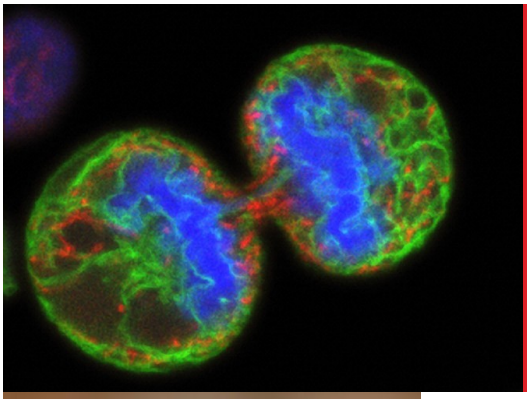
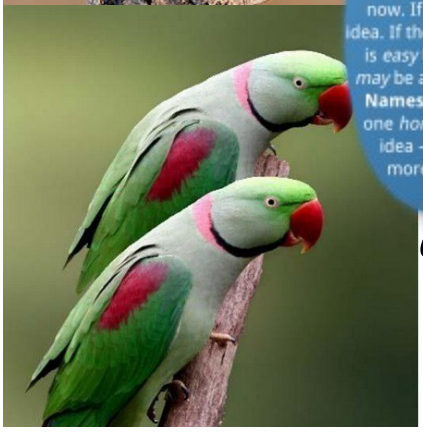
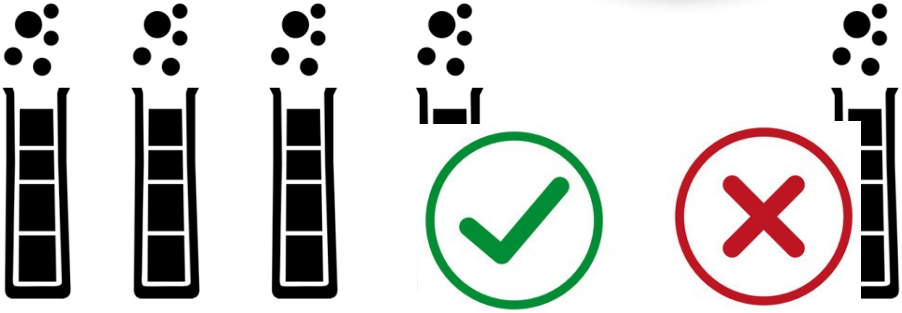




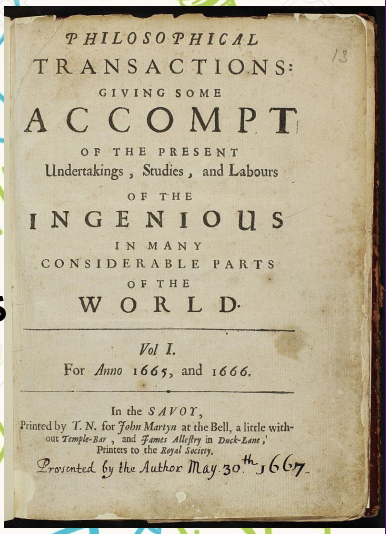
WHAT IS GENERALISABLE RESEARCH?

AND WHY DO WE NEED IT?



The way academia works at the moment is that **scientists do lots and lots of work** and then **publish their work in journals** to share their findings with others.

Originally they were visited in person by other researchers...



PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.

Vol I.
For Anno 1665, and 1666.

In the SAVOY,
Printed by T. N. for John Martyn at the Bell, a little without Temple-Bar, and James Allestry in Duck-Lane, Printers to the Royal Society.
Presented by the Author May 30th 1667

But nowadays its very difficult to know **exactly** what people did! It isn't standard to share data or detailed instructions!

Publication only

Publication +

Code

Co
and

Not reproducible

JARGON BUSTIN'

Research is REPRODUCIBLE if independent scientists can get exactly the same results when you give them your data

Reproducible research should be the **bare minimum** requirement! Without the data and the code (if you used any) you're only publishing **a nice story**.

ode
data

Linked and executable code and data

Full replication

Gold standard

The idea that failed replications have the potential to cause great damage to the original authors' reputations, and so we should have a very high bar for publishing them--

Blindsight is when people who can't consciously see can accurately guess what's around them.

Some blind people can even walk around avoiding obstacles. (Even though when you ask them they say they don't know what's there!)

The original authors found evidence for blindsight...

