

## Design 101: Presentations, Posters, and PowerPoints for Researchers

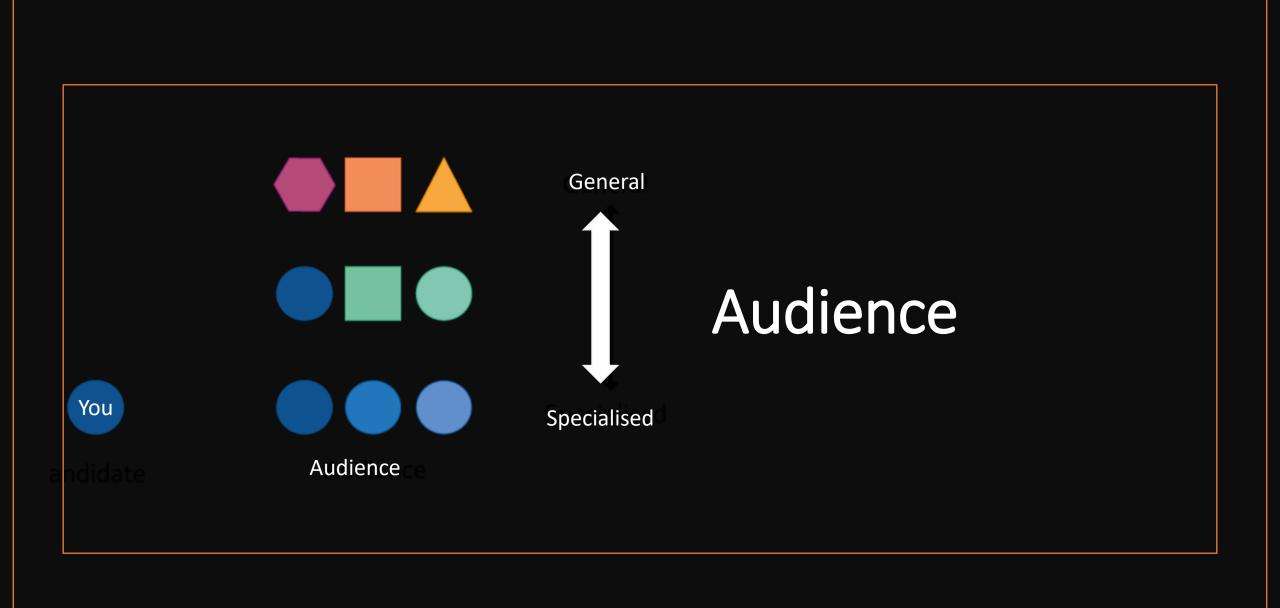
July 2024

Ana Avilés and Dawn Carlisle

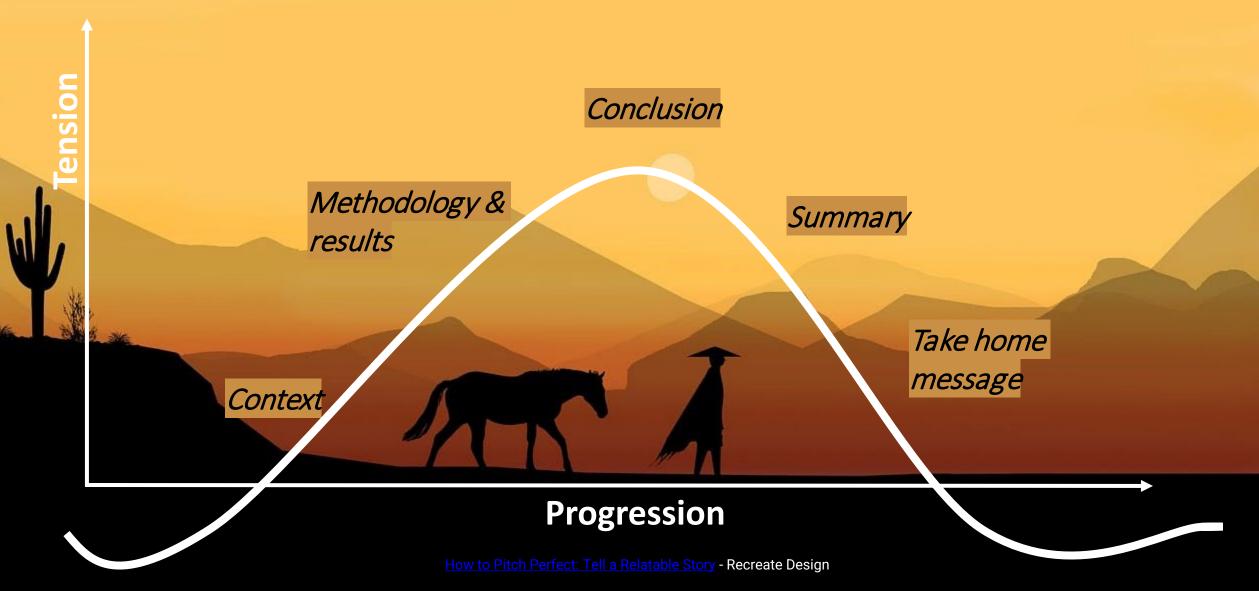
## Why is design important to you?

