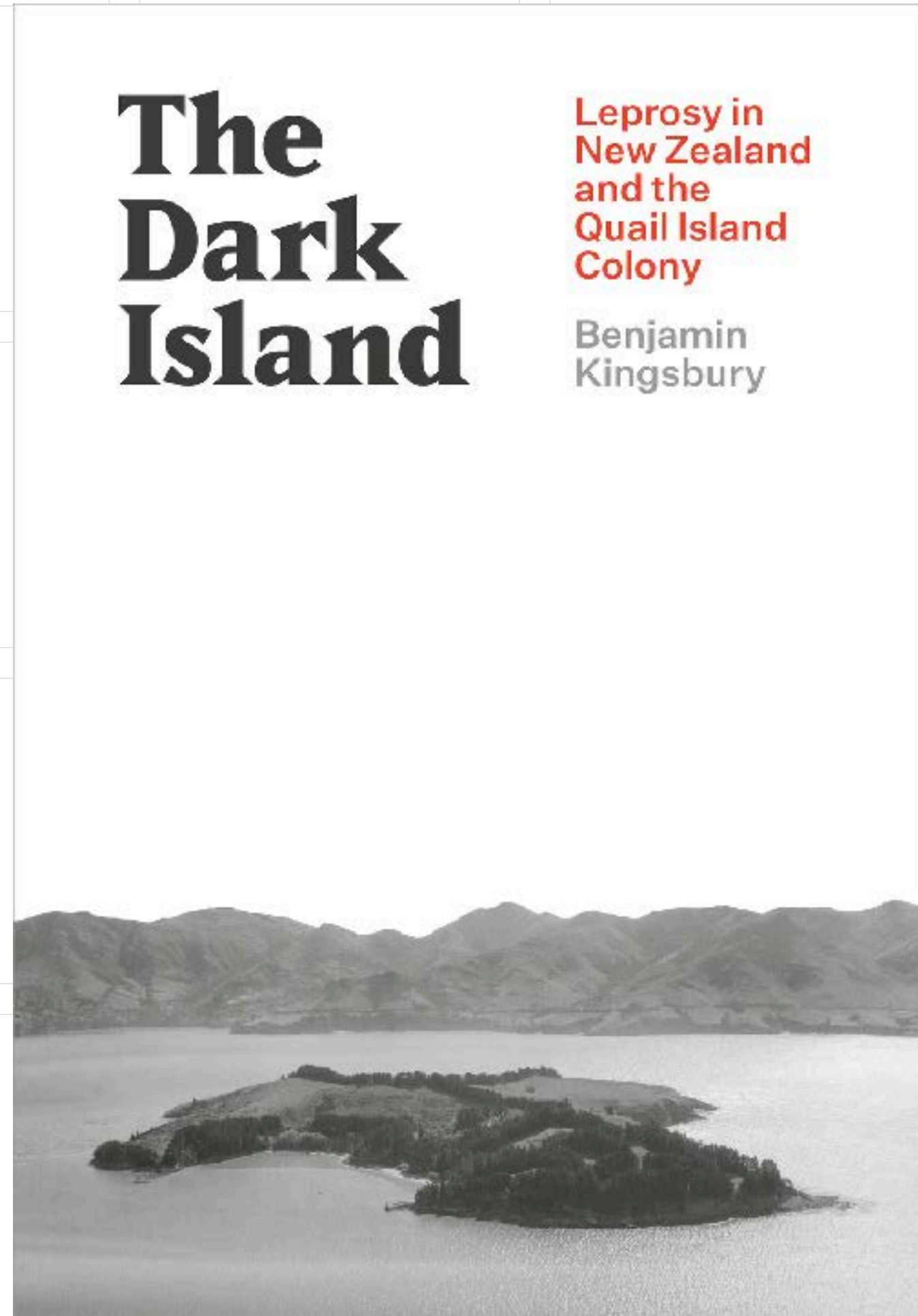
**N** is for

**Negative space**

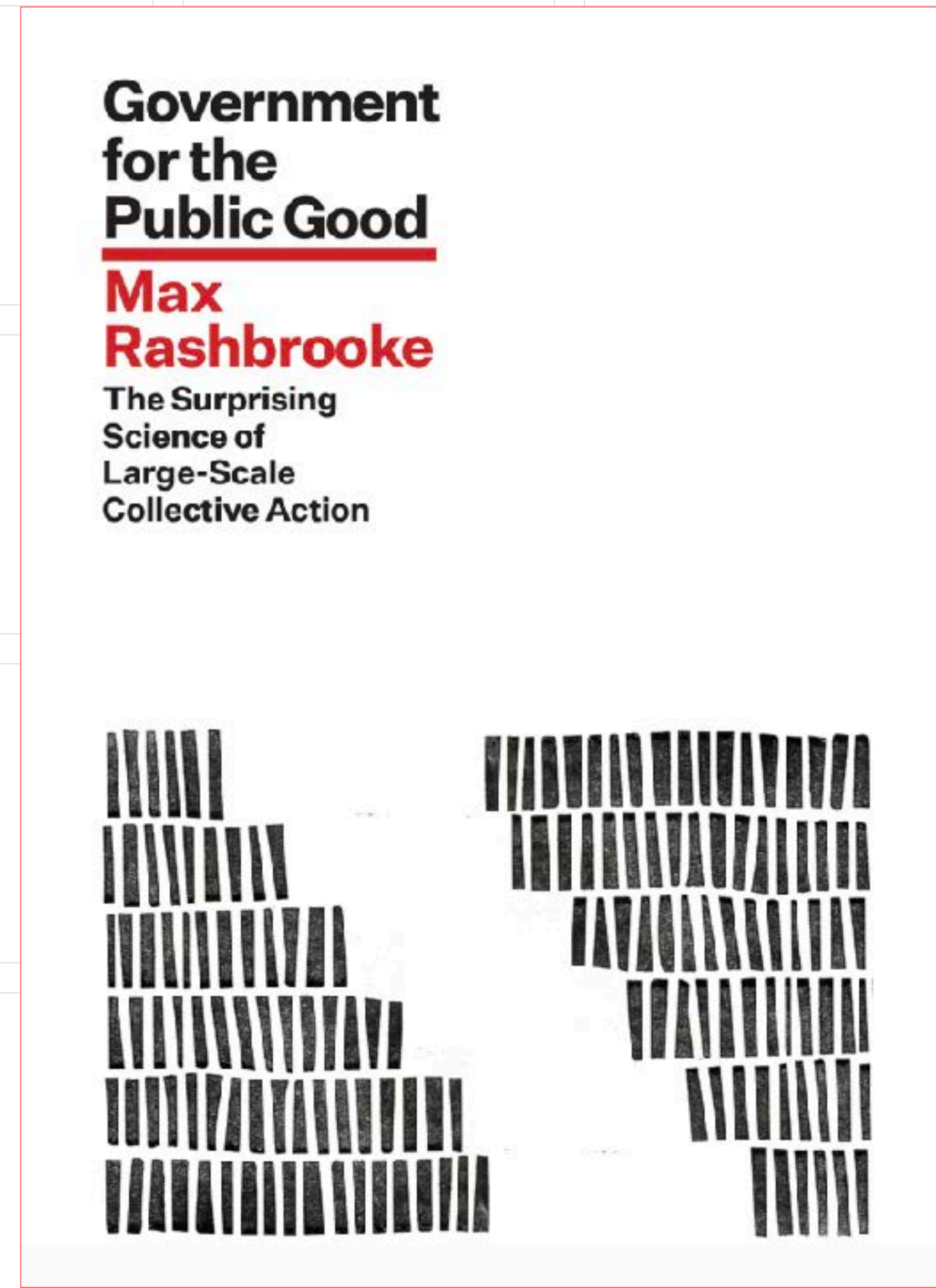
Aka whitespace or breathing space

Polish my poster!

N: Negative space



*The Dark Island*  
Benjamin Kingsbury,  
Bridget Williams Books,  
2019  
Design :Jo Bailey



*Government for the Public Good*  
Bridget Williams Books, 2018  
Design: Jo Bailey

Polish my poster!

L: Less is more

## Anatomy of a #betterposter.

### Silent Presenter Bar

Concentrated summary of your intro, methods, and results that can be skimmed in 1-5 minutes. Located intentionally far away from the presenter's personal space. For when an attendee wants more detail but the presenter is busy (or they just don't feel like interacting).

