Data Visualisation

Visualisation with ggplot2

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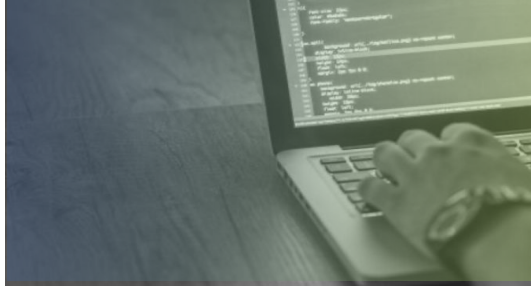Visualisation with ggplot2

FIRST Let's talk about CorrelAid ...

Who we are

We are a Germany-wide network of over 2400 data scientists who want to improve the world through data science.

#MetaWorldSavers

CORRELAID
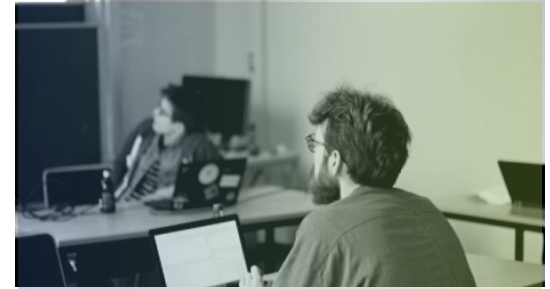GOOD CAUSES. BETTER EFFECTS.

Our Mission

DATA4GOOD PROJECTS

We carry out pro bono data analysis projects for non-profit organizations. These collaborations offer our data analysts the opportunity to apply and expand their knowledge.

EDUCATION

We network committed socially-minded data analysts and offer them opportunities to apply and expand their knowledge.

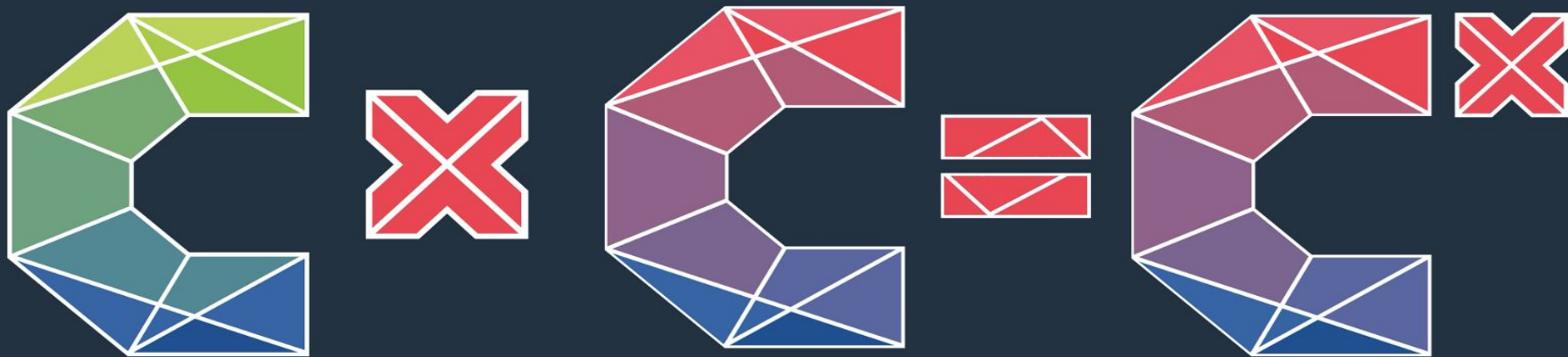## DIALOGUE

We enter dialogue about the value and usefulness of data and data analysis for the common good

CORRELAID
GOOD CAUSES. BETTER EFFECTS.