## Rule #1: Know your audience

- Where will you use this?
- What are you trying to achieve?
- Who will see it?
- What do they already know?
- Why do they care?
- What's your key message?



## Structure follows a narrative arc:

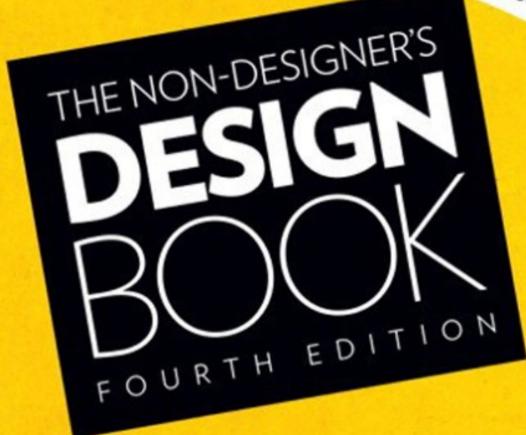


## Questions so far?



Basic principles of good design

Proximity Alignment Repetition Contrast WARD-WINNING, BEST-SELLING BOOK ABOUT DESIGN!



DESIGN AND TYPOGRAPHIC PRINCIPLES FOR THE VISUAL NOVICE

Williams, R. (2014). <u>The Non-Designer's Design Book</u> (4<sup>th</sup> ed.). Berkley, California: Peachpit Press

## Proximity:

Items relating to each other should be grouped close together.







### Seeing the unseen

Linda Karlsson, Elin Nilsson, Edvin Karlsson, Eva Larsson, Caroline Öhrman, Petter Lindgren, Jon Ahlinder, Kerstin Svensson, Pär Larsson, Mona Byström, Mats Forsman and Andreas Sjödin FOI - Swedish Defense Research Agency, Umeå, Sweden

#### **Natural aquatic systems**

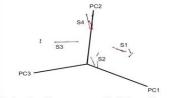


Characterize the reservoir of pathogens The dynamics of prokaryotic communities (bacteria), eukaryotic communities (protozoa) and environmental factors (i.e. nutrient availability) are studied using metagenomics in order to pinpoint factors necessary for the persistence of *Francisella*, the causative agent of tularemia, in the environment between outbreaks.

#### **Drinking water**



Francisella in Sweden Tularemia is endemic to most European countries, North America and large parts of Asia. Between 2006 and 2010, Sweden and Finland reported the highest number of cases per country in the world with annual averages of 305 and 298, respectively. The disease is mainly located in central and northern parts of the Sweden.



Understanding community interactions The advantage of metagenomics is analysing covariation between bacterial and protozoa communities at the same time to build models to predict where in the environment pathogens survive. Highly sensitive markers arethen used to search for low abundant pathogen in their natural habitat.



