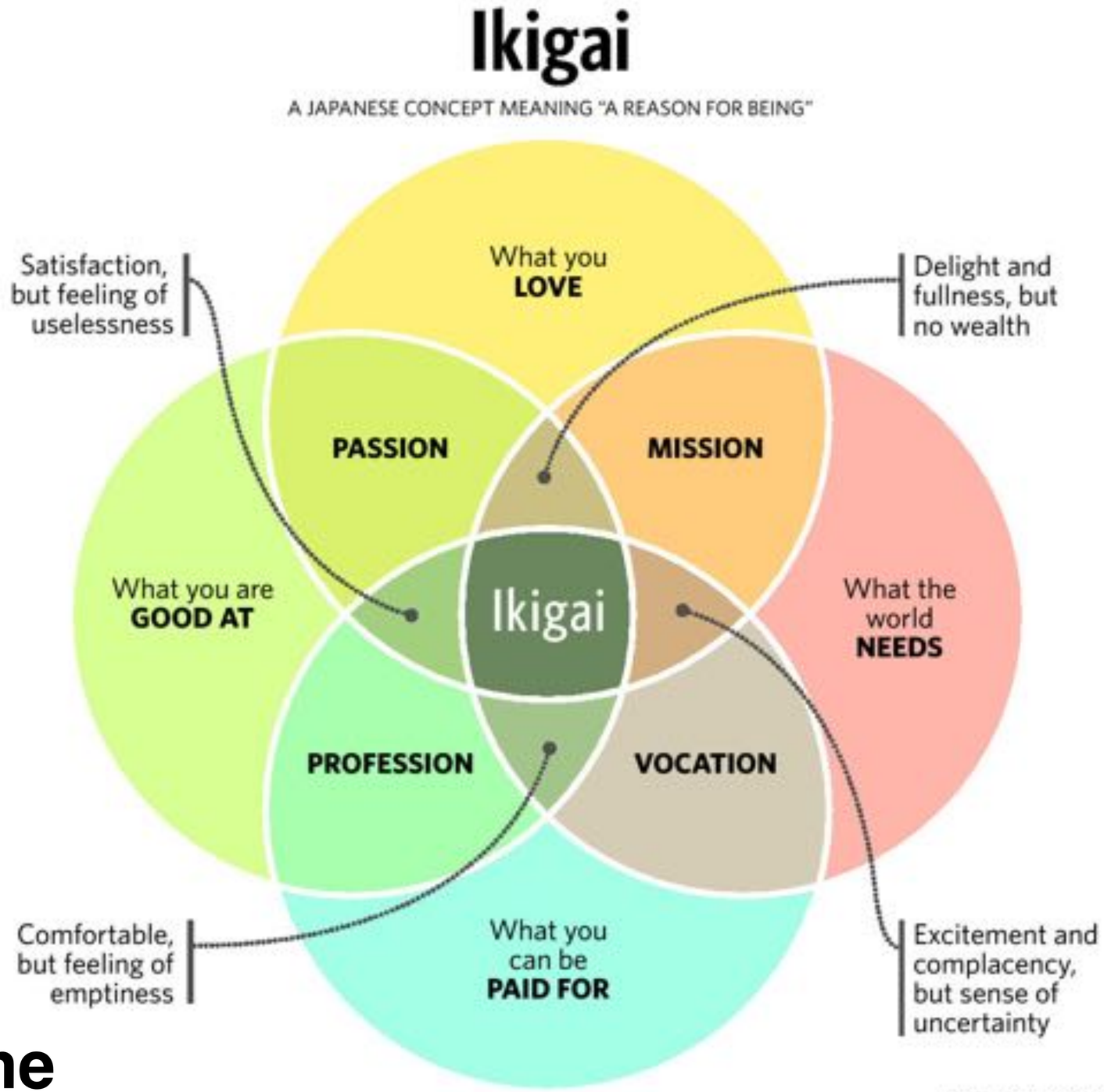
Corporate Data Science

Angela Bassa (@angebassa)

csv,conf 2017

vs. Indie Data Science

Good Thing There's > 7 Billion Of Us



Source: Dreamstime

"Data is useless without context"

@thegrugq

A Little Context, Then

It’s Not Personal

(And It’s Not Academic Either);

It’s A Business.