**WHY:** Centralizing and succinctly summarizing the study details in a single column is fast & easy to scan without having to hunt around the poster for each section.

### Title

Authors

#### Intro



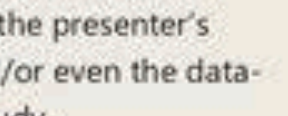
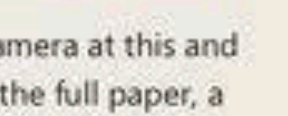
#### Methods



#### Results



#### Discussion



**Main finding goes here, translated into plain english. Emphasize the important words.**



Take a picture to download the full paper

### QR Code to full paper

Point your phone camera at this and instantly download the full paper, a copy of the poster, the presenter's contact details...and/or even the data-set powering the study.

### Main finding

The key 'takeaway' of the study is central, translated into plain english. Research on usability writing suggests that casual language is interpreted faster than formal language.

### Focus area

Hardly "wasted", negative space maximizes signal-to-noise ratio and helps attendees quickly find the takeaway.

### Ammo Bar

For all the figures and tables that you feel like you need to be able to point to if somebody asks you a hard question. Leave it messy! It's just for you to reference.

#### WHY:

1. Lets you get the worries out of the way, so you can focus the rest of the poster on clearly communicating the need-to-know info to attendees.

2. Keeps the detail you need for questions closest to where you're standing, so you don't have to reach across the poster and block the view.



[www.cochrane.org/news/betterposter-templates-cochrane-colloquium-attendees](http://www.cochrane.org/news/betterposter-templates-cochrane-colloquium-attendees)

Polish my poster!

O: Orientation

**O** is for **O**rientation



Polish my poster!

O: Orientation

y  
i  
k  
e  
e

T  
E  
X  
T

TEXT

text



Polish my poster!

P: Proofing, printing, practice

**P** is for **Proofing**  
**and Printing (and**  
**Practice your pitch)**

Polish my poster!

Q: QR codes

**Q** is for QR codes  
(and urls)

Polish my poster!

R: Resolution

**R** is for Resolution

# **R** is for Resolution

**Don't expand images beyond 100% of their size  
and export for print at 300 DPI (or PPI)**

Polish my poster!

S: Software

**S** is for **Software**

Polish my poster!

S: Software

# **S** is for **Software**

Powerpoint will likely be your best bet, or  
take a look at Canva

Polish my poster!

S: Sizing

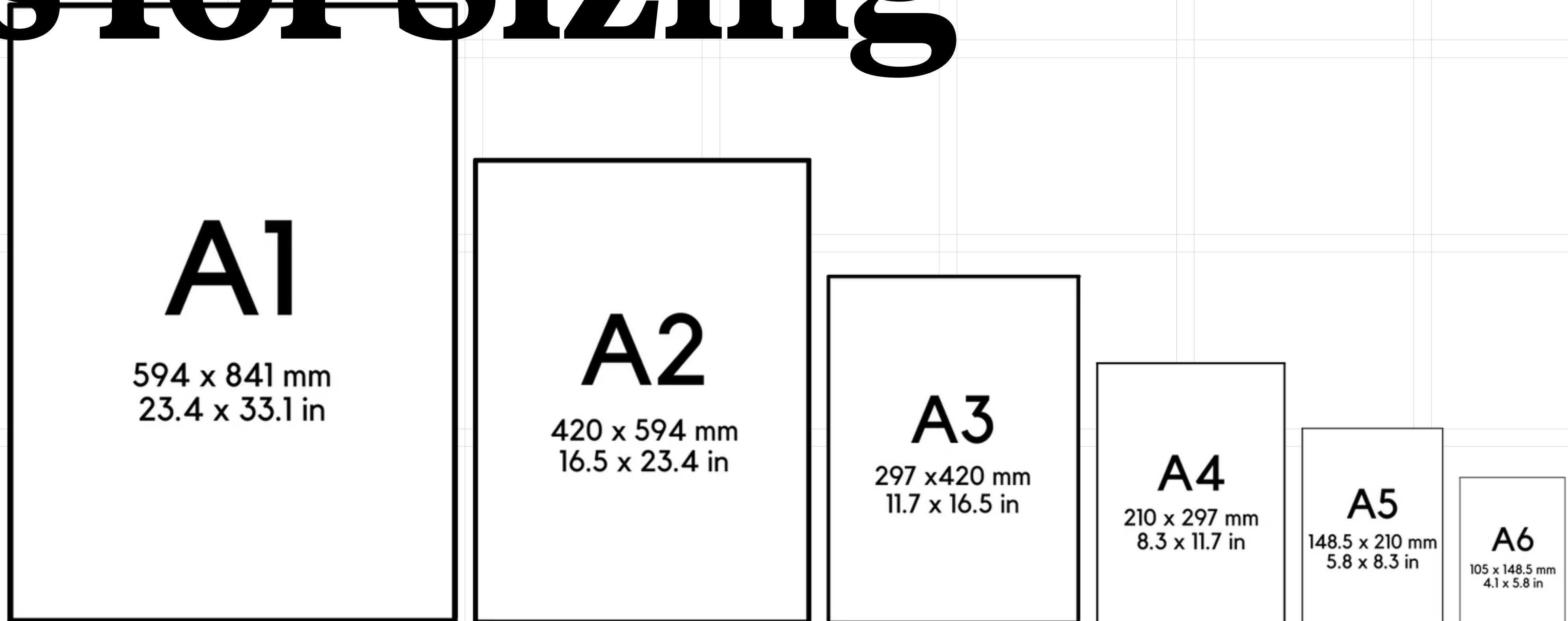
**S** is for **Sizing**



# **S** is for **Sizing**

**Check the size requirements and design to that (a designer will produce a specific output for the use—rarely just scale up or scale down)**

