

2018

## Data as Stepping Stones in the Research River: Using Data Across Disciplines When You're Not a Data Expert

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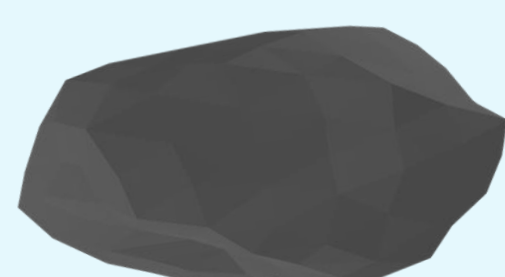
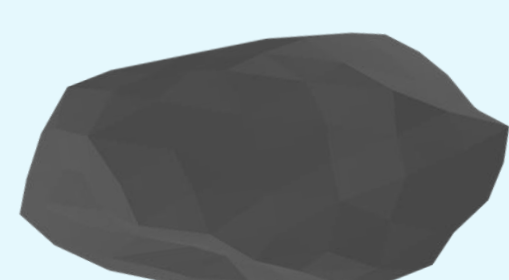
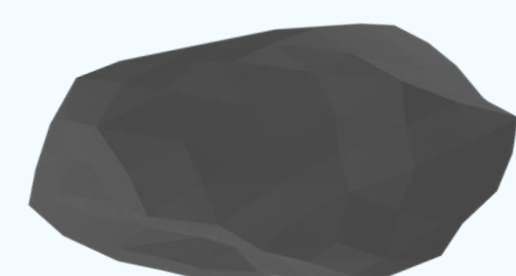
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# DATA AS STEPPING STONES IN THE RESEARCH RIVER: USING DATA ACROSS DISCIPLINES WHEN YOU'RE NOT A DATA EXPERT

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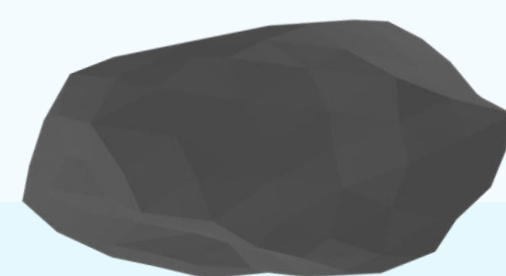
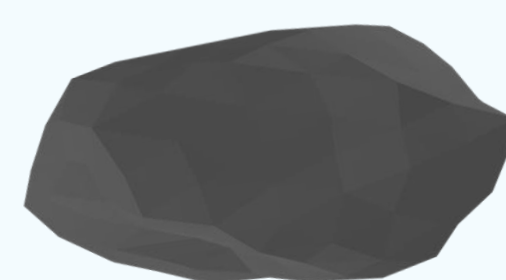
## Many Ways of Knowing

Disciplines have different *epistemologies*, each with its own view of “good” analysis

