

# Reproducibility

## Reproducibility

- Allow other people to build up on your work...

*For the findings of a study to be reproducible means that results obtained (...) in a **statistical analysis of a data set** should be achieved again with a high degree of reliability when the study is replicated.*

<https://en.wikipedia.org/wiki/Reproducibility>

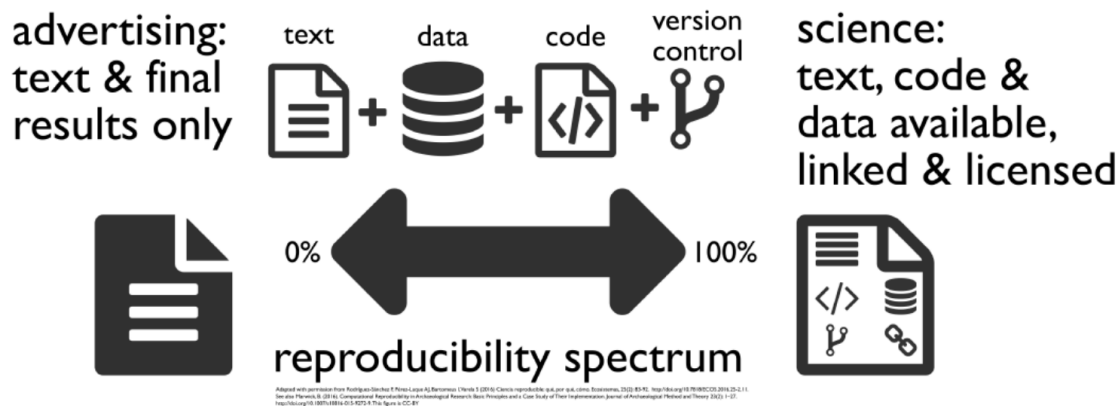


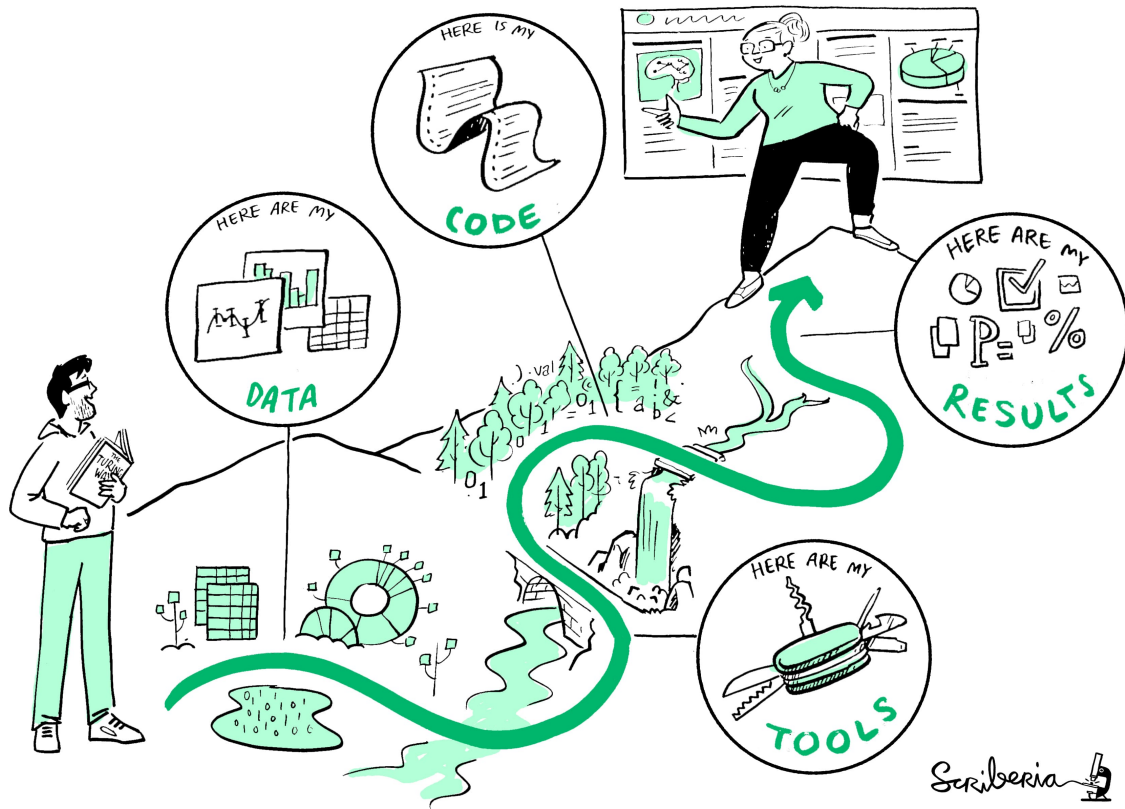
Figure 2. The reproducible research spectrum. Reproducibility is not a binary quality but a spectrum (Peng 2011). Scientific articles that contain only the final text, results, and figures (e.g., in a single pdf document) are advertising a finding, and these are the least reproducible—it is often impossible to reconstruct the whole analytical process from data to results. Publication of the data and/or code used for the analysis greatly improves reproducibility. Similarly, using a version control system (such as Git) permits navigating through the complete history of the project. Finally, the most reproducible, and thus scientific, studies are those using dynamic reports (e.g., R Markdown notebooks) that integrate text, code, and data into an executable environment.

(Marwick et al. 2017; Marwick et al. 2018; <https://faculty.washington.edu/bmarwick/>)

## In your article/thesis/project do:

- Deposit the data in a **repository**. [Zenodo](#), [Figshare](#) etc.  
see <https://www.re3data.org/>

- Include the **data** and **code** under an **open and permissive license**.  
<https://creativecommons.org/>  
<https://choosealicense.com/>
- Include the **code** for the analysis.  
 Document your analysis in an Rmarkdown document or in individual scripts.
- Document what you are doing and **what things mean**, create rich **metadata**.
- Use **version control** systems (git).  
<https://github.com/git-guides>



<https://doi.org/10.5281/zenodo.3332807>

## Guides

Kieran Healy

The Plain Person's Guide to Plain Text Social Science

<http://plain-text.co/>

## **Ben Marwick**

- Marwick, B. 2017: Computational Reproducibility in Archaeological Research: Basic Principles and a Case Study of Their Implementation. *Journal of Archaeological Method and Theory* 24(2): 424–450. DOI: [10.1007/s10816-015-9272-9](https://doi.org/10.1007/s10816-015-9272-9).
- Marwick, B., Boettiger, C. and Mullen, L. 2018: Packaging Data Analytical Work Reproducibly Using R (and Friends). *The American Statistician* 72(1): 80–88. DOI: [10.1080/00031305.2017.1375986](https://doi.org/10.1080/00031305.2017.1375986).

## **British Ecological Society**

[Guides to better science](#): guide on [reproducible code](#) and [data management](#).

# The Plain Person's Guide

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## to Plain Text Social Science

Kieran Healy