Agenda

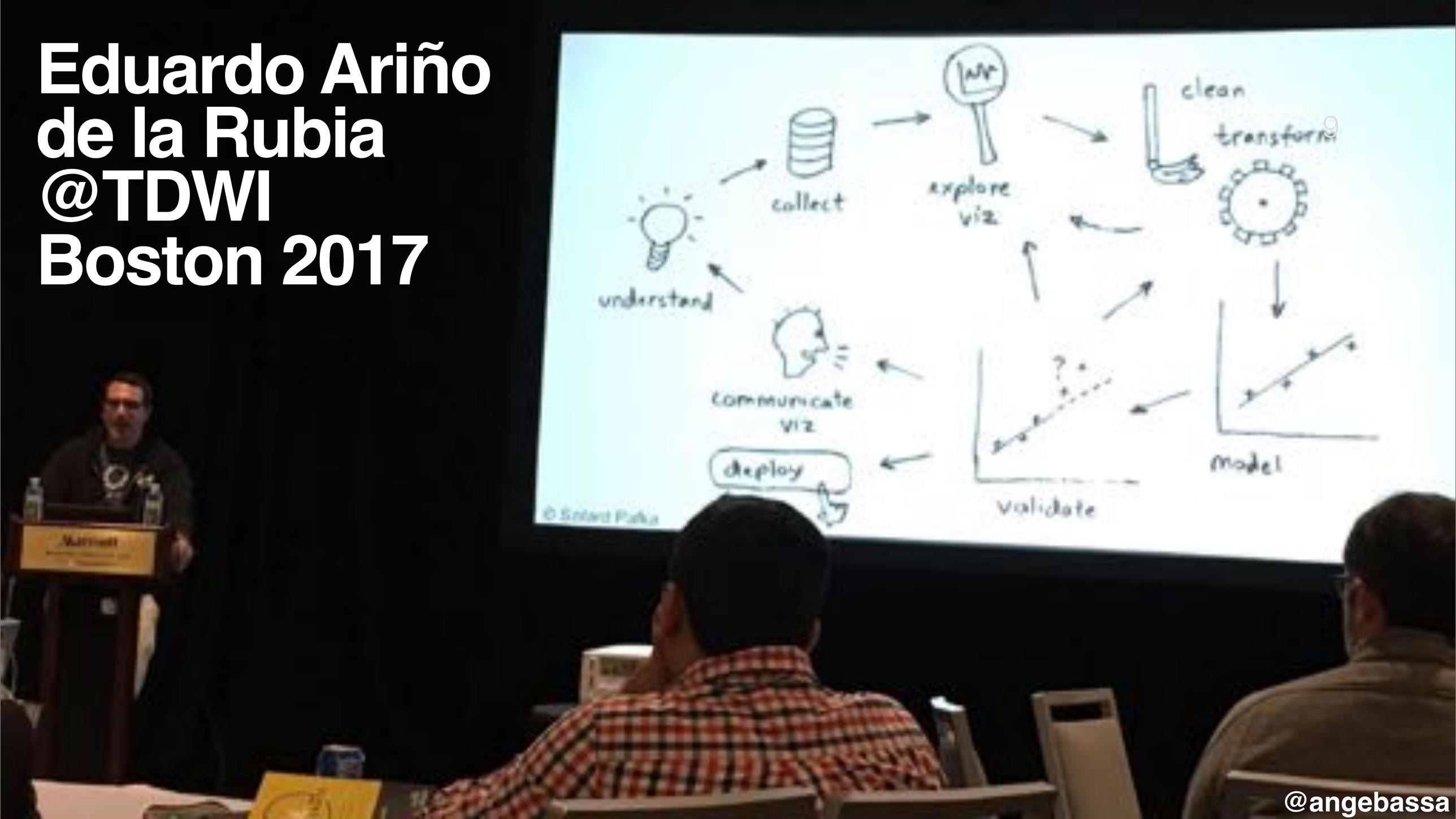
Data Sciencing In Industry

Building Effective Data Science Teams

Proper Care And Maintenance Of Data Teams

Some Things Don’t Change

Eduardo Ariño de la Rubia @TDWI Boston 2017



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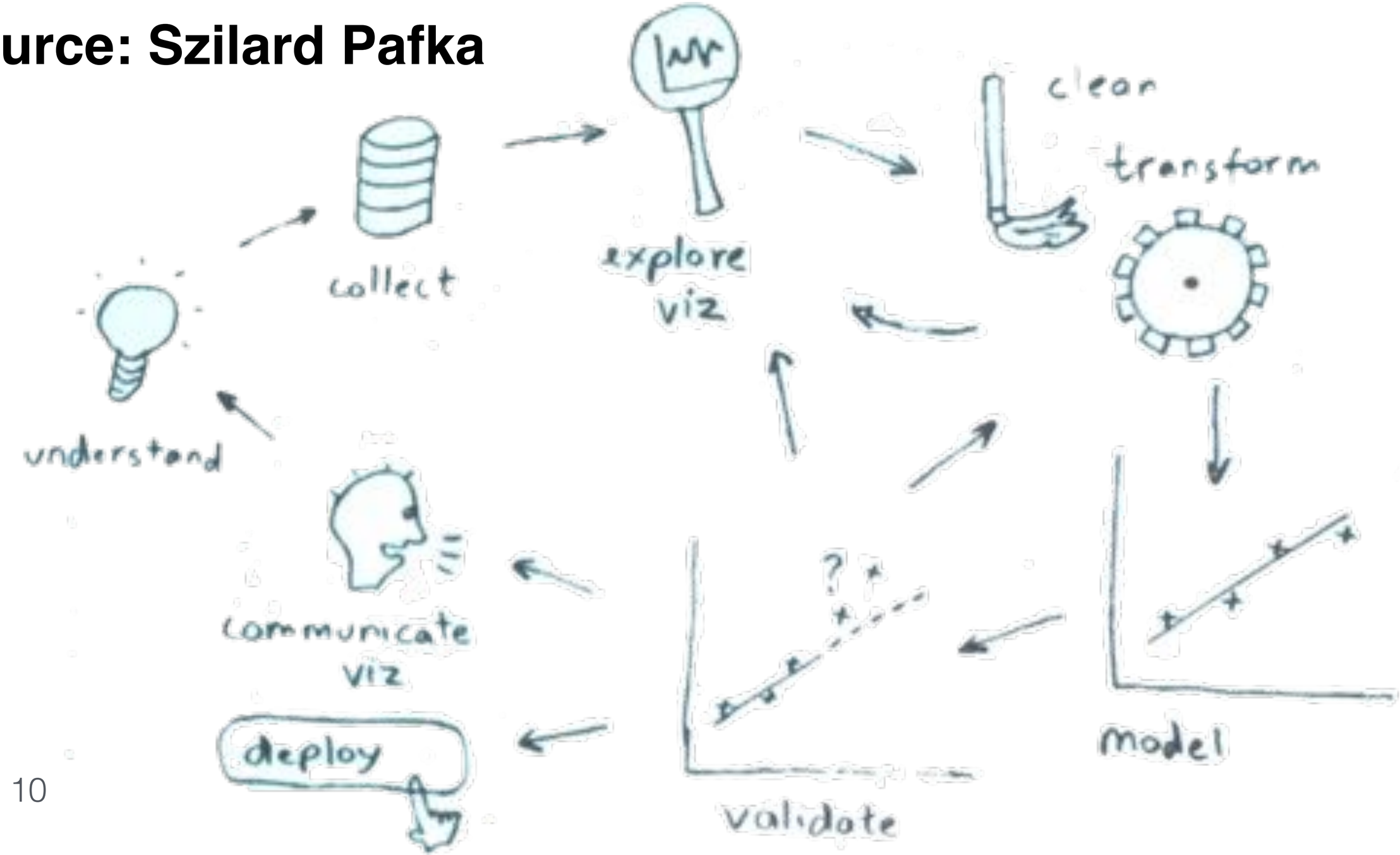
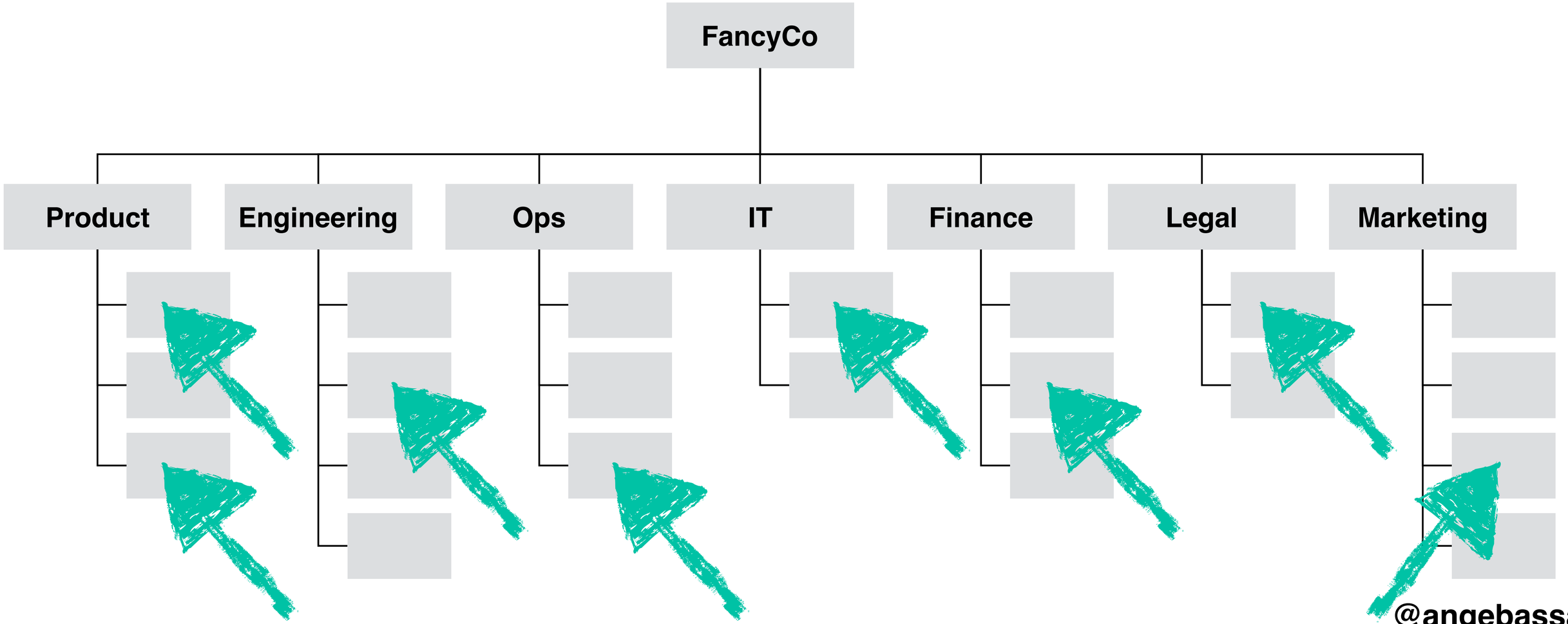
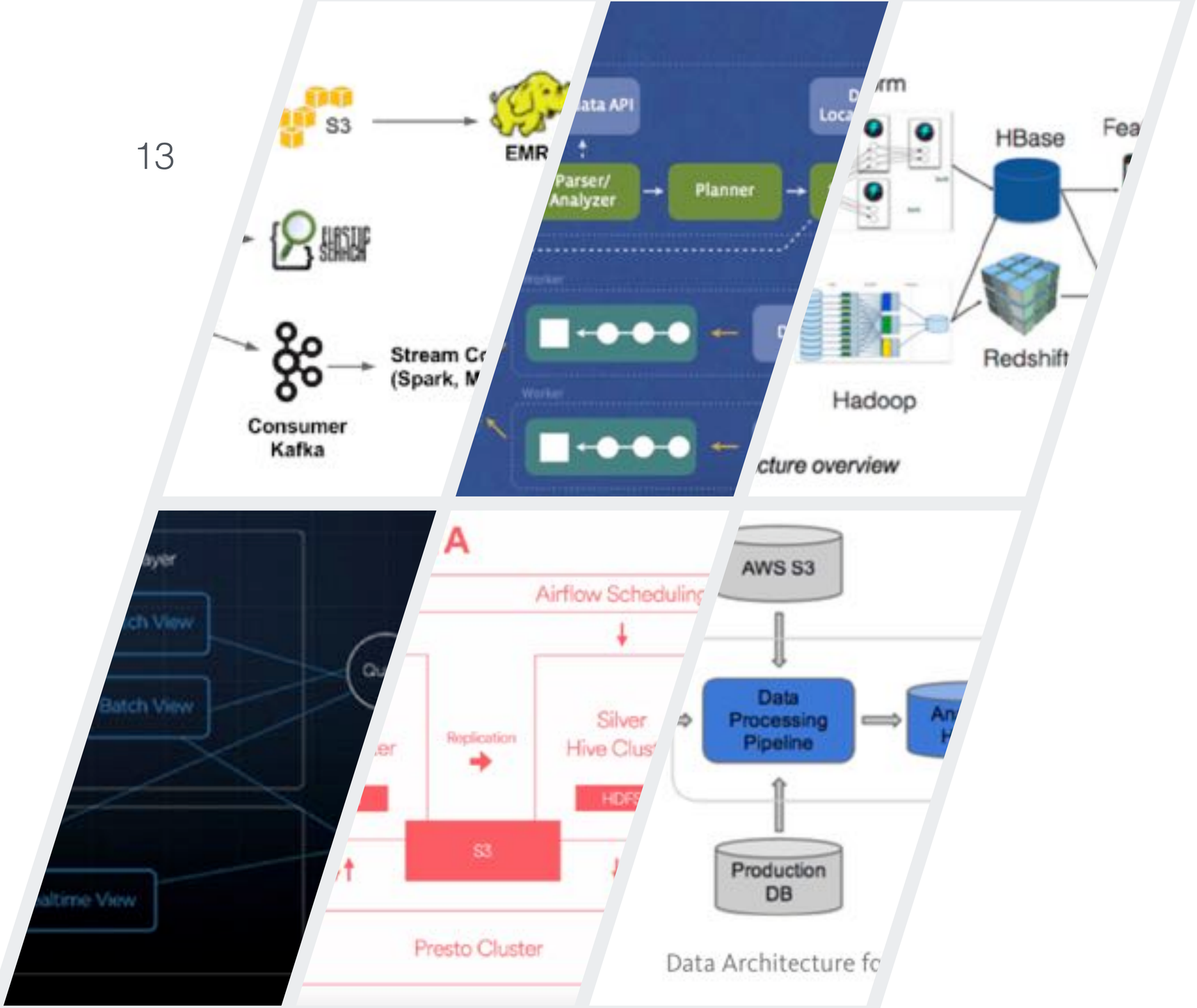
Source: Szilard Pafka