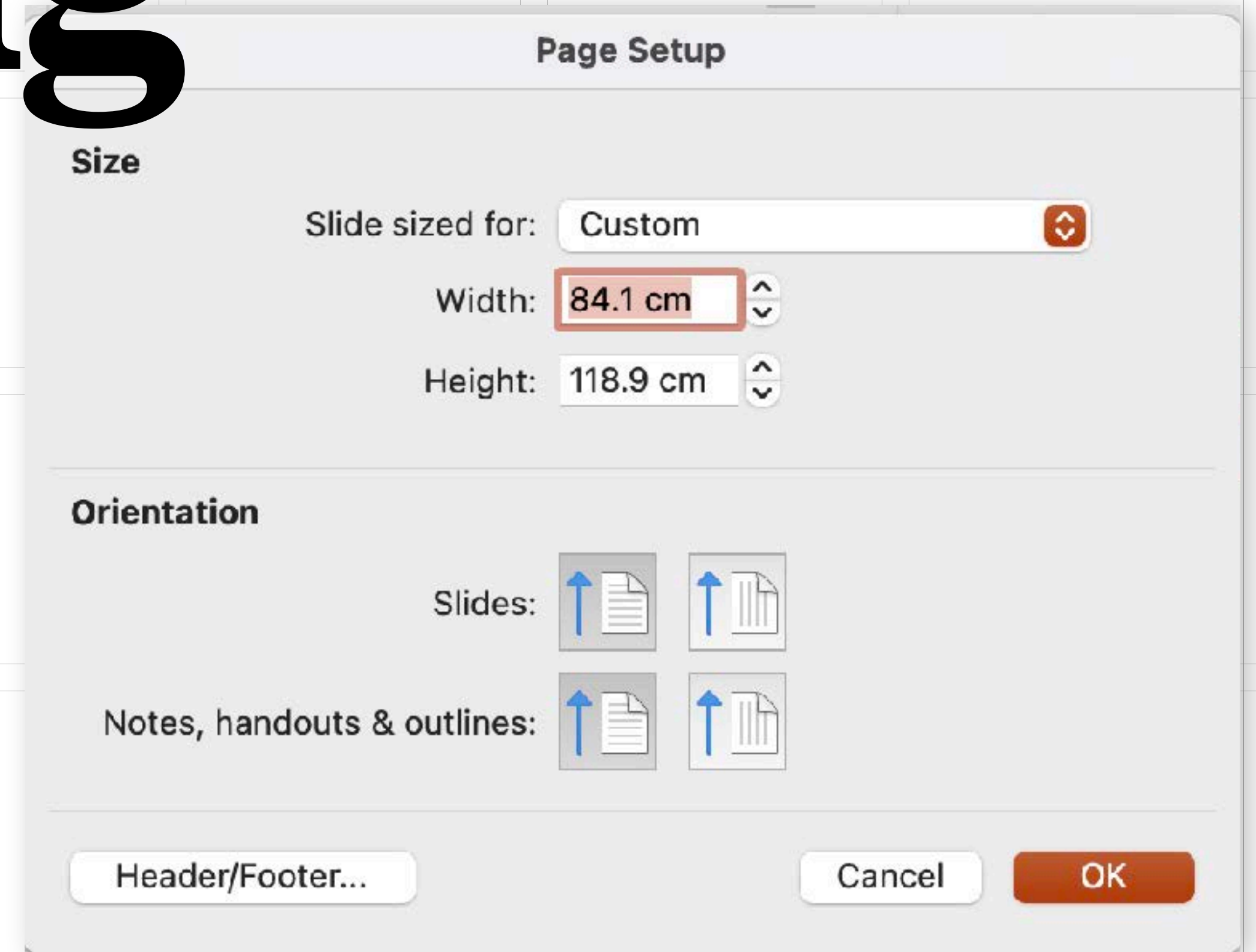
# S is for Sizing



Polish my poster!

S: Sizing

# S is for Sizing



Polish my poster!

T: Testing

# **T** is for Testing

Test, evolve, repeat (aka iterate)

Polish my poster!

T: Testing

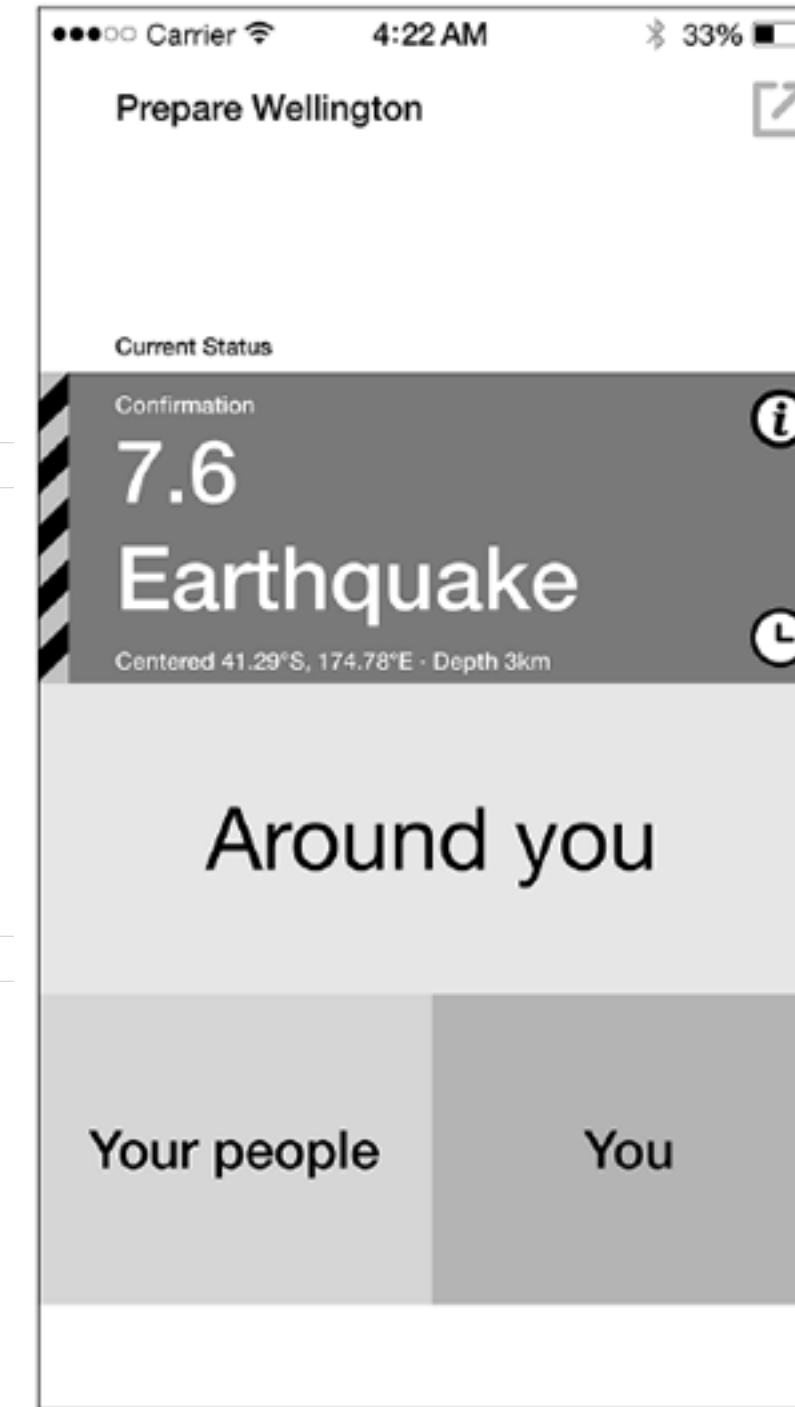
*The Dark Island,*  
Bridget Williams Books  
Design: Jo Bailey



Polish my poster!

T: Testing

*The Dark Island,*  
Bridget Williams Books  
Design: Jo Bailey



User testing prototype app for  
WREMO. Design: Tristam Sparks:  
[prepwell.makinggood.design](http://prepwell.makinggood.design)



Polish my poster!

U: Usability

**U** is for Usability

Polish my poster!

U: Usability

# **U** is for Usability

How effectively, efficiently and satisfactorily a user can interact with an interface (or design)



# Legibility

**defined by the design of the typeface:**

- **x-height**
- **width**
- **stroke contrast**
- **shape of counters**
- **serifs or not**

the contrast of thicks and thins of Didot may be harder to read at small sizes as the strokes vanish

whereas Caslon has more even strokes (lines) so is less likely to 'fall apart' when small

Polish my poster!

U: Usability

# Readability controlled through things like:

- ▶ **case**
- ▶ **text size**
- ▶ **linespacing (leading)**
- ▶ **contrast**
- ▶ **weight**
- ▶ **colour**

Hellish menu on  
Amtrak train



# Readability

**controlled through things like:**

- **case**
- **text size**
- **linespacing (leading)**
- **contrast**
- **weight**
- **colour**