... and CorrelAidX Konstanz

CORRELAIDX

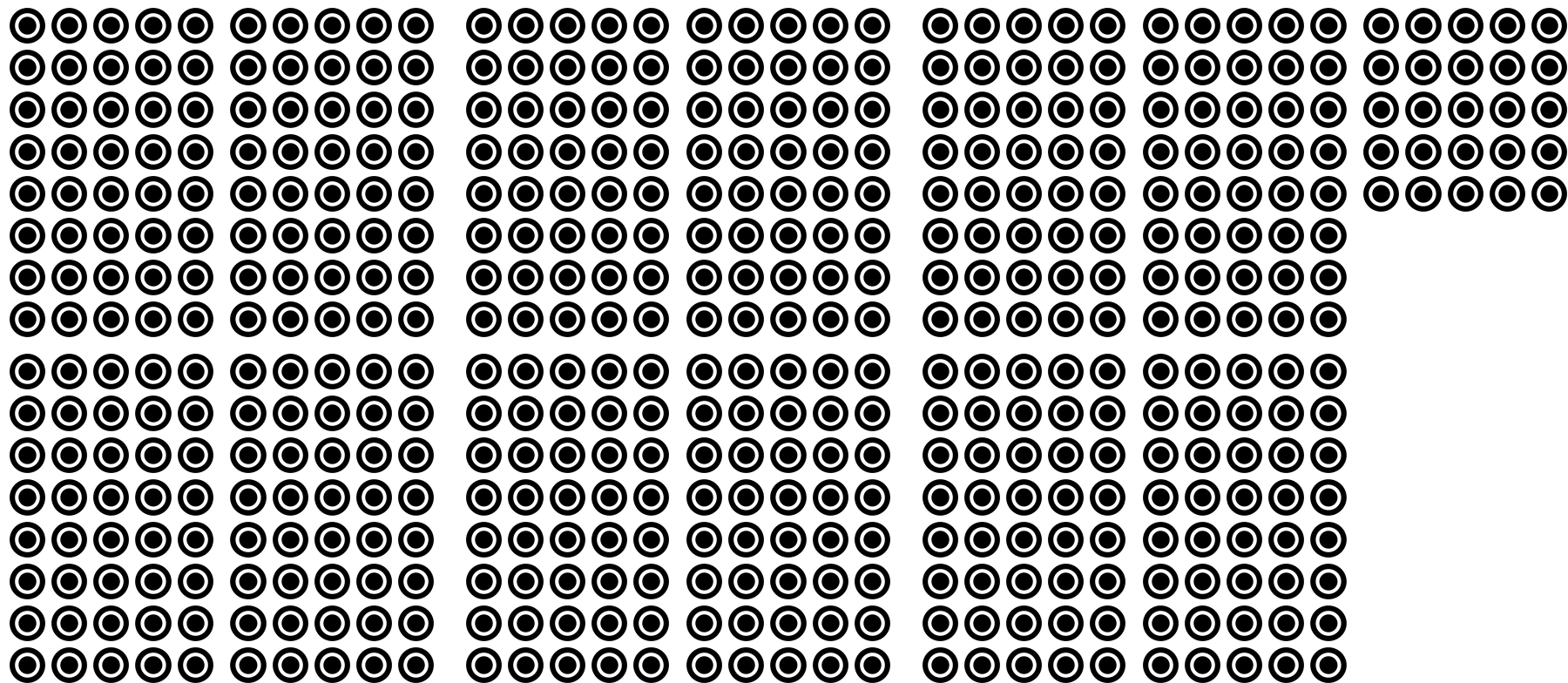## GOOD CAUSES. BETTER EFFECTS. LOCAL IMPACT.

Finally ...

Data Visualisation

What is Data Visualisation

Data visualisation is the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualisation tools provide an accessible way to see and understand trends, outliers, and patterns in data.
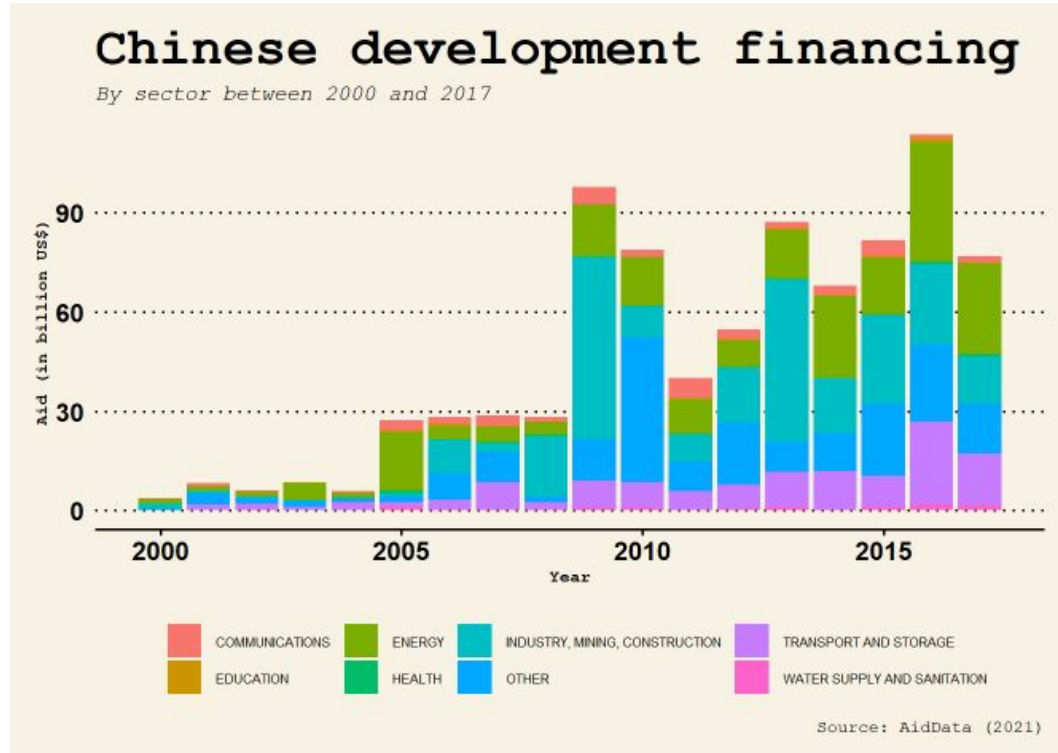
Wealth of 5 bilion € if one point is 10 milion €