The Commercial Spectrum

Where Does Data Science Fit?





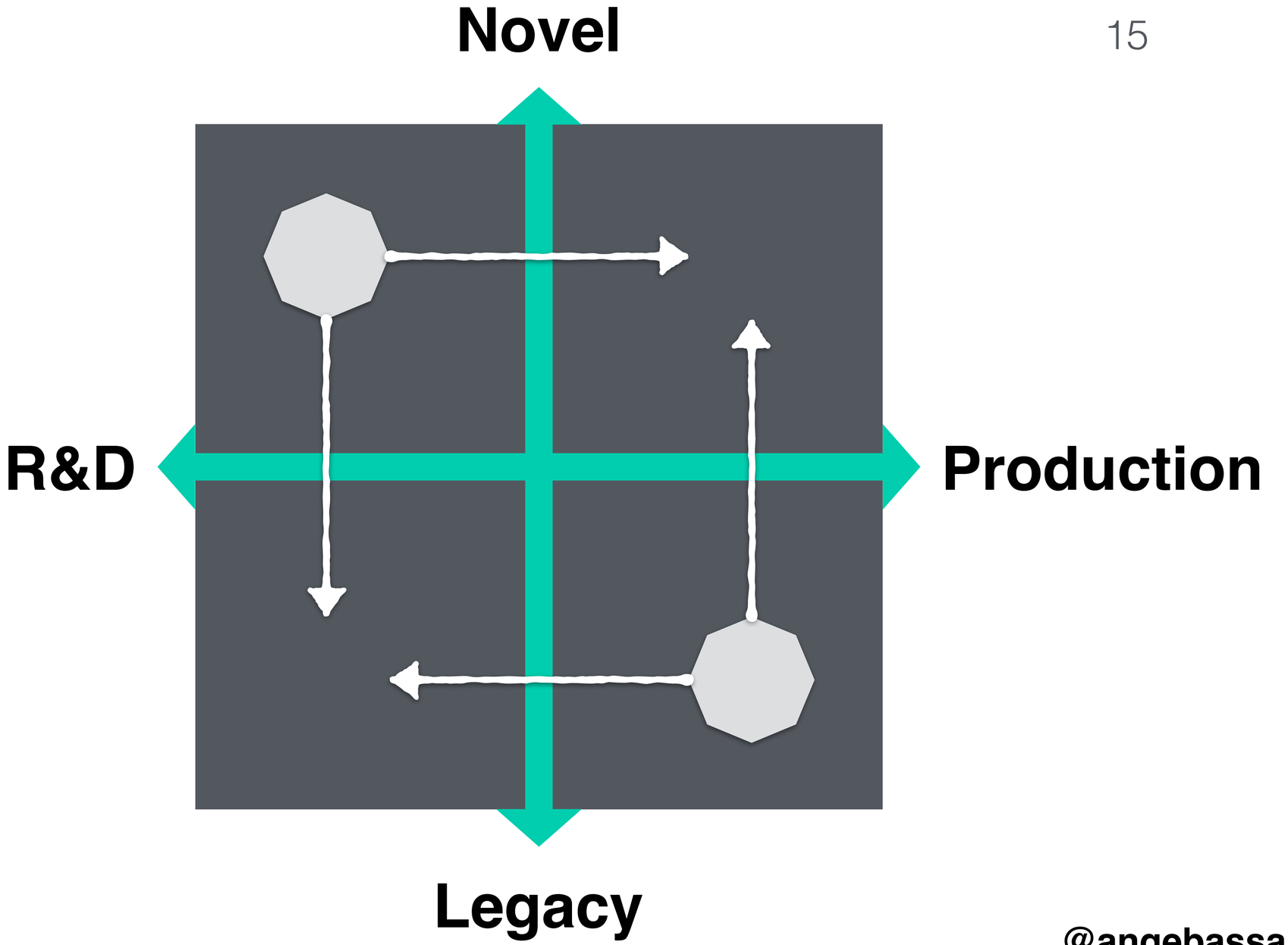
Some Things Change Quite A Bit

Pigeonholing Unicorns

Why is she here? We're not ready for analytics yet.

You design the algorithm, we will put it in production.