architects

seem to love

superfine

justified text

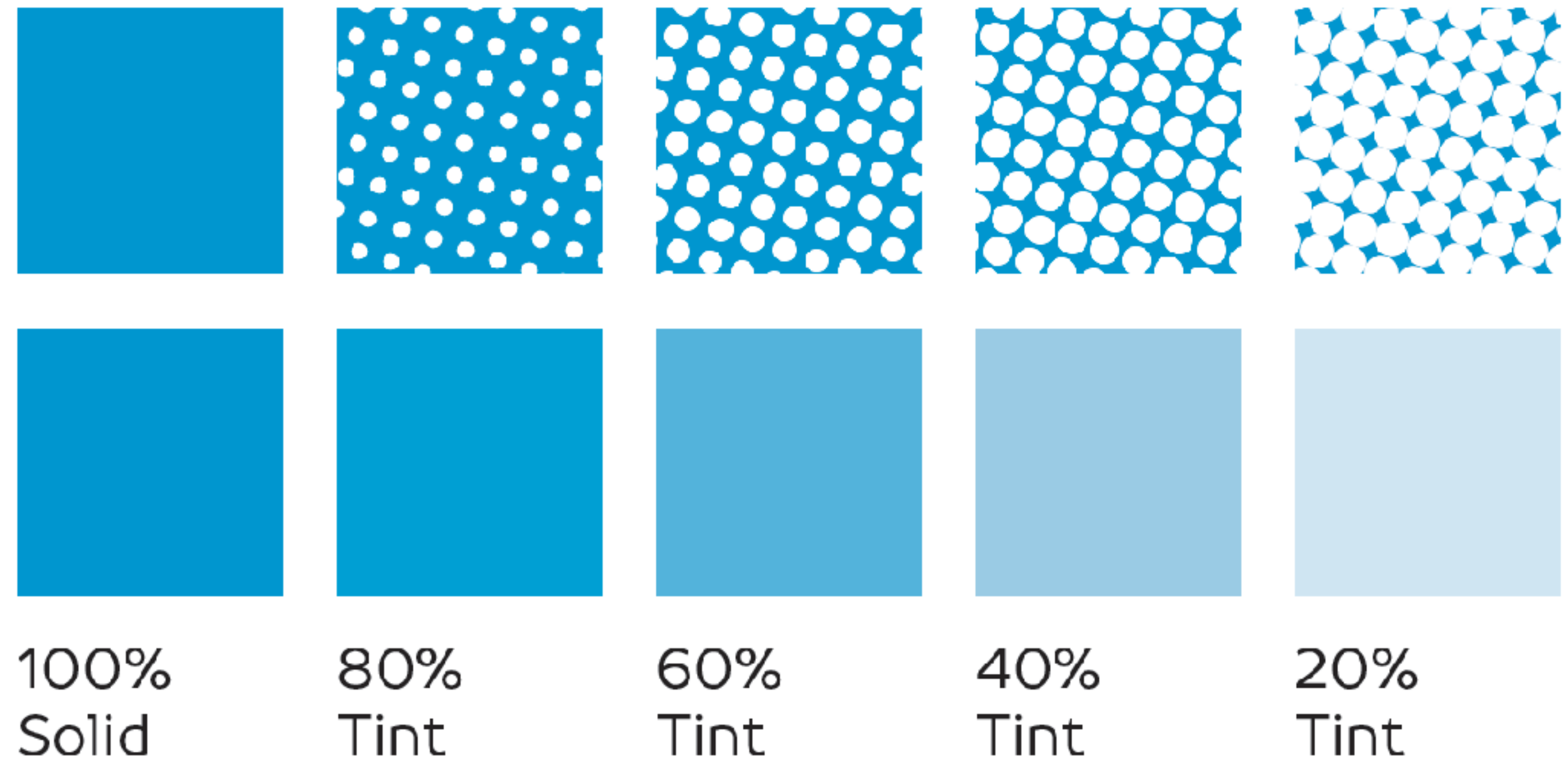
with poor

contrast

# Readability

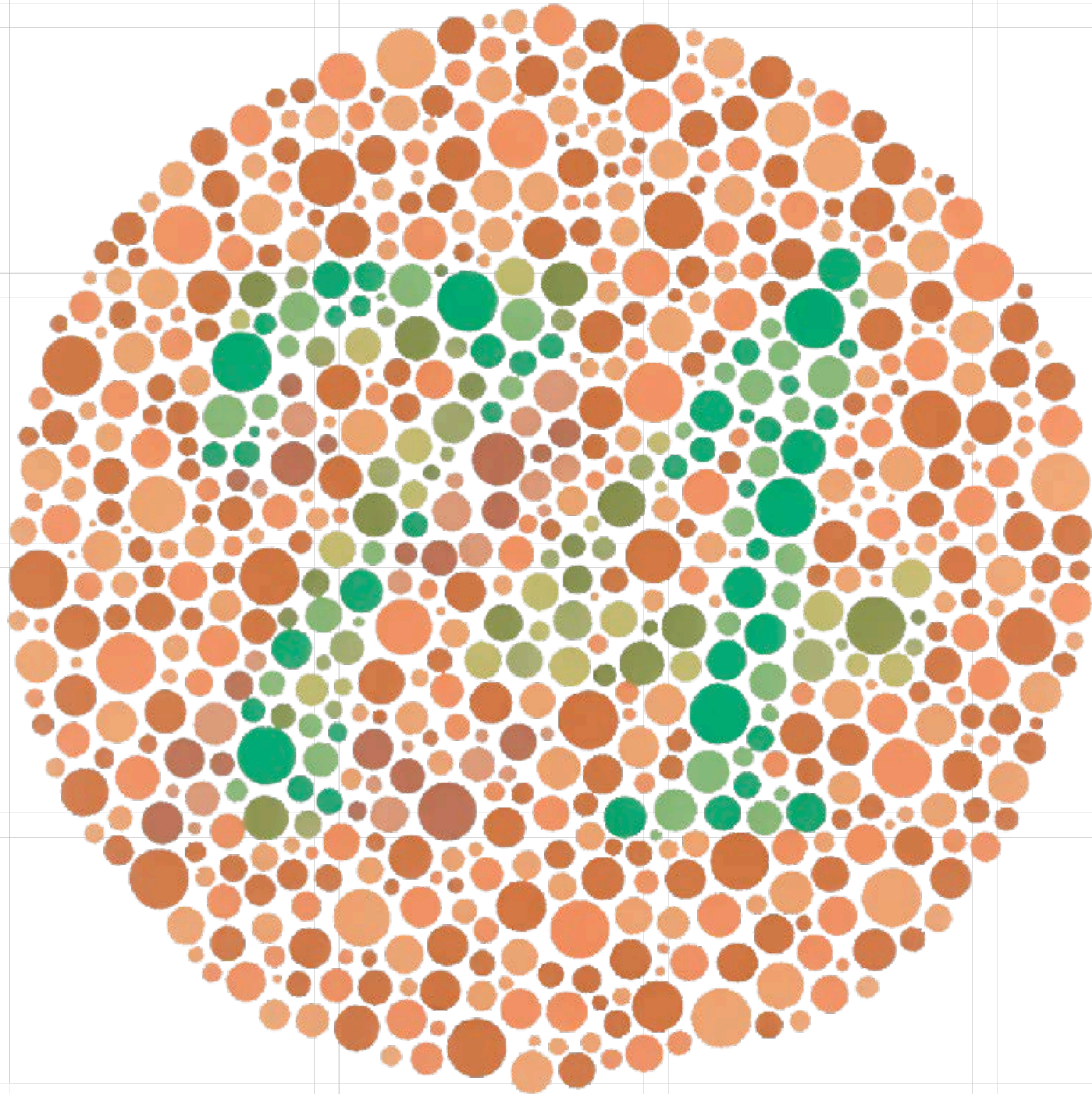
controlled through things like:









- **case**
- **text size**
- **linespacing (leading)**
- **contrast**
- **weight**
- **colour**



Polish my poster!

U: Usability



	R,G,B (0-255)	R,G,B (0-1)	Hex	C,M,Y,K (%)
	0,0,0	0,0,0	#000000	0,0,0,100
	230,159,0	0.902,0.624,0	#E69F00	0,50,100,0
	86,180,233	0.337,0.706,0.914	#56B4E9	80,0,0,0
	0,158,115	0,0.620,0.451	#009E73	97,0,75,0
	240,228,66	0.941,0.894,0.259	#F0E442	10,5,90,0
	0,114,178	0,0.447,0.698	#0072B2	100,50,0,0
	213,94,0	0.835,0.369,0	#D55E00	0,80,100,0
	204,121,167	0.8,0.475,0.655	#CC79A7	10,70,0,0

**Masataka Okabe (Jikei Medical School) and Kei Ito (University of Tokyo) colour-blind friendly colour palette**

<https://wp.nyu.edu/siegal/color-palette/>

Polish my poster!

V: Vector

**v** is for **Vector** (as  
opposed to **Raster**)

Polish my poster!