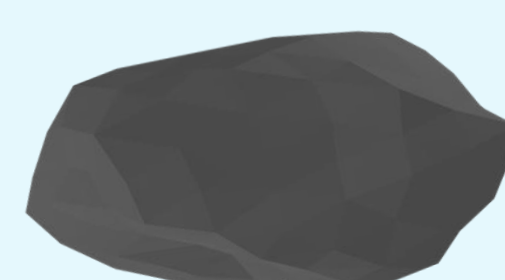


It is hard to accept other disciplines' views

Build discussions to move past assumptions



Resources like the Toolbox Dialogue  
<http://toolbox-project.org/help>



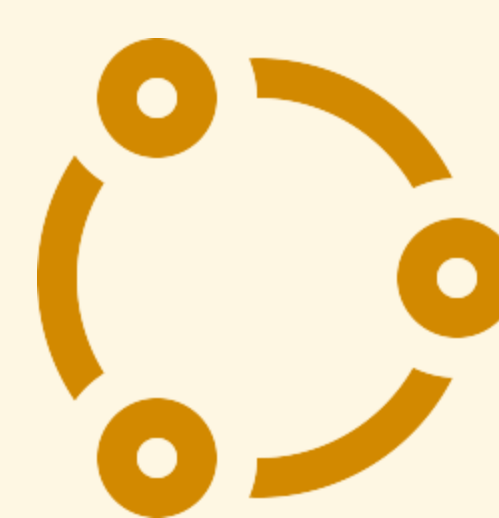
## Don't Focus on the Quantitative



Data is not always numbers. For better research paths, add variety



Data include images, text, objects, observational notes, and more



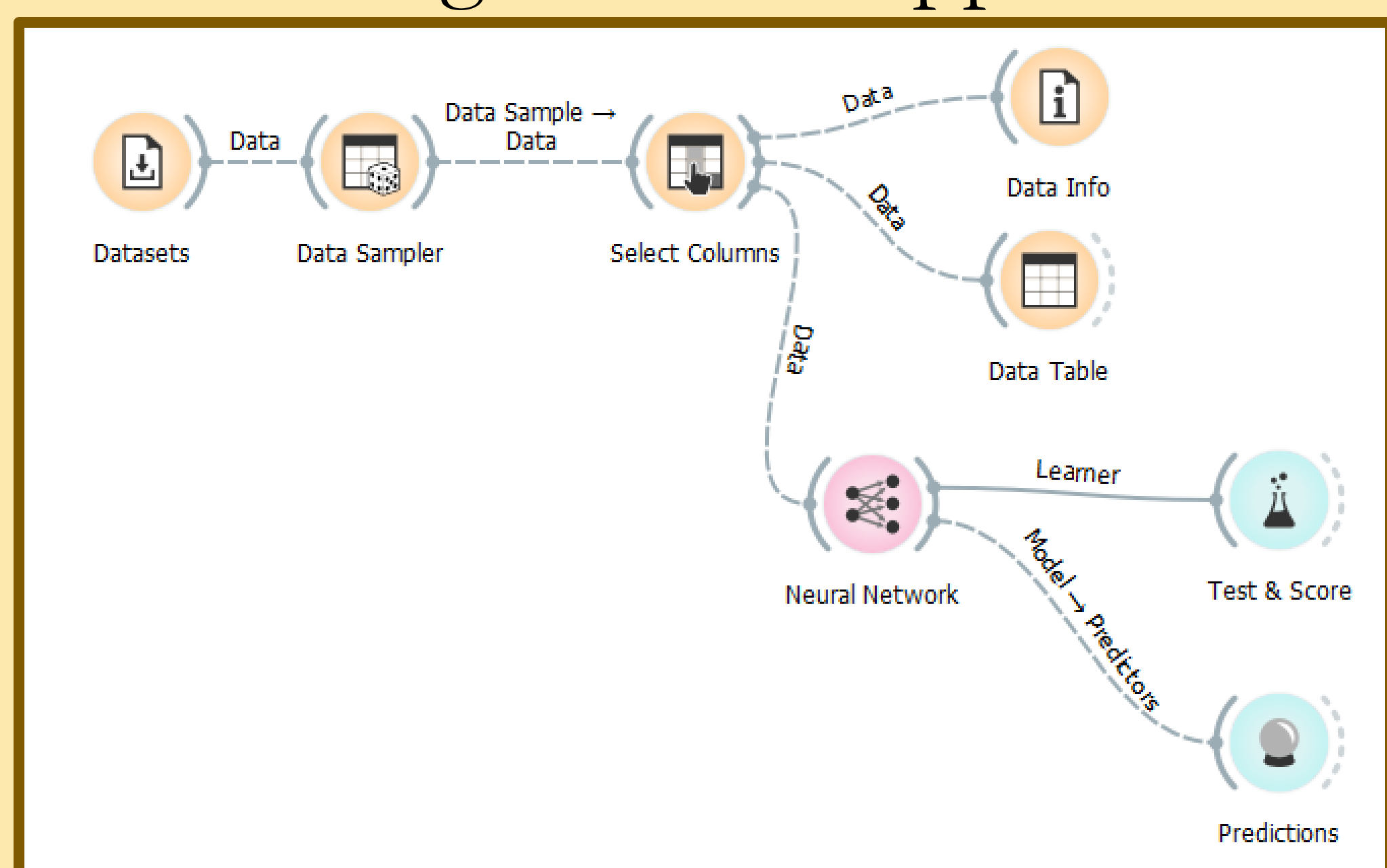
Help PIs get beyond their silos by focusing on *why* this data and analysis addresses project goals



Dealing with unfamiliar methods? Concentrate on outcomes logic!

## Wading into Workflows

- Good workflows support rigor, ethics, data management, and communication
- How do computers/programs “talk” to each other to move data around?
- How do findings come together for conclusions?
- For computational research, ask if they can output a workflow diagram as an appendix



- Workflow planning supports Data Management Plans and builds Rigor & Reproducibility also supports clarity
- If the project is hard to follow, ask PIs to sketch the flow/handoffs of the data

## Stepping Towards Convergence

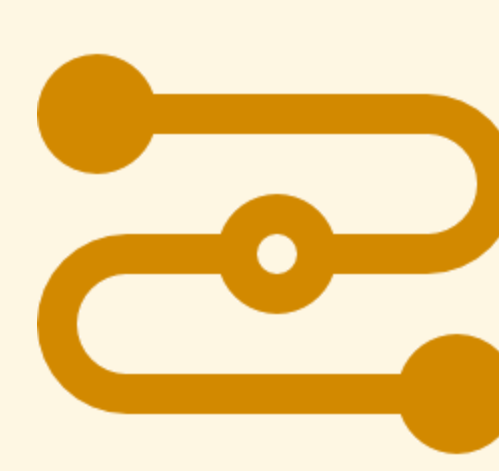


Assess convergence-readiness

- Disciplines with different data collection and analysis are more innovative, but face deeper challenges
- Disciplines with similar data collection and analysis concepts are more convergence-ready



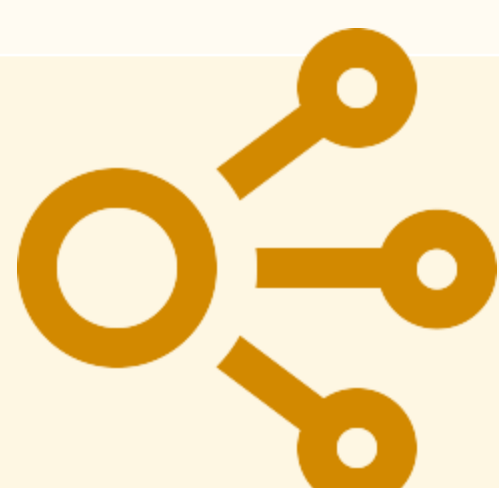
RD professionals can help keep focus on the **problem** → **logic** → **solution**



Data infrastructures must be flexible to support numbers, text, images, more



We use Open Science Framework <https://osf.io/> which can be built, used, & shared many ways



Flexible, sharing-friendly software supports public access