But kn
means
u
Maybe
type o
p

...but recently other scientists didn't replicate

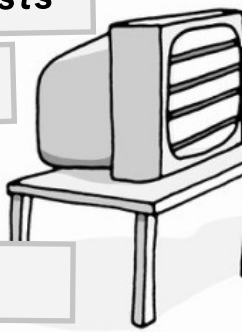
JARGON BUSTIN'

Research is REPLICABLE if other scientists

(or you!) conclude the same message

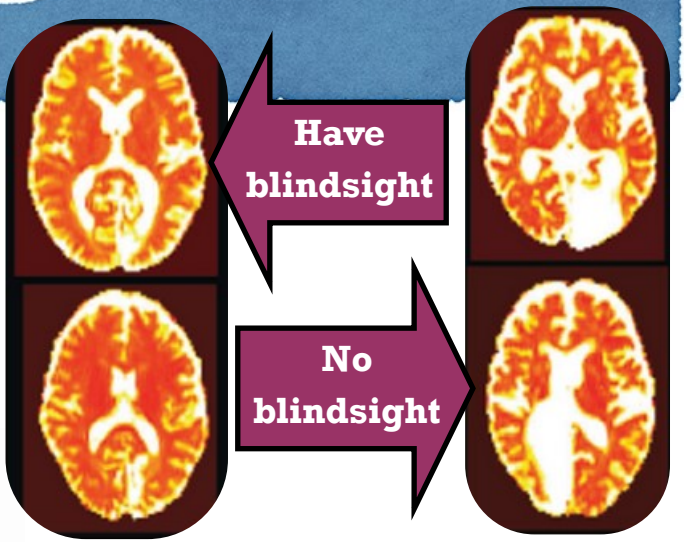
when the follow your exact analysis

but using an independent data set



owing these conflicts we **can refine our nderstanding**.

it depends on what f brain damage the atients have!?



It's ok if we don't replicate everything! It doesn't mean anyone is lying.

But it is important to know if the finding only works for the original data.

Otherwise we can't begin to **generalise** the finding.

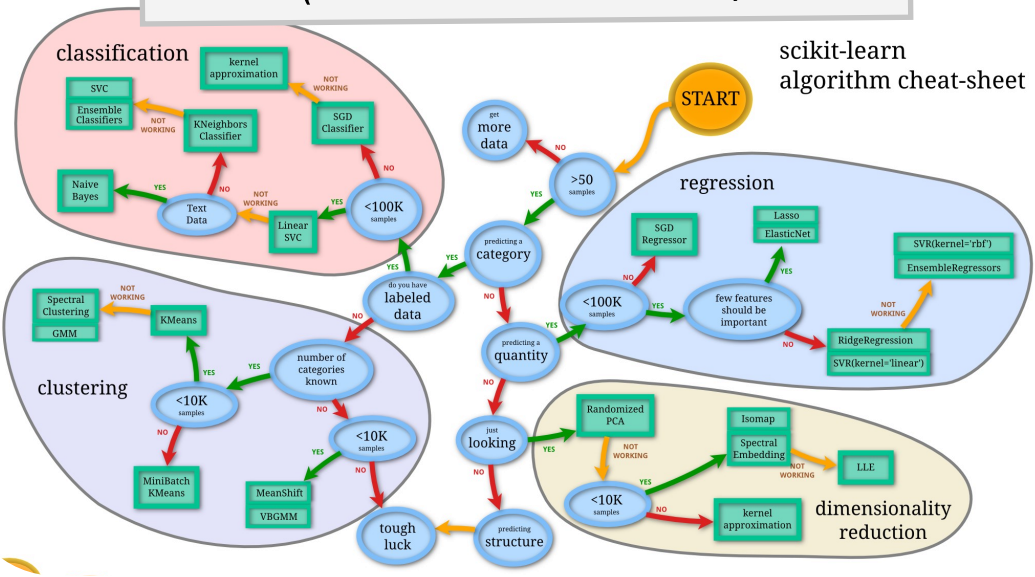
JARGON BUSTIN'

Research is ROBUST if you conclude

the same answer even when you

use different analysis techniques

(on the same data set)



JARGON BUSTIN'

Research is GENERALISABLE when independent scientists come to the same take home result using their own data and methods (but asking the same question!)

Governments need generalisable research to make useful policies, and **doctors** need it to know how best to treat you!

Your handy dandy guide to generalisable research

	Data: Same	Data: Different
Code: Same	Reproducible	Replicable
Code: Different	Robust	Generalisable

mozilla Science Lab

Made by Kirstie Whitaker
Mozilla Fellow for Science 2016/17
& Space Wrangler for MozFest 2016
Stay in touch on twitter @kirstie_j