V: Vector

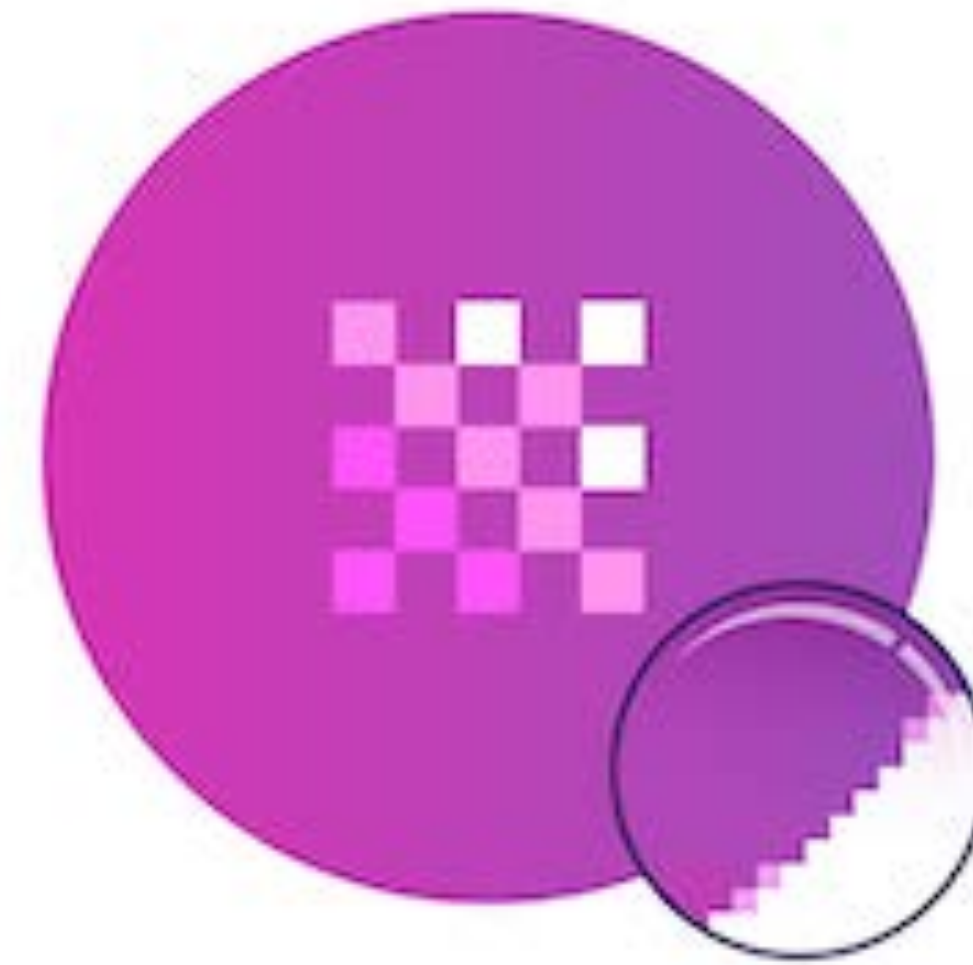
# Points and lines vs Pixels



VECTOR

e.g. eps, svg, ai, pdf\*

VS



RASTER

e.g. jpg, png, gif, bmp

Polish my poster!

W: Widows

**w** is for **Widows**  
**(and orphans)**



EXTRAORDINARY ANYWHERE

of context, the phonoaesthetics of the words deposit new strata of meaning. Aloud (especially in Alex-the-computer-voice's metallic monotone), they feel like the rhythmic clackety-clack of a train journey.

We choose two typefaces by New Zealand typographic designer Kris Sowersby: *Tiempos* and *Calibre*. As designers we say it's important that if the words are from *here*, the typefaces should be too — but this is partly post-rationalisation. *Tiempos*, our serif font, is based on a typeface for a Spanish newspaper.<sup>2</sup> *Calibre*, our sans serif, is inspired by street signage,<sup>3</sup> and though this wayfinding lineage feels pertinent, it is happenstance. We choose it because it is a consistent favourite of ours — like a typographic version of our own handwriting. It's the other way with *Tiempos*; the chance to explore something familiar but different. Later we add *Domaine*, also by Sowersby. It is elegantly curvaceous, described by a critic as 'Latin detailing on a Scotch skeleton'.<sup>4</sup>

Widow

We try different formats and grids, leafing through paper mock-ups, seeing where our thumbs grip the page. The edges of the page become the edges of a map. The asymmetric column layout leads the eye along the top then down the side; the twisting of the page reminiscent of lining up a map to find north.

We agree, this is a green book. We pick a selection: lush forest, earth and moss. We talk of an old and favourite cover of *The Hobbit*, which features a single tone somewhere between greenstone and grass; British Ordnance Survey Pathfinder maps with green covers; of landscape. We try green layouts, but there is a mismatch between intent and articulation. It comes across hackneyed, too obvious; the 'clean, green' allusion heavy-handed.

We look through more vintage bookplates, finding old building blueprints — deep blue pages with intricate structural details. It becomes clear—it is not as beautiful as the landscape. We try to find a way to bring the landscape to life. We look through more vintage bookplates, finding old building blueprints — deep blue pages with intricate structural details. It becomes clear—it is not as beautiful as the landscape. We try to find a way to bring the landscape to life. We look through more vintage bookplates, finding old building blueprints — deep blue pages with intricate structural details. It becomes clear—it is not as beautiful as the landscape. We try to find a way to bring the landscape to life.

Orphan

together.

By April we have been working on the book on and off for six months.

We show Ingrid and Cherie a dust jacket that unfolds like a map to reveal a grid-based system, marked with emblems placed using coordinates based on the location of each essay in the book. It is unresolved, but it resonates with us as a unified visual system that both creates and charts our new territory.

We embrace the tactile exercise of unfolding and refolding (the frustration of a map that won't obey the creases), the wayfinding system, the bringing together of symbols for each essay. It gets a lukewarm response. We try again. This time, a typographic approach. Again the response is cordial but not excited.

In frustration we try a completely new tack: photographic, with new typefaces, retreating to the safe ground of the Unity table. It is an appeasement, reactive, scraped out in leftover corners of time during a particularly hectic period. Positive noises come back, but instead of being a comfort, this actually makes it harder. After heartfelt discussion we realise that we don't want this expedient option to be *it*. We have become embedded in this as a process, involved and deep, that what we want is to render *our* extraordinary, *our* journey. We have become territorial, protective. This book-map is *our* visual territory. We realise, rationally, that this isn't our book. It isn't about us. But it is, too. It's about all of us, now.

We ask for one more attempt to get to a place that is both ours and theirs, yours and mine. Another day of iterations — seven straight hours punctuated by a working lunch with covers spread across a café table. One of our lunchtime iterations is a giant E with an owl in it. It makes the B pile. However it is capital letters we come back to, fuelled by caffeine and adrenaline. *Domaine*, when used large, is beautiful, strong, and has a slight eccentricity. We are intrigued by the way the flatness of the typography works with the intricacy of the images. The images — some literal, others metaphorical — respond to the emotive and objective content inside each essay. This cover could *only* be about this

**Widow: has a past but no future**  
**Orphan: has to go on alone**  
**Both to be avoided!**

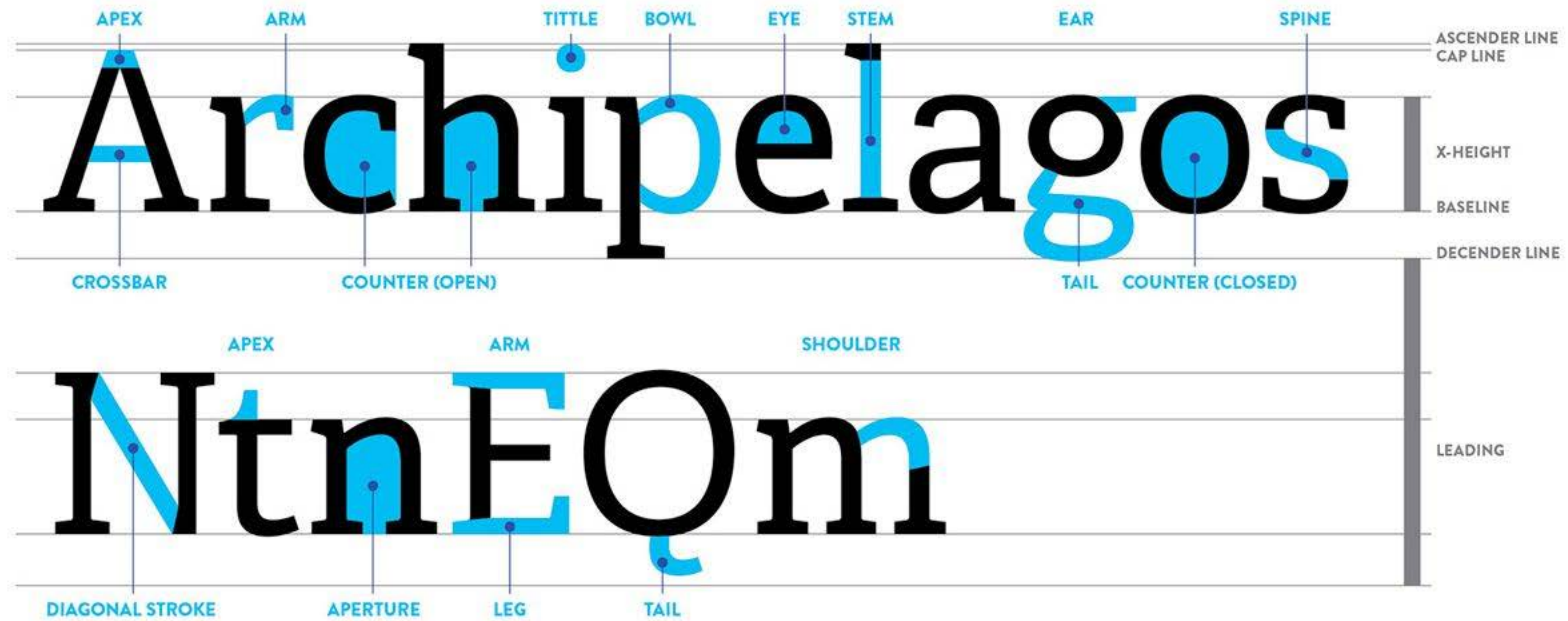
Polish my poster!