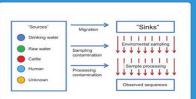
#### Drinking water security

Drinking water has caused many major outbreaks in Sweden and internationally. The reason for outbreaks is various types of microorganisms such as bacteria, viruses and protozoa. In Sweden, there have been several large waterborne outbreaks in recent times caused by the protozoan *Cryptosporidium*.

## Wick, generatic distribution followed with the market of the second se

Automatic monitoring of hazards The system consists of three partial solutions for the rapid

The system consists of three partial solutions for the rapid analysis of microbial contamination along the production chain of drinking water. We intend to reduces the problem of infection by direct detection of deviation from the normal image and perform metagenomic profiling of the hazards / microorganisms that are problems in drinking water from raw water to the consumer.



#### Source tracking

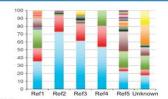
A parallel Bayesian approach is used to estimate the proportion of contaminants in metagenomic water samples that may come from various libraries of source environments. The source prediction is used to determine the probable origin of the pollution.

#### **Unknown samples**



#### Complete characterisation

Traditionality, studies in microbial forensics have focused on sasays based on single markers from cultured species, thereby limiting the focus to a small percentage of species that can be cultured outside their natural environment. Metagenomic studies opens up possibilities to allow outstanding insight into bacterial diversity and coding capacity.



#### Metagenomic profiles

The open approach of metagenomics allows total characterisation of unknown samples independent of prior suspicion of content. The total sequence profile answer the question what is in the sample and not only if the sample contains any pathogens. The complete polymorphic differences outperformes previous methods used in microbial forensisc.



#### Tracing mtDNA Mitchondrial DNA (mtDNA) is present in high concentration in samples of metazoan origin. Metagenomic sequencing may therefore be used to reconstruct the mitchondrian haplotype to trace geographic location of human and other metazoan mtDNA.



## Proximity:

## Alignment:

**Every element** should have some **visual connection** with another **element** 



In typesetting, justification (sometimes referred to as 'full justification') is the typographic alignment setting of text or images within a column or "measure" to align along both the left and right margin. Text set this way is said to be "justified."

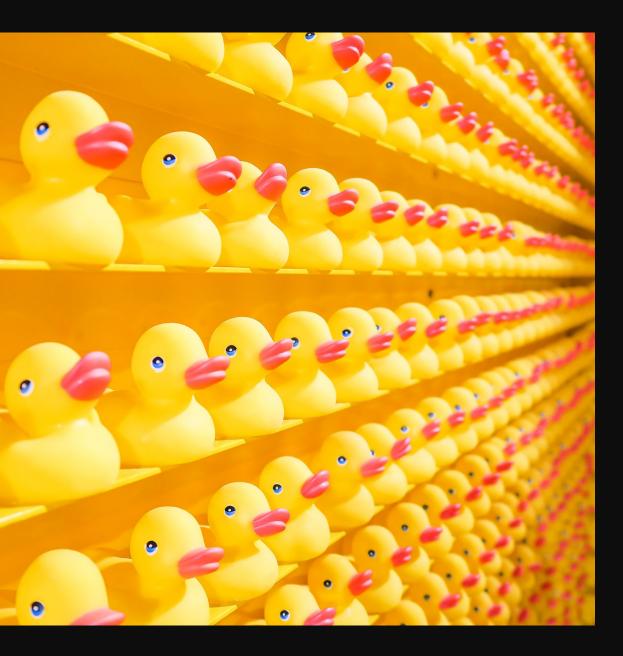
In justified text, the spaces between words, and, to a far lesser extent, between glyphs or letters (known as "tracking"), are stretched or sometimes compressed in order to make the text align with both the left and right margins.



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Alignment: Should you justify?



## Repetition

Repeat visual elements e.g. colours, shapes, textures, fonts, spatial relationships, etc.

Develops **organisation** Strengthens **unity** 

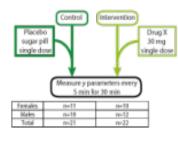


### Title: Attention grabbing Introduction Results

The introduction gives your audience some background to your work. You need to explain why your research is important and why they should care. What were the objectives of your study? What research guestion were you trying answer?