Blended Objectives



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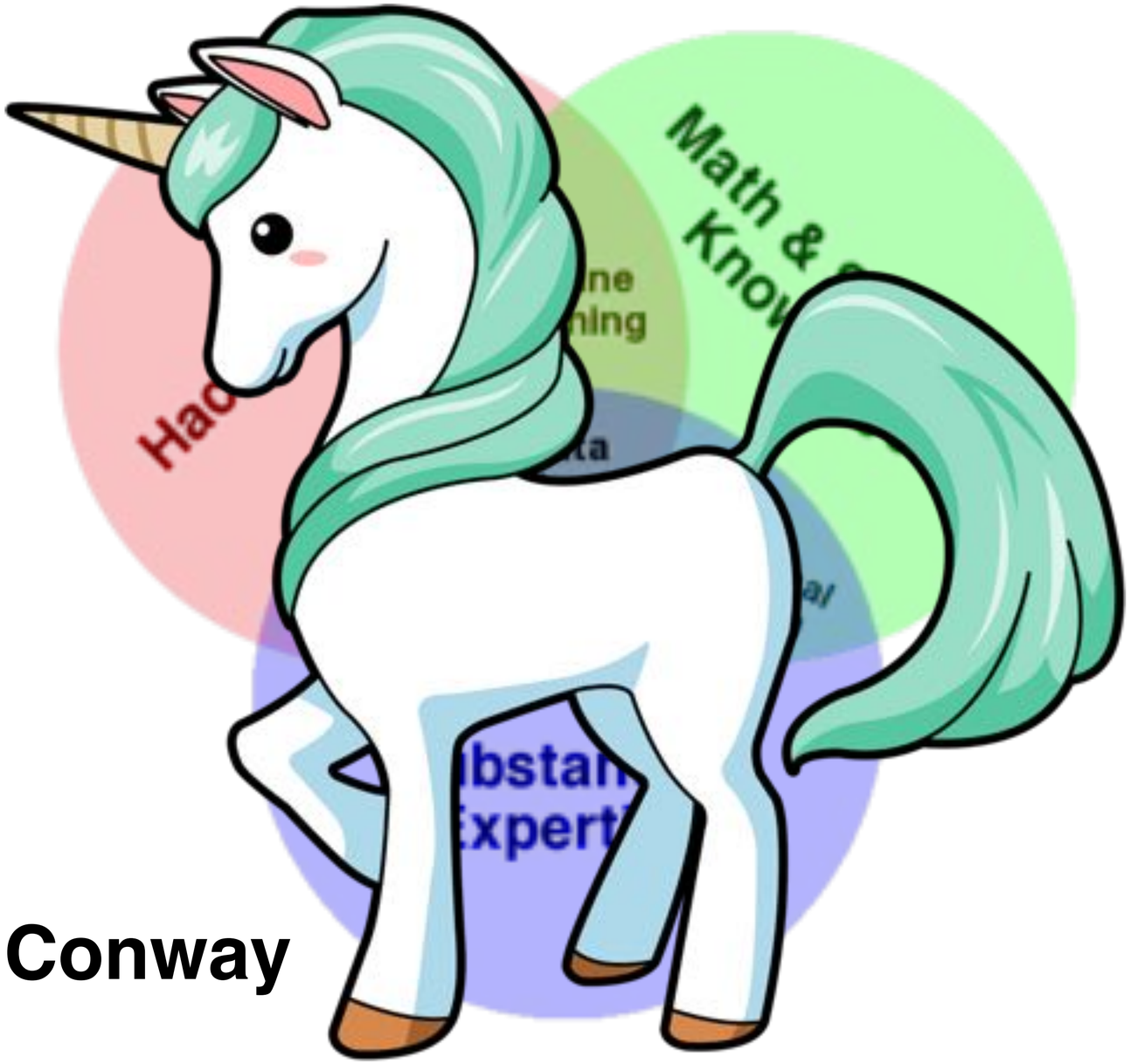
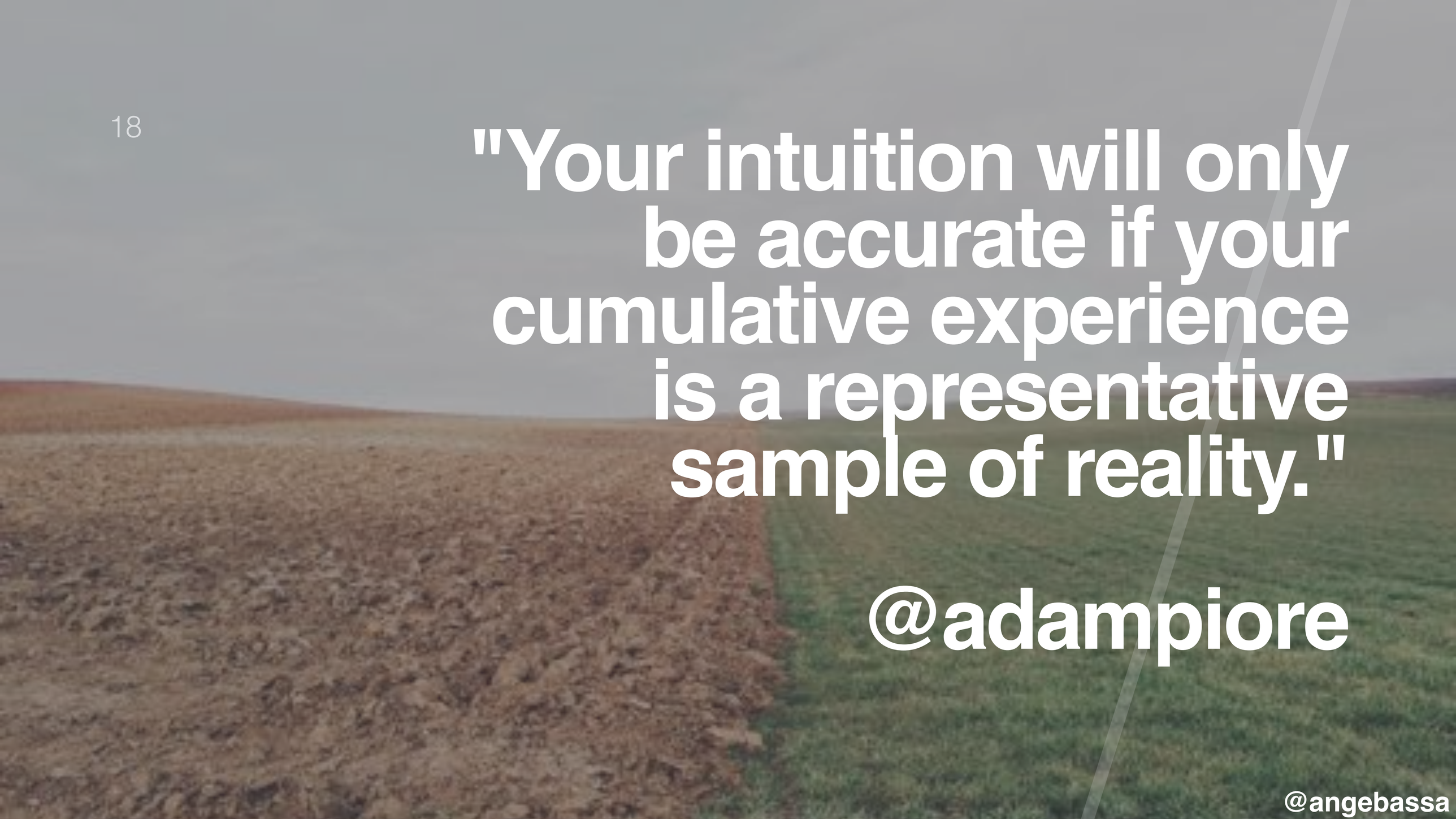
The Data Scientist Archetype