X: X-height

**X** is for X-height

Polish my poster!

X: X-height



Animated terminology tool at <https://avark.agency/typeterms/>

Cheat sheet at <https://www.quora.com/q/euromxiqqovhbua/The-Anatomy-of-Typefaces-The-anatomy-of-type>

Polish my poster!

Y: You

**Y** is for **You** (and  
**your supporters**)

Polish my poster!

# Y is for You (and your supporters)

In short, it is a workshop model (developed using design methodologies and practices) incorporating a series of exercises to help scientists/researchers think about their scicomm or public engagement in a reflexive way, in order to improve it. Improve it in the sense of being more purposeful, inclusive, more clearly designed for the people the communication is aimed at, and with a better sense of potential challenges and motivations. Key to this is making the theory 'practice-able'<sup>2</sup>. The laundromat is usually delivered as a residential retreat over two or three days, but can also be done as shorter sessions, or online.

### why a laundromat?

We had been playing with an installation where a lo-fi, playful cardboard laundromat was a repository for thoughts on 'airing the dirty laundry' of various disciplines at conferences, drawing on a lot of metaphors: cleaning up, ironing out, pressing on... We had also been working with science communicators to help them develop reflexive, thoughtful audience-centred communication. On your design-led workshop. When we brought the two streams together, the metaphors kept popping over the top. The 'ending cycle' that laundromats establish all resolved when thinking about public engagement: practice something that presses regular attention to 'refresh' it. You can find out more about this in our paper, linked below.

### Use a load off your mind

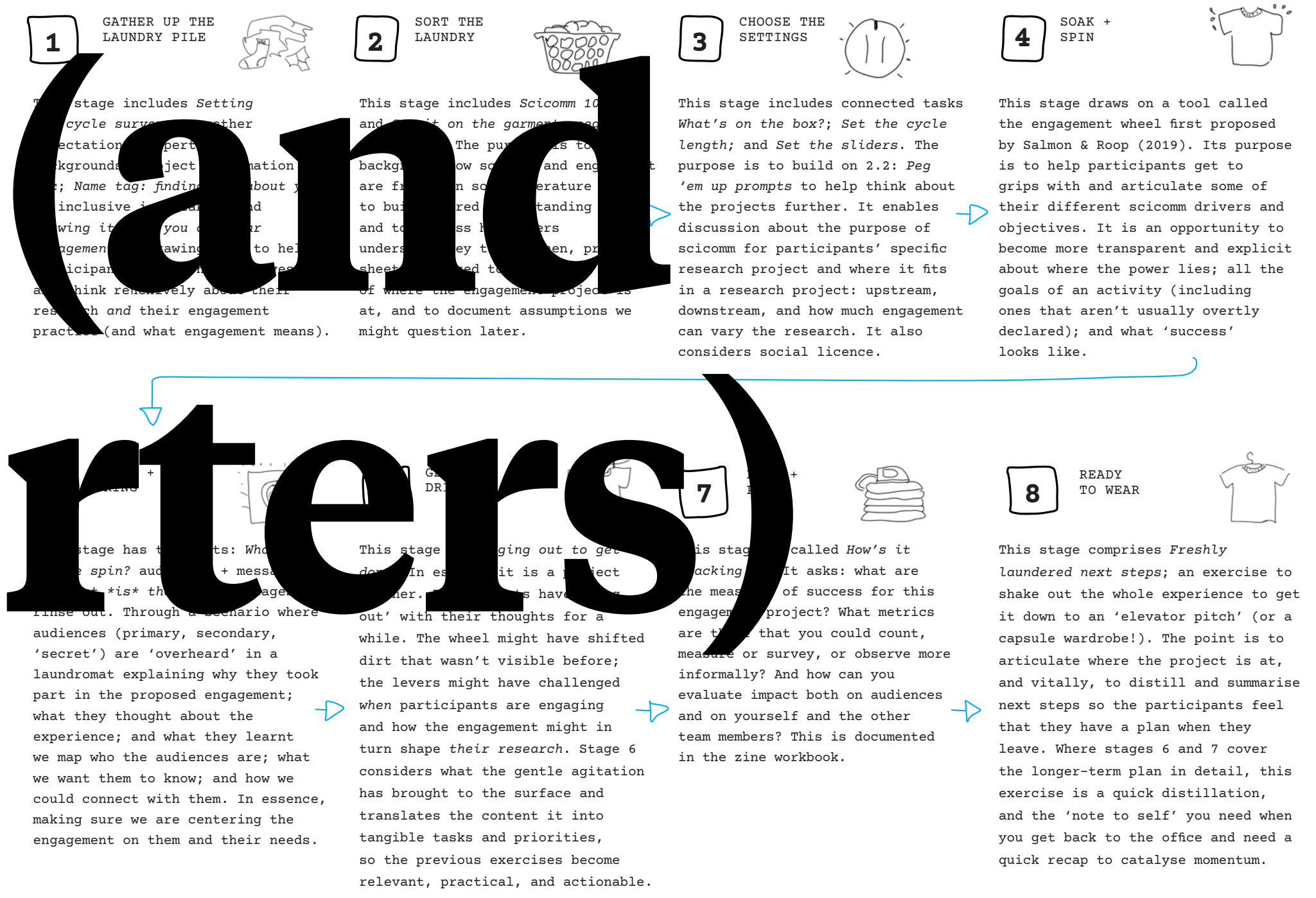
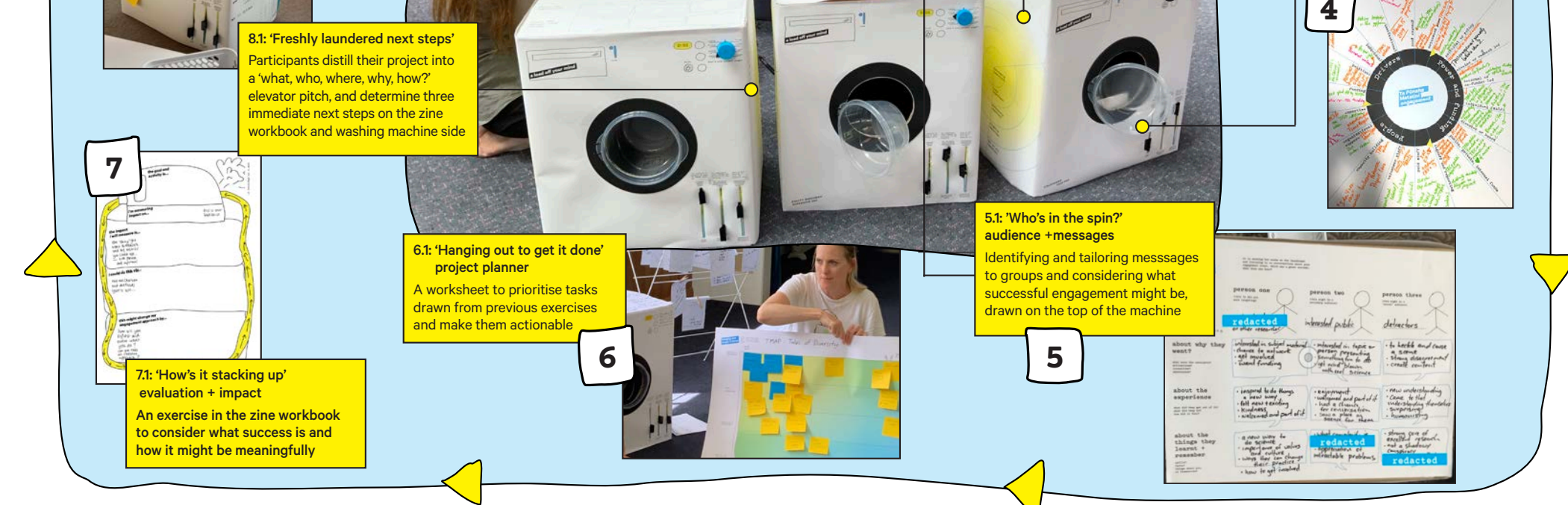
The Scicomm Laundromat is a workshop model underpinned by reflexive communication theory. It is a playful, lo-fi installation that allows participants to 'air their dirty laundry' in a safe and supportive environment. For more information, visit <https://www.makinggood.design/scicomm-laundromat/>