### Methods

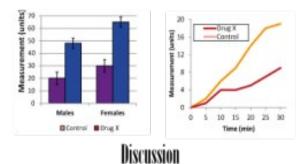
Outlines how you conducted your research. Summarise your methods and avoid lengthy detail. Consider using a flowchart or diagram, in addition to text, when describing your methods.



References

Acknowledgements

Summarise your data in easy to understand graphs or tables. What does your data show? Avoid reading your graphs to your audience. Instead, point out the highlights and trends shown by your data.



Interpret your results. What do your results mean? Why did you get these results? Answer your research guestion. What further work would you suggest doing?

### Conclusions

What is your take home message?

1. If you have to include references, keep them small, 2. Your reader

## **Title: Attention grabbing**

58

30 20

Names of the people that did the research

### Introduction

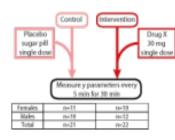
What research question were you trying

#### Results The introduction gives your audience some background to your work. You need to explain why your research is important and why they should care. What were the objectives of your study?

### Methods

answer?

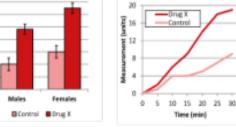
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#### References

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### Discussion

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## Text

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Lithograph poster for Ranch 10, a Western-themed play by Harry Meredith which opened in New York Chu in August 1993

New York City in August 1882 By the 1996, power at hold widespread usage in other parts of Europe, advertising everything from biodres to buildights. By the end of the 19th contrary, doining an end income his Between 1895 and 1900, Julies Chief created here Nahred et Hinflice (Natares of the Fotor-series that became not only a commercial success, but is non-sense an important historical publication. Alphone Hurch and Eugliden Grasset were allow fulnitianal power elaboration thistorical publication. Alphone Hurch and Eugliden Grasset were allowed influencial power elaboration thistorical publication. Alphone Hurch and Eugliden Grasset were allowed influencial power elaboration theorem 1990. policitation. Alphones Mucha and England cassate were also influential poster dissigners of this approximation, known for the AM Flowces and both application graves gravitation of a semicar-tistic semicartic semicartis

foremost amongst them Henri de Toulouse-Lautrec, Jules Chéret, Eugène Grasset, Adolphe Willette, Pierre Bonnard, Louis Anguetin, Georges de Feure and Henri-Gabriel Ibels.[3] Chéret is considered to be the "father" of advertisement placards. He was a pencil artist and a scene decorator, who founded a small lithography office in Paris in 1866. He used striking characters. contrast and bright colours, and created over 1000 advertisements, primarily for exhibitions, theatres, and products.

advertised the plays of Shakespeare and made citizens aware of overnment proclamations for centuries. However, the great evolution in posters was the development of printing techniques that allowed for cheap mass production and printing, including notably the technique lithography which was invented in 1796 by the German Alois Senefelder. The invention of lithography vas soon followed by chromolithography, which allowed for mass editions of posters illustrated in vibrant colours to be printed. Developing art form By the 1890s, the technique had spread throughout Europe, A number of noted French artists created poster art in this period,

Posters, in the form of placards and posted bills, have been used since earliest times, primarily for advertising and announcements. Purely textual posters have a long history: they

Mass production

public places all over the world. Visually striking, they have been designed to attract the attention of passers-by, making us aware of a political viewpoint, enticing us to attend specific events, or encouraging us to purchase a particular product or service."[1] The modern poster, as we know it, however, dates back to 1870 when the printing industry perfected colour ithography and made mass production possible. "In little more than a hundred years", writes poster expert John Barnicoat, "it has come to be recognized as a vital art form, attracting artists at every level, from painters like Toulouse-Lautrec and Mucha to theatrical and commercial designers."[2] They have ranged in styles from Art Nouveau, Symbolism, Cubism, and Art Deco to the more formal Bauhaus and the often incoherent hippie posters of the 1960s

According to the French historian Max Gallo, "for over

two hundred years, posters have been displayed in

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#### Developing art form

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eorges de Feure and Henri-Gabriel Ibels.[3]

feminine image as an advertising ploy. In contrast with those previously painted by Toulouse-Lautrec, Chéret's laughing and provocative feminine figures meant a new conception of art as

sters soon transformed the thoroughfares of Paris into the "art

being of service to advertising. galleries of the street." Their commercial success was such that some of the artists were in great demand and theatre stars

The industry soon attracted the service of many aspiring painters who needed a source of revenue to support themselves.