Source: Drew Conway

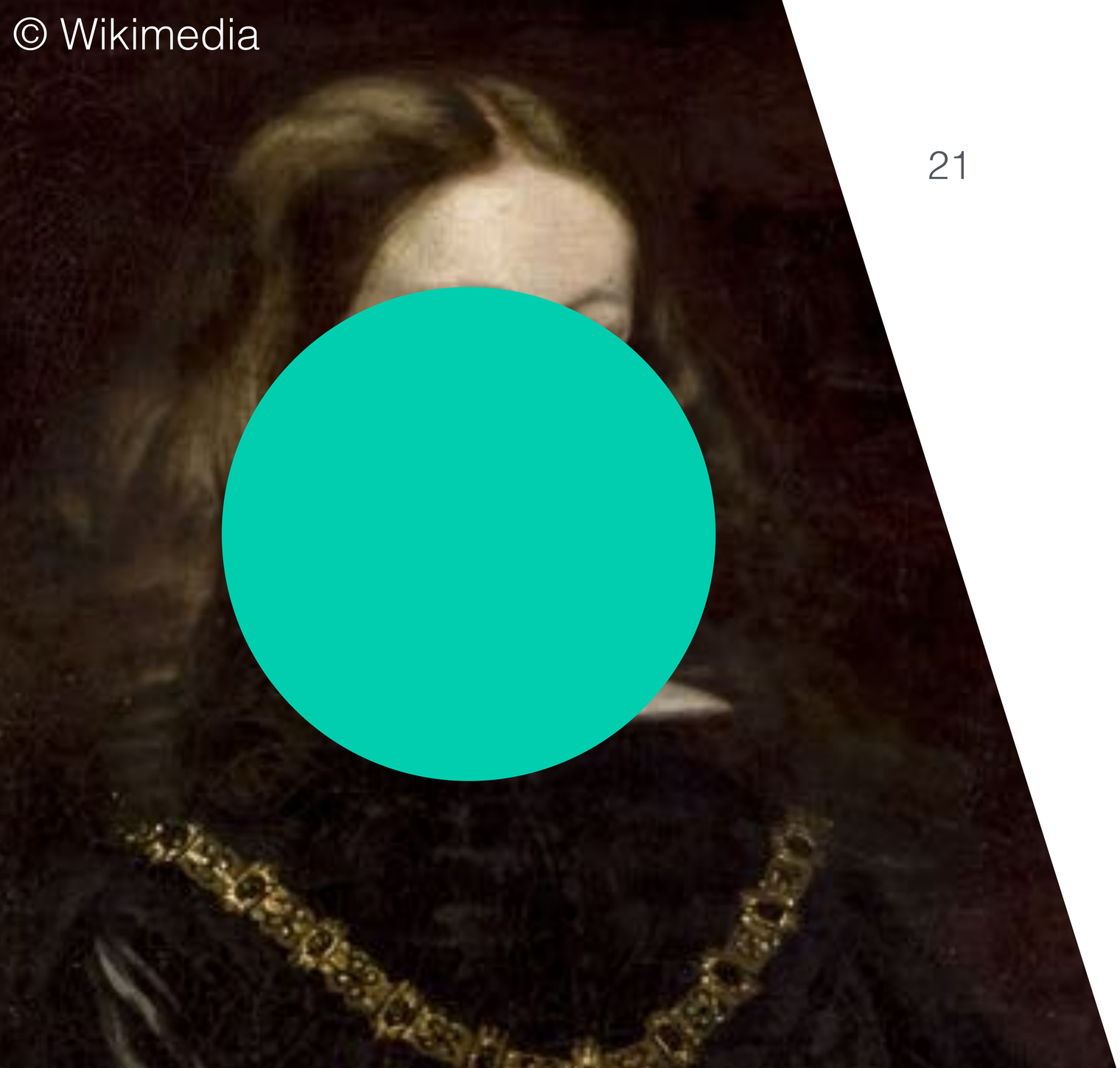


"Your intuition will only be accurate if your cumulative experience is a representative sample of reality."

@adampiore

Unicorns Don’t Really Exist

Have You Heard Of Super Chickens?