description	status	intent	flow_type	flow_class	sector	amount
On February 19-25, 2017, China provides humanitarian aid t...	Completion	Development	Grant	ODA-like	OTHER	2.015411e+06
On February 22, 2016, the Chinese government donated tea...	Completion	Development	Grant	ODA-like	EDUCATION	*NA*
Extreme winter weather conditions in 2016 hurt vulnerable ...	Completion	Development	Grant	ODA-like	OTHER	1.000000e+06
In 2017, the Chinese Government and the Government of Af...	Completion	Development	Grant	ODA-like	EDUCATION	2.663728e+06
On April 15, China Embassy in Afghanistan donated desks a...	Completion	Representational	Grant	OOF-like	EDUCATION	*NA*
On May 10, 2017, Chinese Embassy in Afghanistan donated ...	Completion	Development	Grant	ODA-like	OTHER	*NA*
According to the United Nations Office for the Coordination...	Completion	Development	Grant	ODA-like	OTHER	1.000000e+06
On November 3, 2015, Chinese Vice President Li Yuanchao a...	Pipeline: Commitment	Development	Grant	ODA-like	OTHER	7.399245e+07
On November 5, 2017, China provided 34.14 million AFA to ...	Completion	Development	Grant	ODA-like	OTHER	5.018682e+05
On July 10, 2017, First Phase of the National Center for Scie...	Completion	Development	Grant	ODA-like	EDUCATION	*NA*
In August 2017, The Afghan Humanitarian Aid Project Simpl...	Implementation	Development	Grant	ODA-like	OTHER	*NA*
In 2017, China government offered training opportunities in...	Completion	Development	Scholarships/training in the donor country	ODA-like	EDUCATION	*NA*
On 29 October 2017, the Chinese government officially han...	Completion	Development	Grant	ODA-like	OTHER	7.399245e+06
In 2017, China Eximbank signed a $250 million export credit...	Implementation	Mixed	Export Buyer's Credit	OOF-like	OTHER	2.500000e+08
In 2017, the Chinese Government provided a $2 million gra...	Completion	Development	Grant	ODA-like	OTHER	3.000000e+06
In 2017, the Chinese Government issued a EUR 329,351 gra...	Completion	Development	Grant	ODA-like	OTHER	3.714102e+05
On August 29th, 2017, the Chinese Embassy to Albania inau...	Completion	Development	Grant	ODA-like	OTHER	1.484644e+05
In 2017, the Chinese Government granted 131,652 euros for...	Completion	Development	Scholarships/training in the donor country	ODA-like	OTHER	1.484644e+05
In 2017, China's Ministry of Commerce (MOFCOM) — throu...	Completion	Development	Grant	ODA-like	OTHER	1.485898e+06
Between October 26, 2015 and November 15, 2015, Hunan ...	Implementation	Development	Grant	ODA-like	OTHER	2.959698e+07
In October 2017, the Chinese Ministry of Commerce (MOFC...	Completion	Development	Grant	ODA-like	OTHER	5.000000e+06
In approximately 2017, China Eximbank and China Develop...	Completion	Development	Loan	Vague (Official Finance)	WATER SUPPLY AND SANITATION	6.000000e+07
During a visit by China Development Bank (CDB) Chairman ...	Completion	Development	Loan	Vague (Official Finance)	TRANSPORT AND STORAGE	*NA*
On 27 January 2017, the Industrial and Commercial Bank of ...	Pipeline: Commitment	Mixed	Loan	OOF-like	OTHER	1.000000e+09
On 9 December 2017, the Industrial and Commercial Bank o...	Pipeline: Commitment	Mixed	Loan	OOF-like	OTHER	1.000000e+09
In 2017, Industrial and Commercial Bank of China (ICBC) loa...	Implementation	Development	Loan	Vague (Official Finance)	ENERGY	4.050535e+08

You will be able to create a visualisation like this

Why is the second visualisation already good?