Chéret developed a new lithographic technique that suited better

the needs of advertisers: he added a lot more colour which, in conjunction with innovative typography, rendered the poster

much more expressive. Not surprisingly, Chéret is said to have troduced sex in advertising or, at least, to have exploited the

500

words

300 words

### words

1000

Many printing techniques are used to produce posters. While nost posters are mass-produce posters may also be printed by hand cert index posters are printed to the posters are printed to a poster posters are used by printed on 13 standard Silk paper in full coloru. Upon portugations, most commercially available posters are other roles up into a cylindical table to allow for damage the transportation. Roles-up posters are used and the presence for several hours the transportation.

Poster printing

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ny real article creativity. posters have had great artistic merit and have become extremely collectible. These the notices advertision World's Fairs and Colonial Exhibitions Political uses A framed poster displaying the national motto of the United States, "In God We Trust," in a

lass production

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Introduction cording to the French historian Max Gallo. "for over two undred years, posters have been displayed in public places all

## Replace words with... Photos



 Images sourced from The Noun Project (thenounproject.com). Hedgehog by Scopio: Hedgehog on pool floater in swimming pool; Underwater shot of sea animals by Scopi; Forest: Autumnal Forest by GPA

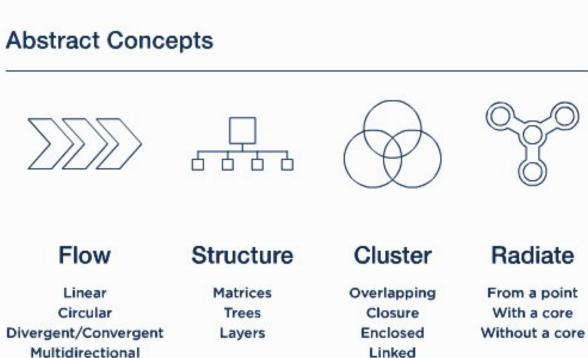


## Image sources

Look for images with Creative Commons licenses!

- <u>Unsplash</u>
- <u>Pixabay</u>
- <u>Pexels</u>
- <u>Wikimedia Commons</u>
- <u>Britannica ImageQuest</u> (access through Libraries and Learning Services databases)
- Noun Project for icons