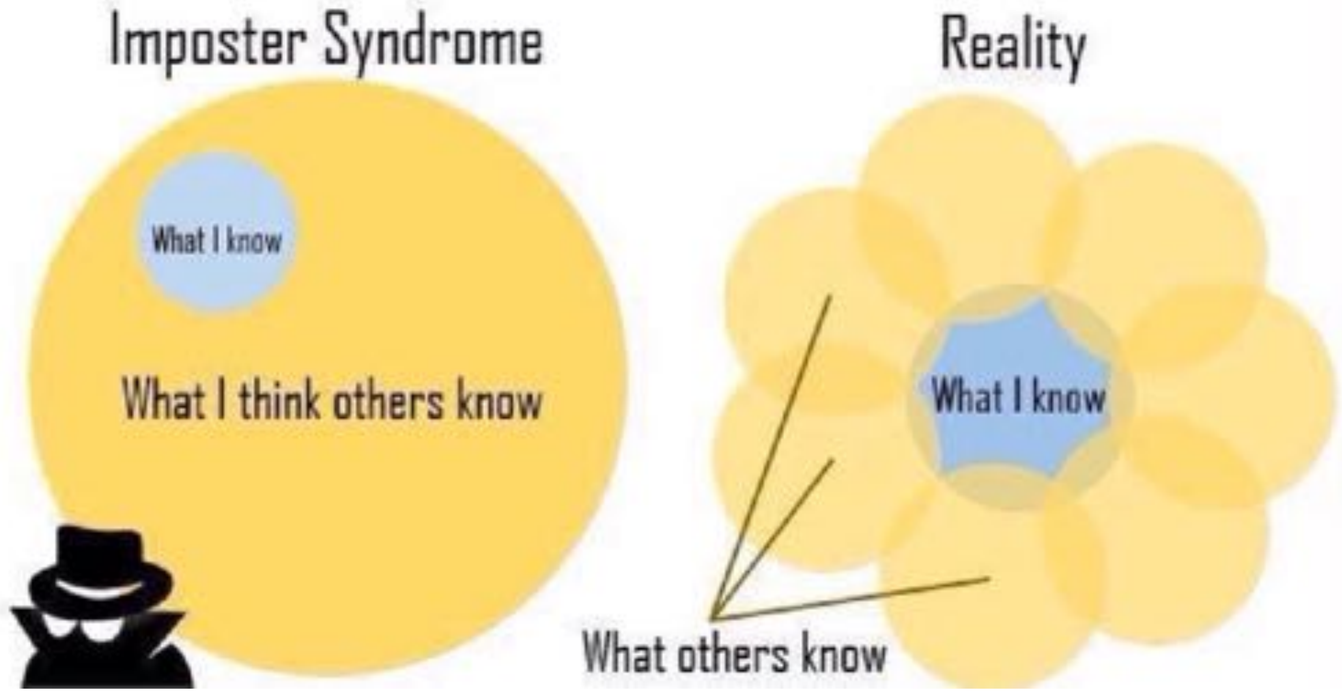


Dynasties And Intellectual Inbreeding

Mirror-tocracies[1] & Survivorship Bias

[1] Kara Swisher

Building A Large Reality



Source: David Whittaker

There’s More Than One Way To Skin A Cat

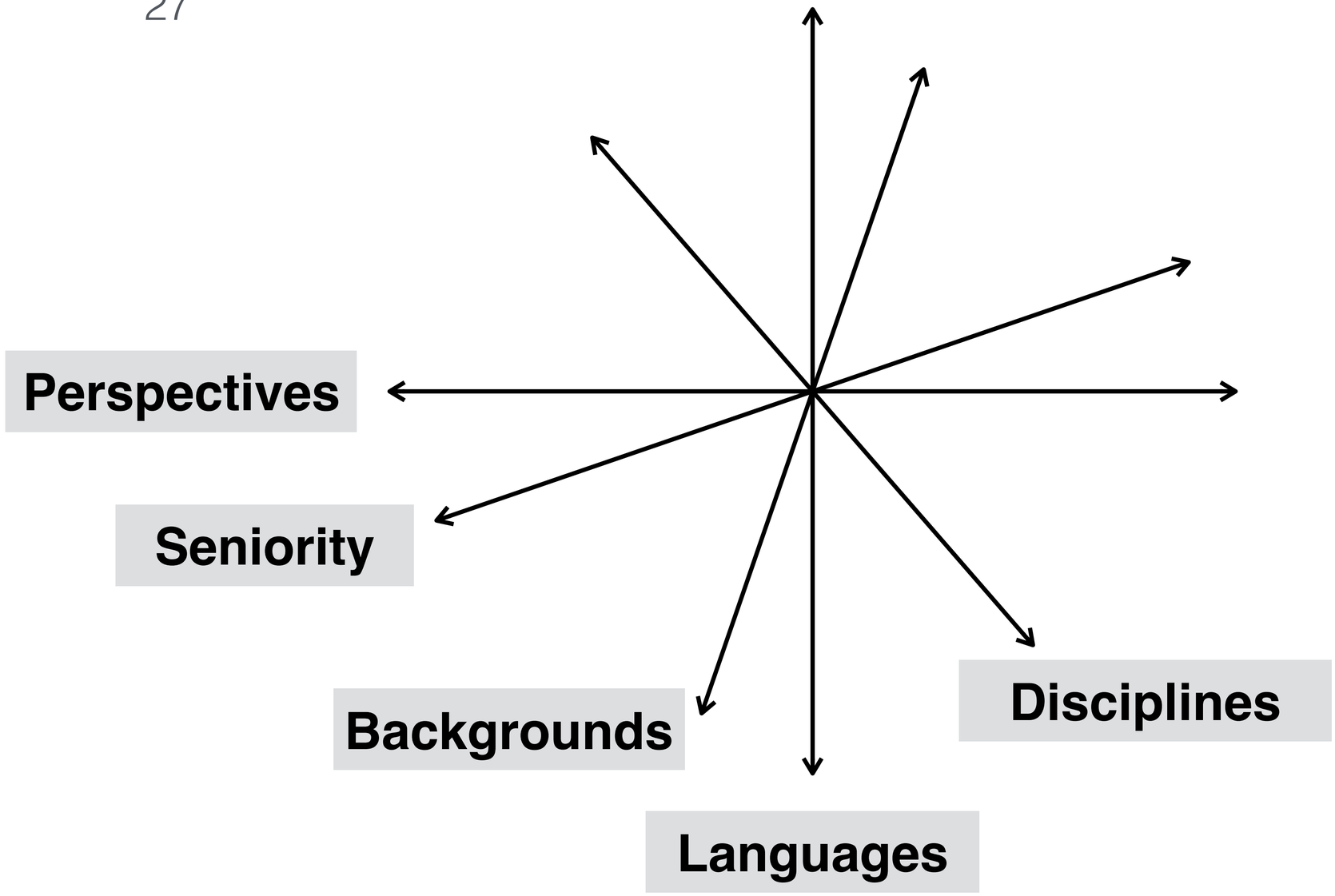
Mistakes Might Have Been Made

Common Blind Spots

Software Engineers
DLers
PhDs
Statisticians
Visualization Experts
Managers

Sampling
Rigorous Stats
Ship-It-ness
Unit Tests
Overfitting
P-hacking

Multiple-Objective Decision Analysis



How To Interview For The Best Intersections?

Tell me about your thesis/past project:

- **Can you teach me something about it?**
- **Whose ideas are you building on?**
- **Where does your idea/improvement start?**
- **Which ideas didn’t work out? Why?**
- **Who have you helped with this knowledge?**

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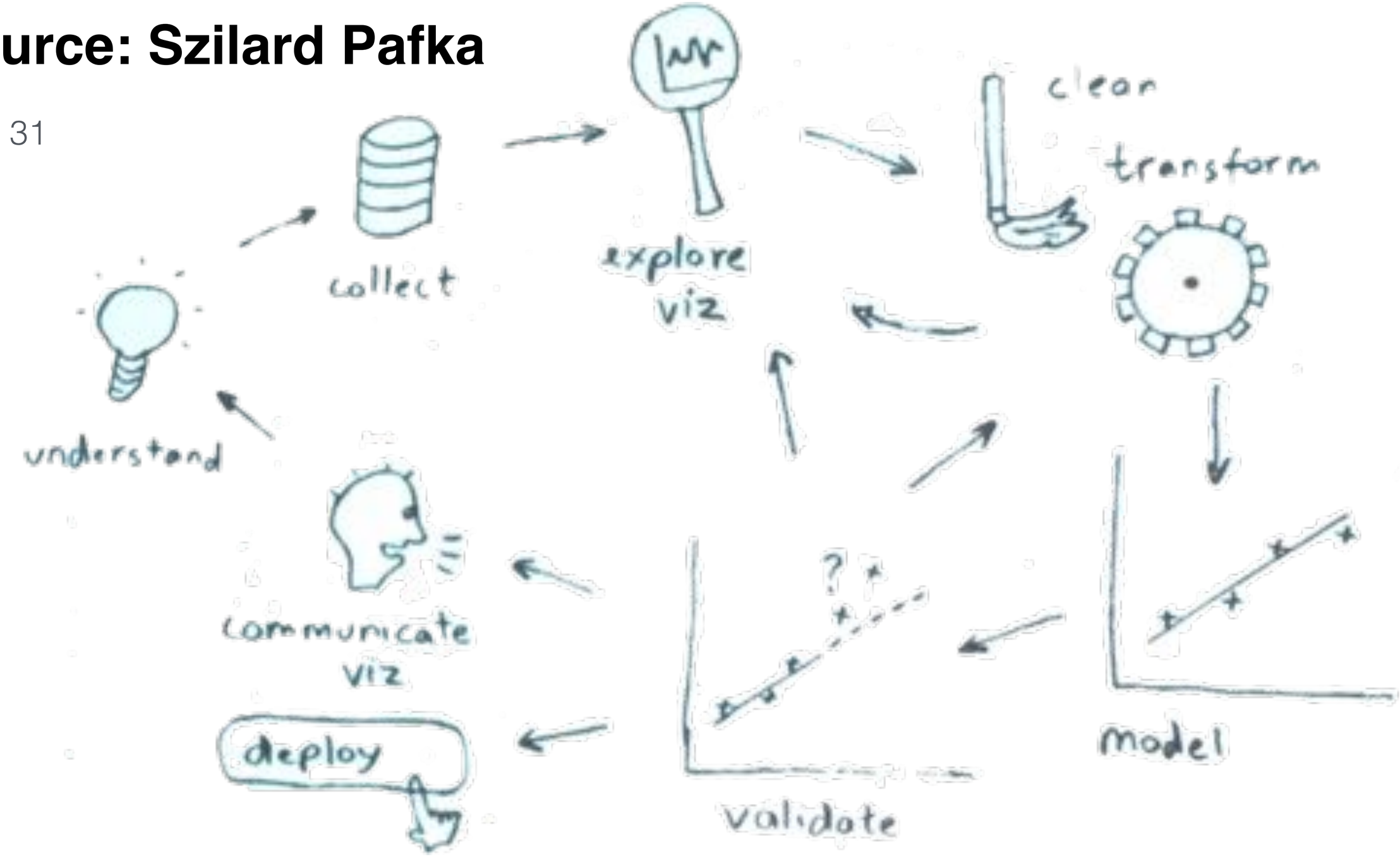
Proper Care And Maintenance Of Data Teams

Great! You Have An Awesome Team In Place.

Now What?