### What's practice-able?

If *practice-able* means 'able to be put into practice', but also brings to mind words like 'feasible', 'actionable' or 'viable', we decided that we meant something more than this. We wanted to aid participants in absorbing and incorporating theoretical ideas from PES into their own practice. A key part of the theoretical ideas from our perspective was a reflexive disposition, so this incorporation of theory would enable them to reflexively shape their practice, whatever that may be. We wrote more about this in JCOM in 2022: paper linked below.



The zine workbook contains all the steps for the participants to work through



### FIND OUT MORE...



Visit our 'a load off your mind' science communication laundromat website: [laundromat.makinggood.design](http://laundromat.makinggood.design)



Read our paper: Bailey, J., Salmon, R., & Horst, M. (2022). The 'Engagement Incubator': Using design to stimulate reflexivity about public engagement with science. *Journal of Science Communication*, 21(04), A01. [doi.org/10.22323/2.21040201](https://doi.org/10.22323/2.21040201)

### WE ARE...



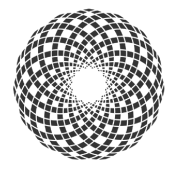
**Jo Bailey**  
(she/her or they/them)  
j.bailey@massey.ac.nz  
Senior lecturer, Visual Communication Design, Wellington School of Design, Massey University



**Rhian Salmon**  
(she/her)  
rhian.salmon@vuw.ac.nz  
Co-founder, Assoc. Professor, Centre for Science in Society, Victoria University of Wellington

### THANKS TO...

Special thanks to: Maja Horst for an insightful and delightful collaboration; Te Pūnaha Matatini, the Aotearoa New Zealand Centre of Research Excellence for complex systems for their support; and to their research community for being our participants: [tepunahamatatini.ac.nz](http://tepunahamatatini.ac.nz)



**Te Pūnaha Matatini**  
Complexity is at our heart

Polish my poster!

Y: You've got this!

**Y** is for

**You've got this!**

Polish my poster!

Y: You've got this!

## **If in doubt...**

- **Appropriate style for audience**
- **Not cluttered, visually balanced**
- **Do everything with purpose, in context**
- **Be consistent (with fonts, sizes, colour etc)**
- **If it's supposed to be read, treat it like text to *read*, don't make it into pictures or stick it on crazy backgrounds**
- **Select visuals to help your storytelling, and craft your visual and written narrative with care**

Polish my poster!

Y: You've got this!

- ▶ **Choose fonts carefully**
- ▶ **Left aligned, not justified**
- ▶ **Good contrast**
- ▶ **Comfortable line length**
- ▶ **No double space after a full stop**
- ▶ **Use macrons and other punctuation conventions**
- ▶ **Test, iterate, test...**
- ▶ **Type 'rules' aren't there to trip you up or be pointlessly pedantic – it's always about reader-centricity!**

These are all best practice usability for dyslexic users.

See [uxplanet.org/what-to-consider-when-designing-for-dyslexia-b99d373905ac](https://uxplanet.org/what-to-consider-when-designing-for-dyslexia-b99d373905ac)



Polish my poster!

Z: ZZZZZZ is it the end yet?

**Z** is for *ZZZZZZ*

**I will shut up now!**

Use this crib sheet to  
critique some posters  
that you see...

**Does it look appropriate at first glance?**

**Balance (is there good flow, white space)**

**Colours and contrast appropriate and comfortable?**

**Strong alignments**

**Consistency in everything!**

**Hierarchy (clear what's a title, what's not)**

**Typos and other errors**

**Limited jargon (audience appropriate)**

**Font (limited number, well chosen sizes)**

**Text (left aligned, comfortable size, leading\*, line length)**

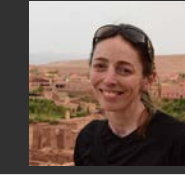
**Images and figures<sup>†</sup> (one 'hero' others as appropriate)**

\*the space between lines

† think carefully, is that graph really helpful?!

# Can detection of temporal and spatial tipping points in New Zealand systems lead to better decisions?

Ellen Hume<sup>1</sup>, Troy Baisden<sup>1</sup>, Cate Macinnis-Ng<sup>2</sup>, Rachele Binny<sup>3</sup>, Emily Harvey<sup>4</sup>, Fraser Morgan<sup>3</sup>



Thanks to Te Pūnaha Matatini for funding this project



Contact: Ellen Hume  
humeel@gmail.com

## WHY?

Ecosystems can have non-linear responses to pressures once they reach a critical threshold

i.e. a tipping point

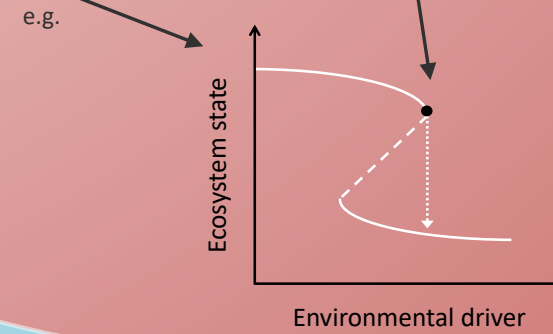
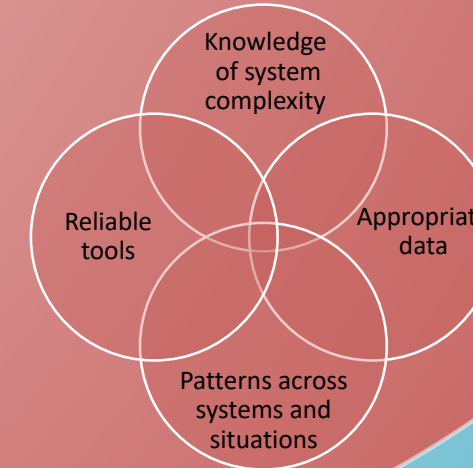
A **tipping point** is the stage at which a system changes from one state to another.

The potentially unexpected and abrupt nature of the change can be due to gradual increases in system pressures being absorbed by the **resilience** of the system, but only up until a point.

**Hysteresis** from positive feedback loops in the undesired system state can make it difficult to reverse the change despite similar environmental conditions. Transitions with hysteresis are known as **regime shifts**.

- Consequences of going past the tipping point into a degraded state include:
- Loss of ecosystem services and values
  - Difficult and costly to manage
  - Negative socio-economic effects
  - Policy ill-equipped to deal with non-linearity

We need to avoid tipping systems into undesirable states BUT tipping points are difficult to predict in advance due to a lack of:



e.g. How will climate change drivers interact with other factors to create potentially cascading effects?

e.g. Are any habitats or species vulnerable to pressures due to current management boundaries?

## HOW?

We will explore the potential of the Fisher Information algorithm for detecting tipping points in New Zealand systems using existing datasets

Temporal and spatial examples of critical thresholds will be investigated

- Our methods will include:
- Connecting with stakeholders
  - Using interdisciplinary approaches
  - Considering environmental and socio-economic risk factors
  - Comparing with current detection methods e.g. statistical measures known as early warning indicators

**Fisher Information** is an index based on information theory. It is a measure of system order and therefore can be used to characterise regimes and regime shifts. It is effective at assessing multivariate systems with slow and fast dynamics.