## Replace words with...Diagrams



### **Realistic Concepts**

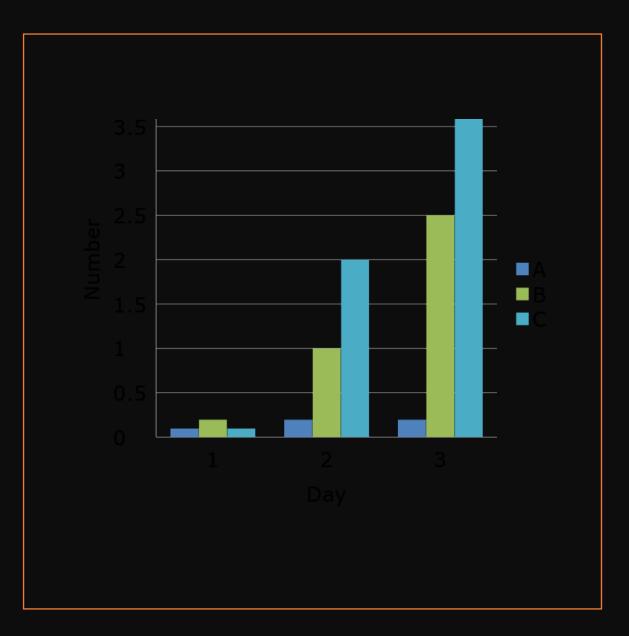


Pictorial

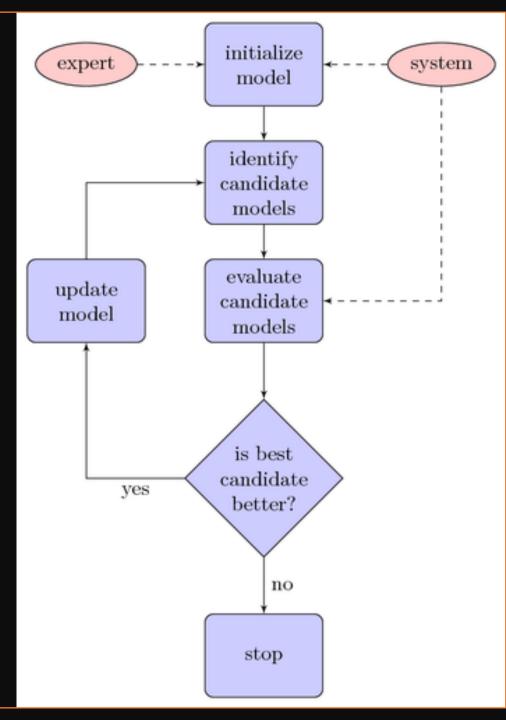
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Comparison Trend Distribution

# Replace words with...Graphs



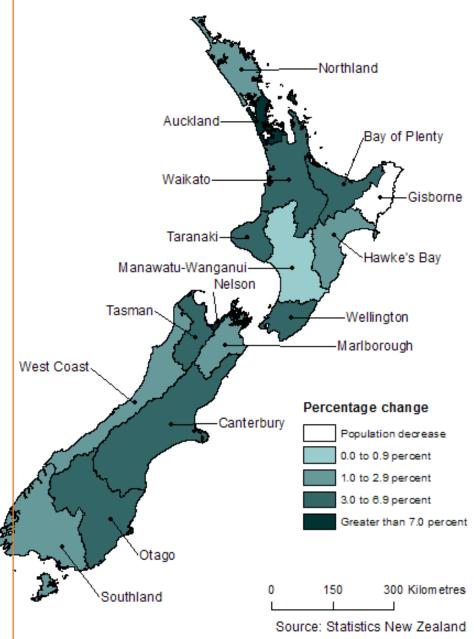
## Replace words with...Flowcharts





## Replace words with...Timelines

commons.wikimedia.org/wiki /File:Internet of things secu rity breach timeline.png Change in census usually resident population count By regional council area 2006–2013 Censuses

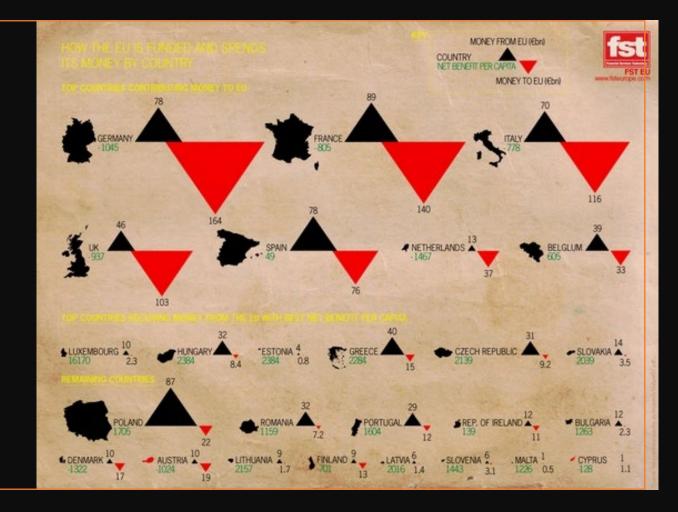


## Replace words with...Maps

• <u>commons.wikimedia.org/wiki/File:Chang</u> e in population by regions in New Zeal and based on 2006 - 2013 censuses.gif

## Remember: people still need to read your figures!

Image sourced from: https://eagereyes.org/criticism/mar ch-chart-madness



What image, picture or diagram represents your research?