Source: Szilard Pafka



Collection

Quality

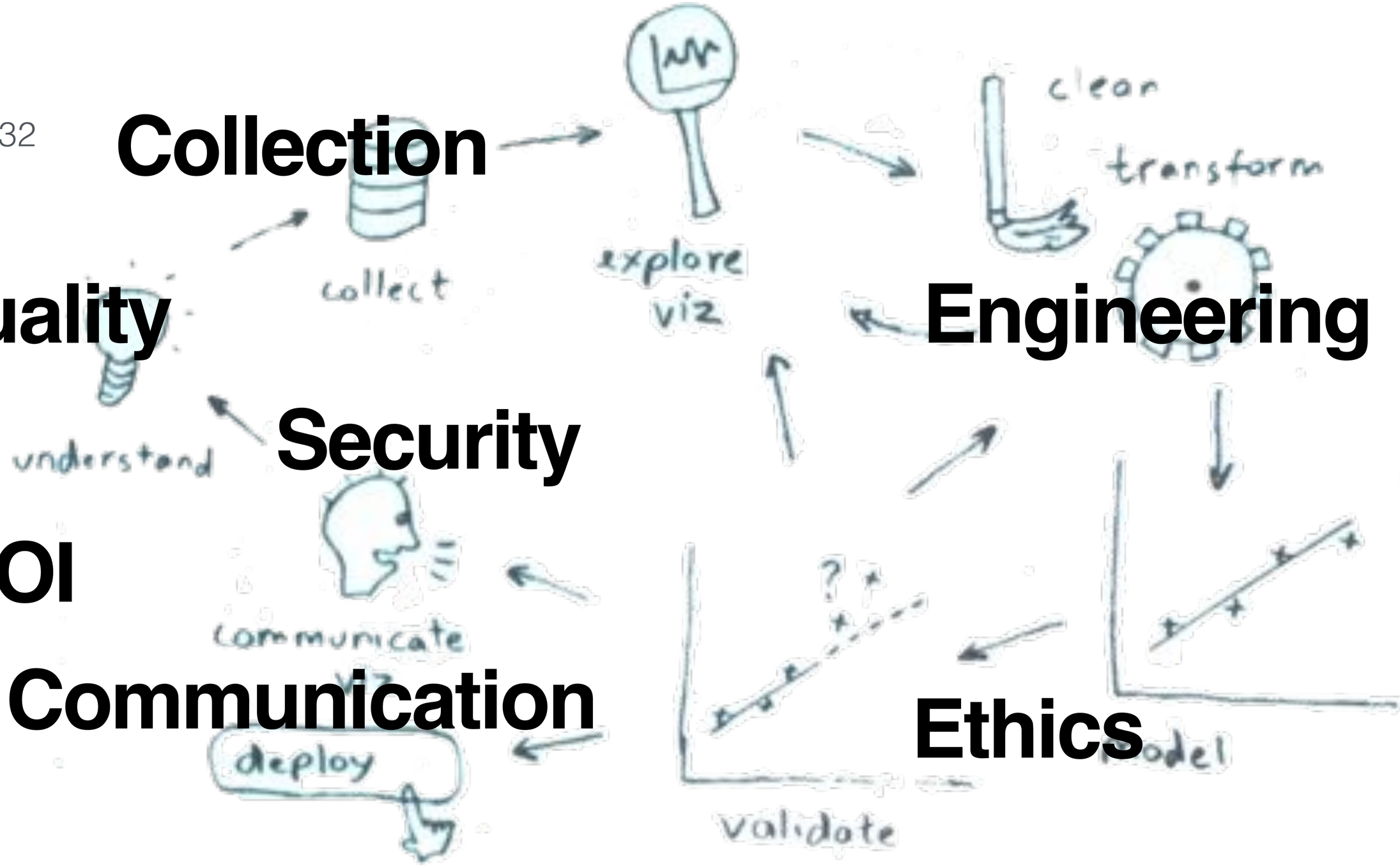
Security

ROI

Communication

Engineering

Ethics



Data Team's Responsibilities

- Data Quality
- Data Collection
- Data Engineering
- Data Security
- Data Ethics
- Data Communication
- Data ROI

Why Do You Have To Care?

(Because No One Has Cared About It This Way Until Now)

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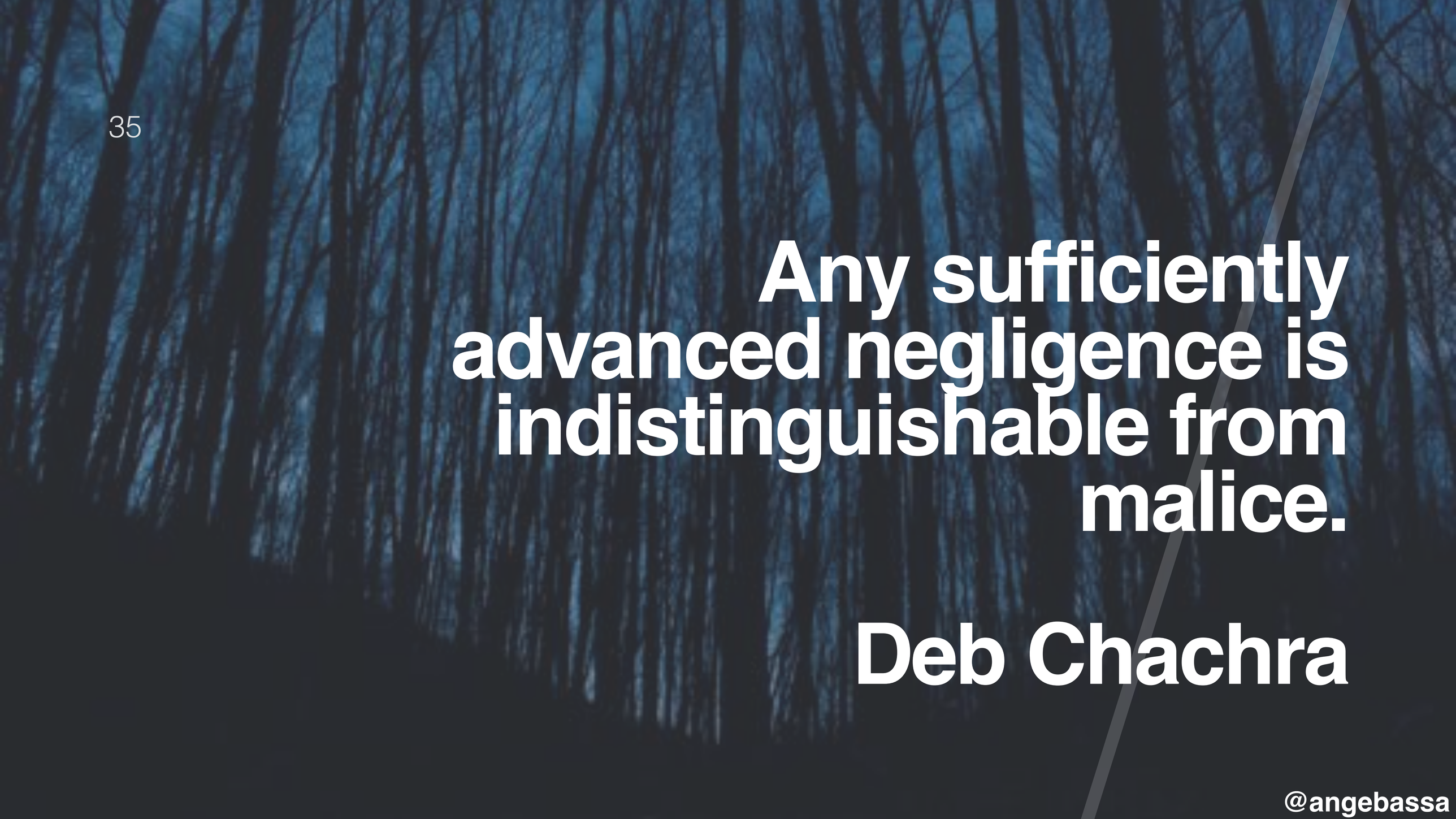


Any sufficiently advanced negligence is indistinguishable from malice.