## WHAT?

We will develop a risk-based approach for dealing with tipping points in a New Zealand context

- Future contributions at local and central government level could include:
- Socialising the concept of non-linear responses of systems
  - Considering non-linearity in policy, e.g. through adaptive planning approaches
  - Recommending what monitoring should be conducted to detect tipping points
  - Providing a tool that can contribute to decision-making processes dealing with tipping points

Polish my poster!

A pretty easy to follow poster by Ellen and team

Polish my poster!



# REDUCING UNCERTAINTY IN CITIZEN SCIENCE DATA



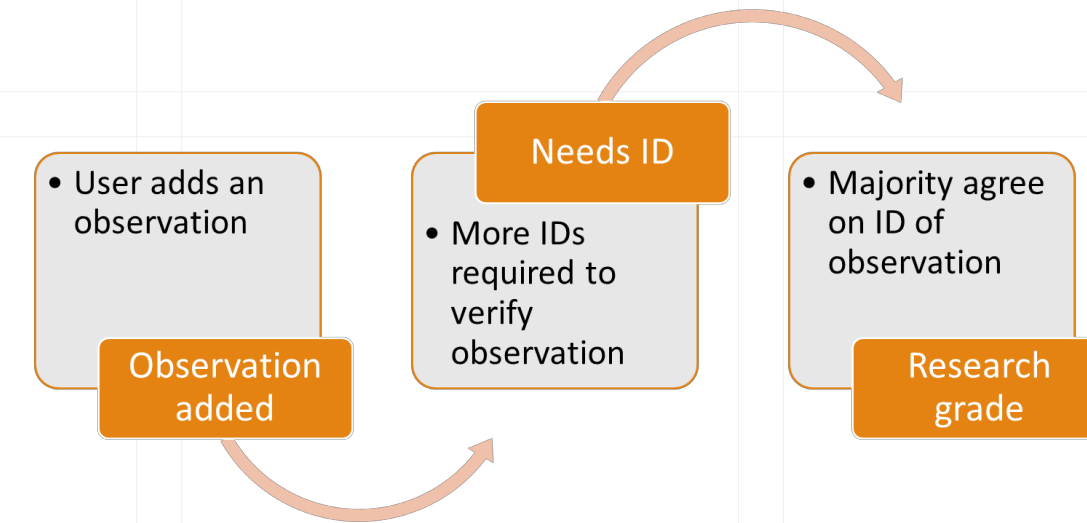
Julie Mugford <sup>1</sup>, Alex James <sup>1,2</sup>, Elena Moltchanova <sup>1</sup>, Andrea Byrom <sup>3</sup>, Jon Sullivan <sup>4</sup>

1. University of Canterbury
2. Te Punaha Matatini
3. Manaaki Whenua Landcare research
4. Lincoln University

## INTRODUCTION

Citizen science or public participation in scientific research (PPSR) is the involvement of non-scientific members of the community in helping scientists collect and analyse information. This method of information collection is growing in popularity among researchers and citizens. Citizen science opens up a large amount of data for researchers from a vast range of locations at unprecedented frequencies with minimal costs. At the same time it provides users with the opportunity to be involved in a range of projects from environmental management by contributing to time lapses of glaciers with 'Snap Shot Me' to galaxy detection with 'Galaxy Zoo' projects .

Many citizen science projects are based on users classifying images. These images can range from satellite photos of Earth for users to identify land types, to images of flora and fauna for users to help build a map of biodiversity.



A well-chunked poster with easy to navigate visuals by Julie and team

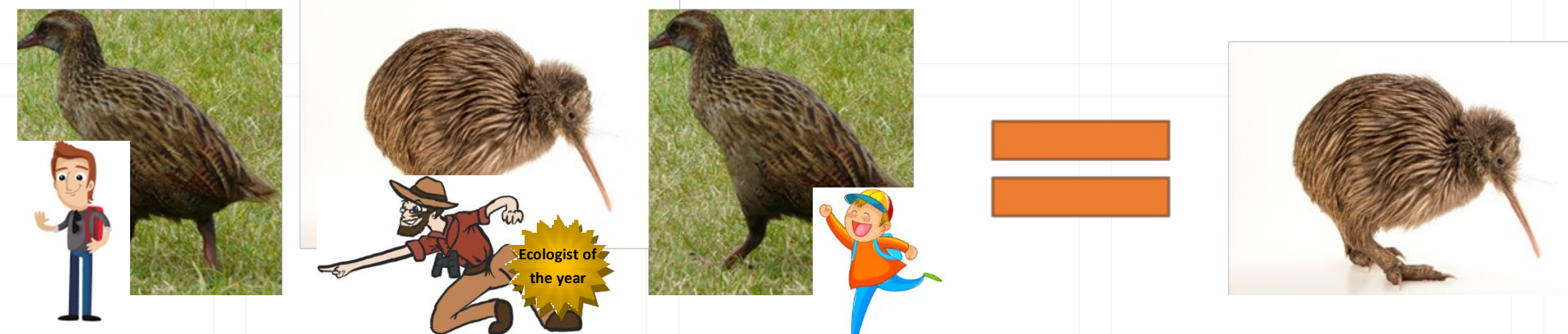


## MAJORITY VOTE WINS

It is common practice for citizen science projects to decide the final classification of an image based on the majority vote of the users that identified the image.

## BUT, WE'RE NOT ALL EQUAL

Majority vote does not take into account differences in users accuracies at identifying images. If we account for this difference we can base our final image classification on a weighted vote.



## METHODS

**Data:** We will use real data from the citizen science project Naturewatch NZ and simulate data informed by Naturewatch NZ by using stochastic processes to model users classifying images.

**Decision methods:** We will use Bayes Theorem to continuously and interactively update user accuracy and the posterior probability of the images identification starting with some prior idea for both.

**Method comparison:** To compare our methods to 'majority vote wins' we will use key performance metrics, e.g number of identifications required to decide a final classification and overall accuracy of classified images.

**Method application:** We will apply our method to Naturewatch NZ

## RESULTS

We aim to create a computationally efficient and dynamic continuously updating algorithm to decide the final classification for each image with improved data quality compared to 'majority vote wins' method. We want to develop an algorithm that can be robustly applied to classification based citizen science projects.

Polish my poster!

[https://youtu.be/AwMFhyH7\\_5g](https://youtu.be/AwMFhyH7_5g)

Short Title

**Introduction**  
Body of the introduction section

**Objectives**

- Bullet 1
- Bullet 2
- Bullet 3

**Results**

**Discussion**

1. First point
2. Second point

**Conclusions**

- Bullet 1
- Bullet 2
- Bullet 3
- Bullet 4
- Bullet 5
- Bullet 6

从内容和组织到增加视觉吸引力的方方面面

0:31 / 3:53

**Making a better research poster**

436,369 views · Sep 19, 2016

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Polish my poster!

<https://youtu.be/agtgnJP3KoQ>

**20 de julio de 1976**  
El Viking 1 realiza el primer aterrizaje en Mars, posándose sobre la llanura de Crísis. Con el Viking 2 hace las primeras observaciones in situ.

**1 DESACOPLE**  
La nave de descenso se separa del orbitador.

**2 ENTRADA**  
Entrada en la atmósfera marciana a 900 km/h.

**3 DESPLIEGUE**  
Despliegue del paracaídas a 5.791 metros de altitud.

**4 AMARITIZAJE**  
Se apaga suavemente. Las antenas de las guías ayudan a los motores y despliegan los instrumentos.

**LA TRAYECTORIA**  
La distancia actual entre ambos planetas es de unos 370 millones de kilómetros.

**LOS AMARITIZAJES**  
Misiones de EE.UU. y Europa que han llegado a Marte.

**PRIMERAS IMÁGENES DESDE LA SUPERFICIE**  
El Viking 1 transmitió imágenes de la superficie, tomó muestras y analizó su composición, midió la atmósfera, la meteorología y detectó sonidos débiles. Si bien obtuvo algunas fotografías químicas, no pudo constatar que el suelo contiene oxígeno libre. Solo en las imágenes de la última década se ha detectado evidencia de agua en el planeta.

**MUCHOS INTENTOS, POCOS LOGROS**

**Organ Donation in the UK**

**THE WORST OIL SPILLS IN HISTORY**

**So if you do a quick search on google for info-graphics, you will find a lot of them.**

5:18 / 10:55

Scientific Poster Design - Good and Bad Examples! (Poster Tutorial Part 2)

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