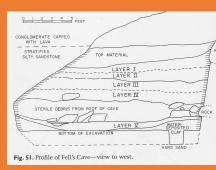
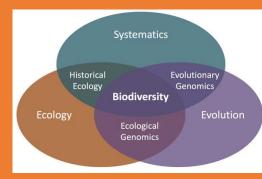


Diagram of Fell's Cave stratigraphy. Fell's Cave Stratigraphy.jpg - Wikimedia Commons



The Harris Lab research philosophy. https://pharri s.people.ua.edu/research .html.



Venus of Milo. Louvre Museum. Marble, Hellenic Period, ancient Greece.

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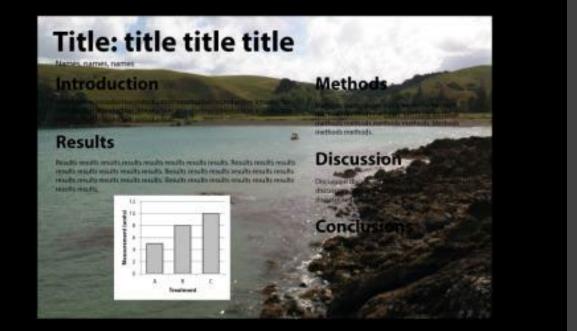
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### Title: title title title

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#### Introduction

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#### Results

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#### Methods

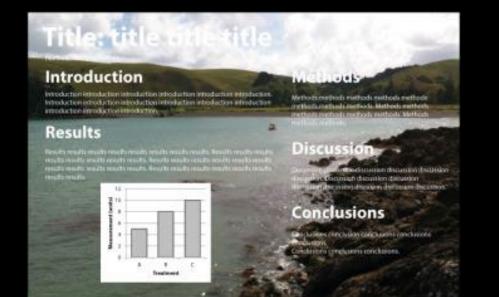
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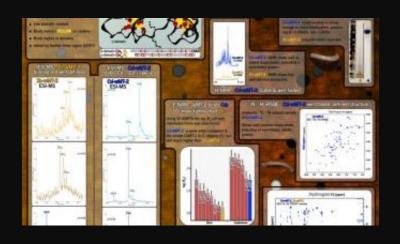
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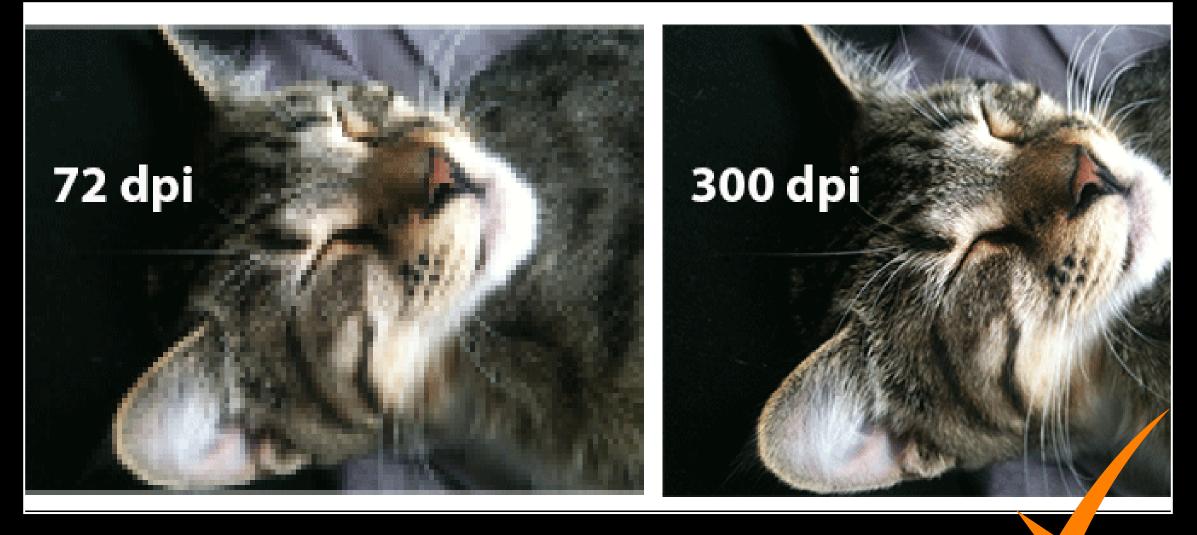
Treatment



## Layout

Use **columns** and clear **headings** to **direct** the reader!