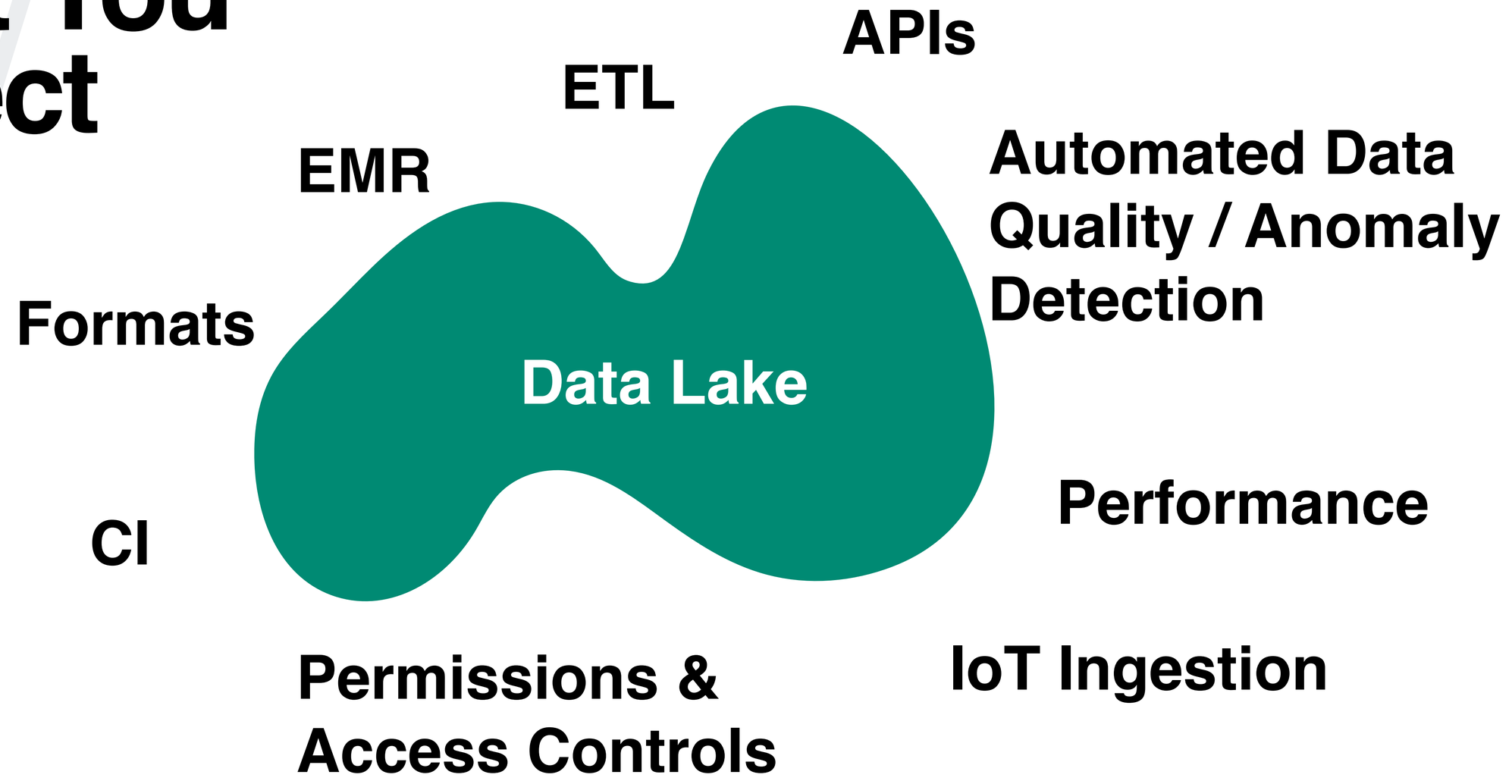
Deb Chachra

It’s Not That No One Cares

It’s That Non-Data Folks Unprepared To Care

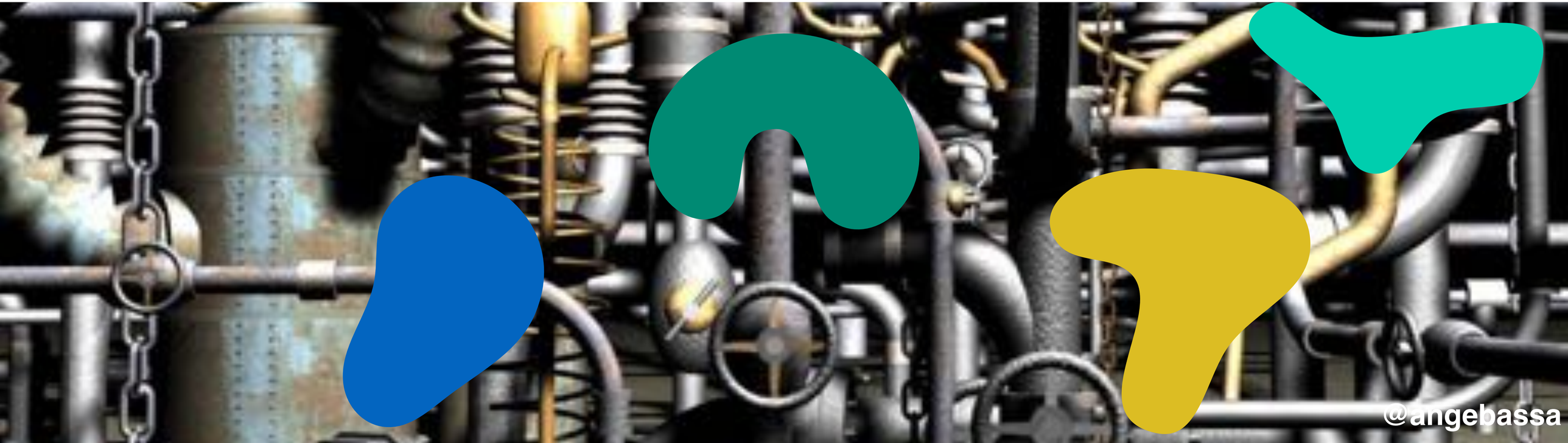
When Should You Start Caring?

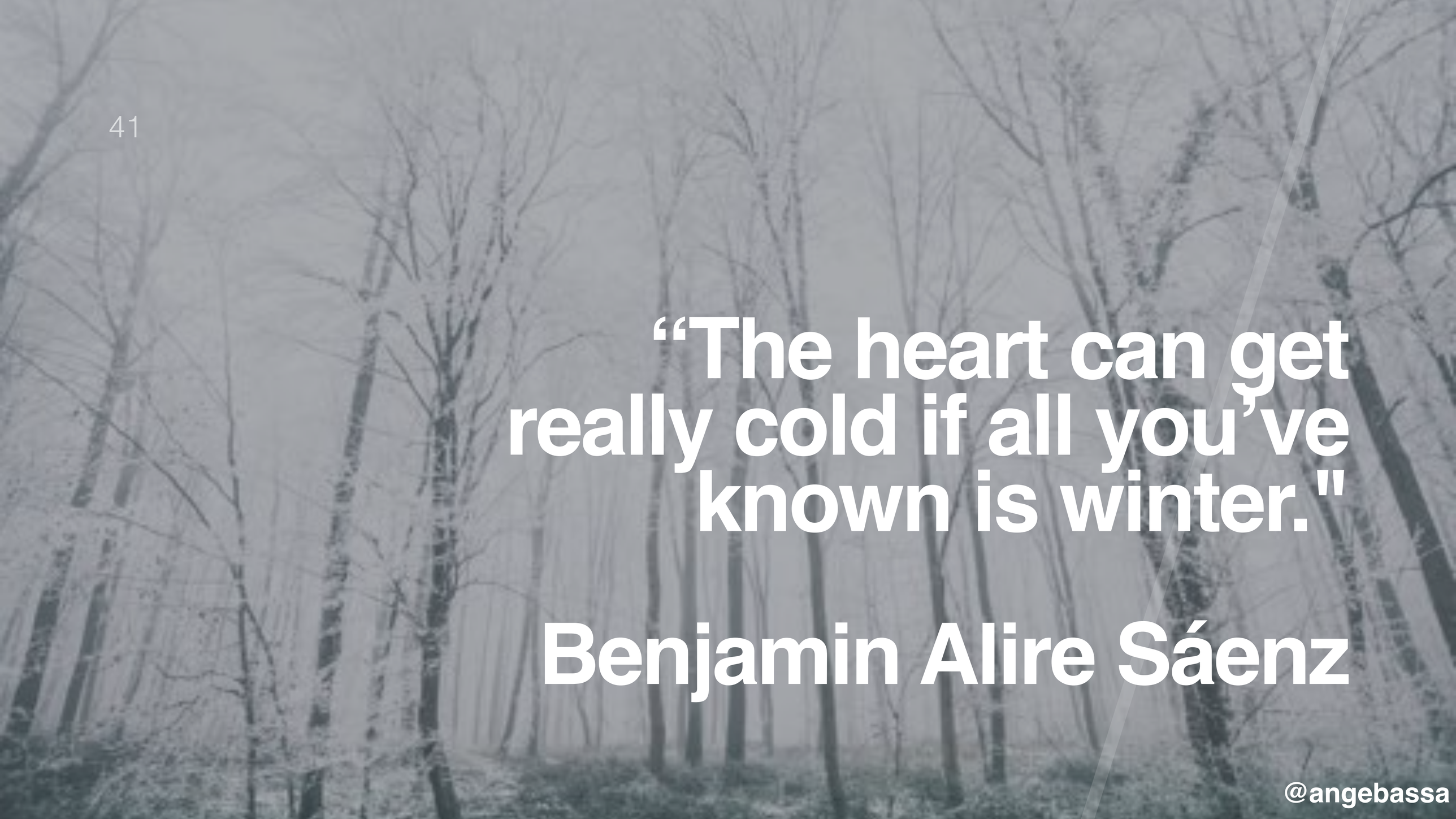
What You Expect



Mm-Hmm

What Actually Exists: A System Optimized For… Not-Analysis





“The heart can get really cold if all you’ve known is winter."

Benjamin Alire Sáenz

How To Care:

Leave Breadcrumbs

Imagine The Scene In Accounting

Documentation Is How You “Program” A Business

What Should You Document?

- Motivations for project/task
- Reasons to believe hypothesis
- Dead ends
- Paused projects
- Conjectures for next time (those gut feelz)
- *Meta-documentation:*
  - Taxonomies, Templates, and Heuristics
  - Rules of engagement (What gets stored where, who did what?)

What Will You Want To Know About The Data?

- In what format? — transformations, assumptions
- How fast? — volume, compression
- From whom? — chain of custody
- How trustworthy? — pre- and post-processing
- Where from? — performance, scale, access controls, speed

What Will You Want To Know About The Business?

- What does the business do? Really?
- How does it make money?
- How does it create value for customers?
- Who buys it? Who pays for it? Who are the competitors?
- What assumptions are baked in?
- Do you have enough data to validate these answers?

Having Junior Team Members Is A Great Forcing Function!

And We Come Full Circle: This Is Why You Build Your Teams This Way

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Thank You!
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