1. Clean layout
2. Two dimensional viewpoint
3. geometric shapes and lines
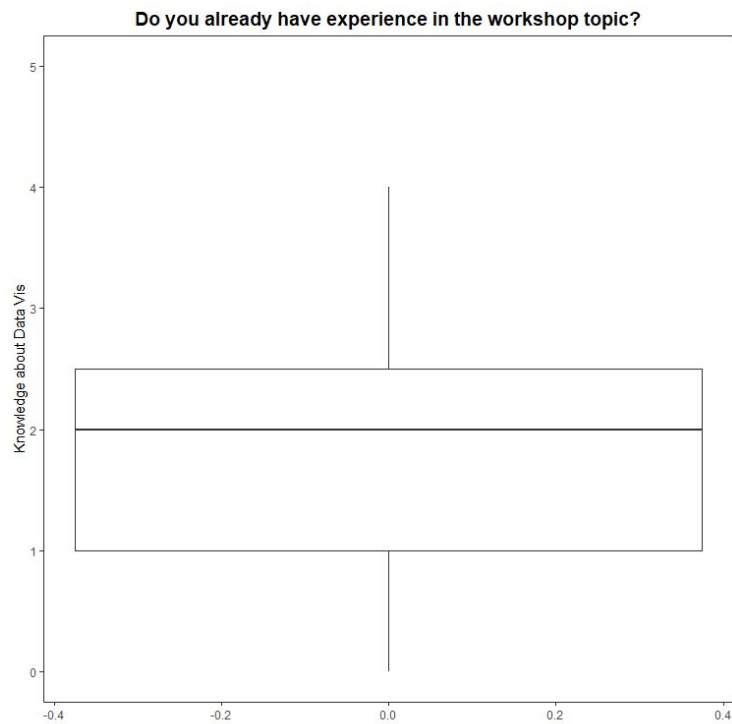4. Source at the bottom

Source: Kennedy, H., Hill, R. L., Aiello, G., & Allen, W. (2016). The work that visualisation conventions do. *Information, Communication & Society*, *19*(6), 715-735.

What visualisations are all about?

Box Plot

Bar Chart

The syntax of ggplot

ggplot(   )

The syntax of ggplot

ggplot(data, aes(x = ..., y = ...))

The syntax of ggplot

```
ggplot(data, aes(x = ..., y = ...)) +
  geom_col()
```

The syntax of ggplot

ggplot(data, aes(x = ..., y = ...)) +
  geom_boxplot() +
  coord_cartesian(ylim = c(0,13), xlim = (-.5,5))

The syntax of ggplot

```
ggplot(data, aes(x = ..., y = ...)) +
  geom_col() +
  coord_cartesian(ylim = c(0,13), xlim = (-.5,5)) +
  labs(x = "Test", y = "Knowledge about Data Vis",
      title = "Do you already have experience in the workshop topic?")
```

The syntax of ggplot

```
ggplot(data, aes(x = …, y = …)) +
  geom_col() +
  coord_cartesian(ylim = c(0,13), xlim = (-.5,5)) +
  labs(x = "Test", y = "Knowledge about Data Vis",
      title = "Do you already have experience in the workshop topic?") +
  theme_test() +
  theme(plot.title = element_text(face = "bold", size = 14, hjust = 0.5))
```

Are you ready with your code from GitHub?

Use the Cheat Sheet for ggplot2

CorrelAid

Local Chapter
Slack & Treffen
konstanz@correlaid.org

WORKSHOPS

Workshop: Data Viz
with R, Dec 7th+14th
correlaid.org/events/

OpenData Hackathon
https://eveeno.com/open
-data-hackathon

HACKATHONS
OPEN DATA
HACKATHON
16. & 17. Dezember 2022
Ratssaal
im Rathaus Konstanz
Jetzt anmelden

PODCAST

Machtpotential von Wähler*innen
mit Migrationshintergrund
AB 27. MAI 2022 AUF:

Data4Good-Podcast:
CorrelTalk
linktr.ee/correltalk

Newsletter
https://correlaid.org/volu
nteer/

NEWS
NEWSLETTER