**Resolution:** 



What do you associate with the colour blue?



## **Colour:**

Some colour combinations make text difficult to read

## Colour

Pick colour combinations that make text EASY to read

Pick colour combinations that make text EASY to read

Pick colour combinations that make text EASY to read

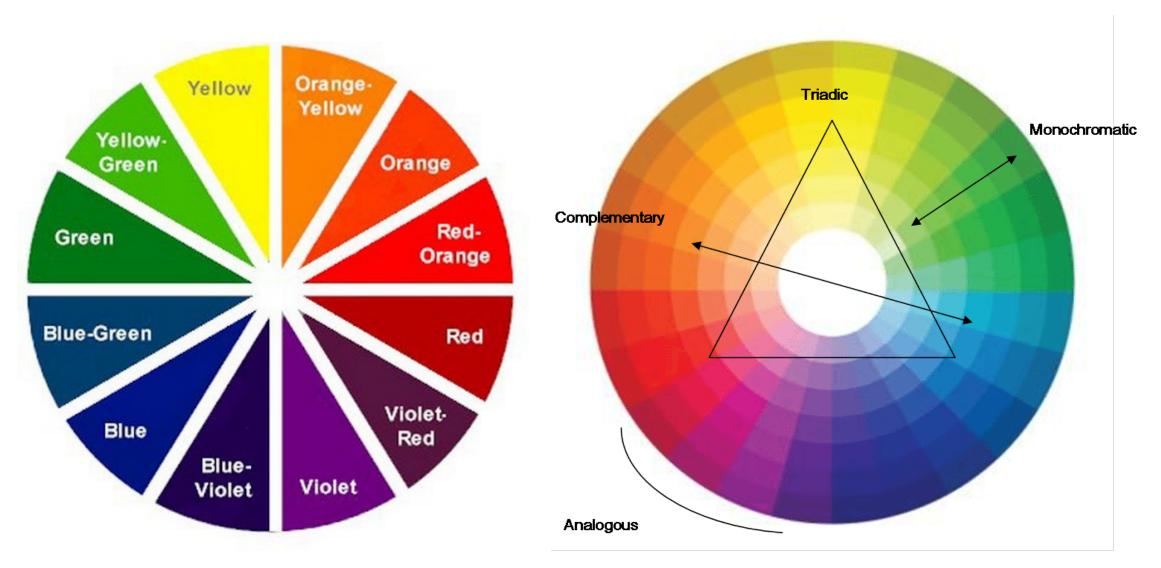
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## Colour



## Colour





## Last notes about colour...

- Be conscious of colourblindness! Certain colour combinations look very different to some people.
- Think about how the final product will look compared to your computer screen. e.g. very bright colours can be blinding on a large screen, but won't be as vivid on a printed poster.



# Use professional FONTS that people can read EASILY

# Use professional fonts that people can read easily

### Title 48 Font Headings 36 Font 24 Font **Sub-headings** 20 Font 18 Font Test printout 16 Font Can you read the text? 14 Font Bod 12 Font How do the colours look? 10 Font

# Check spelling and grammar:

People will notice!



ACO REGERS



Fis get better

## One last pointer...Referencing!



EVEN THOUGH YOU'RE PRESENTING SOMETHING IN A VISUAL MEDIUM, DON'T FORGET TO REFERENCE YOUR SOURCES. PLAGIARISM IS PLAGIARISM, WHETHER IT'S IN WORDS OR IMAGES.

## For example:



• Stormtrooper costume and blaster gun worn in the original Star Wars trilogy (1977 - 1983). Given by the British Film Institute





Contact us!

library.auckland.ac.nz/ask-us





## Thanks

Ana Avilés and Dawn Carlisle

July 2024