



Engaging Content  
Engaging People

# Semantic Schema Mapping for Interoperable Data-Exchange

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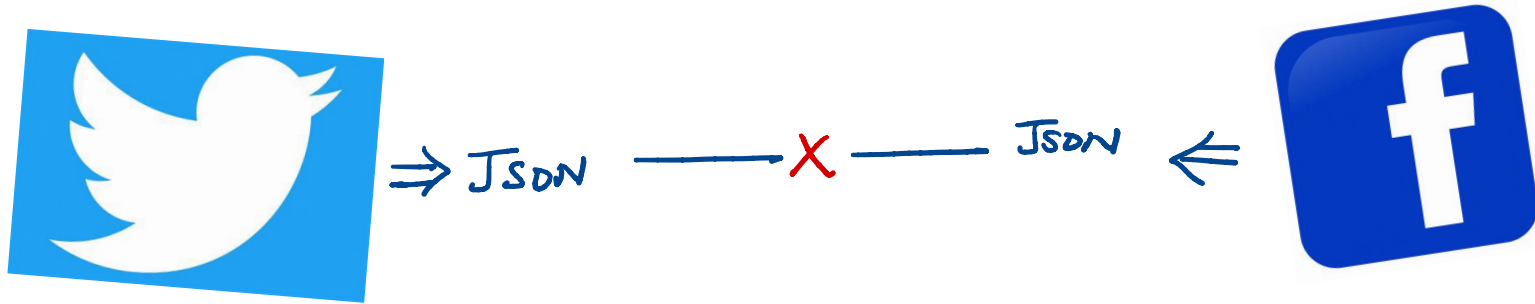
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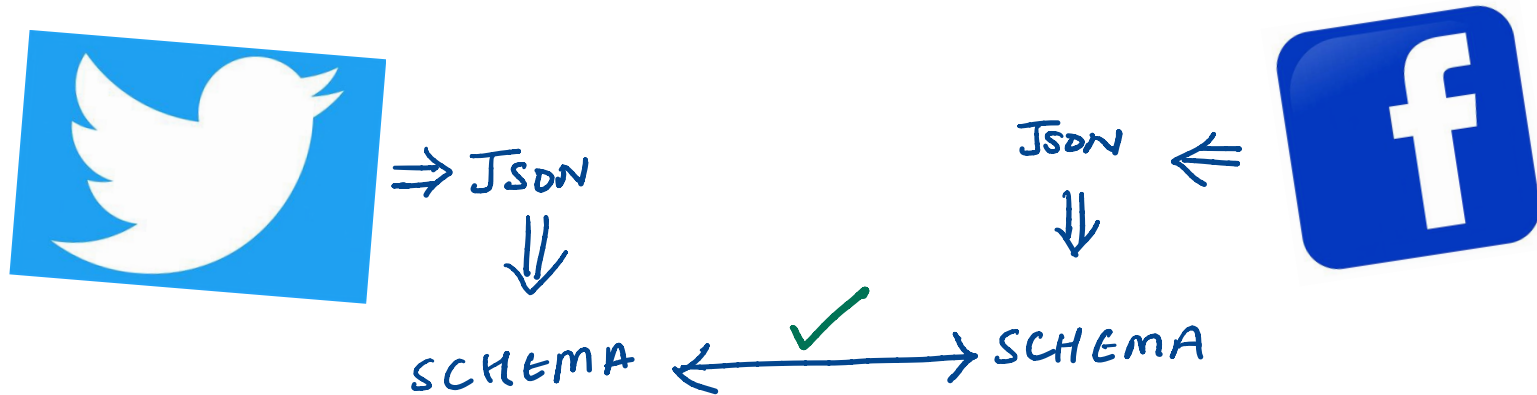
European Union  
European Regional  
Development Fund





Real-life datasets have NO or INCOMPATIBLE schemes

This prevents data interoperability.



To create data interoperability between services, we need interoperability between schemas

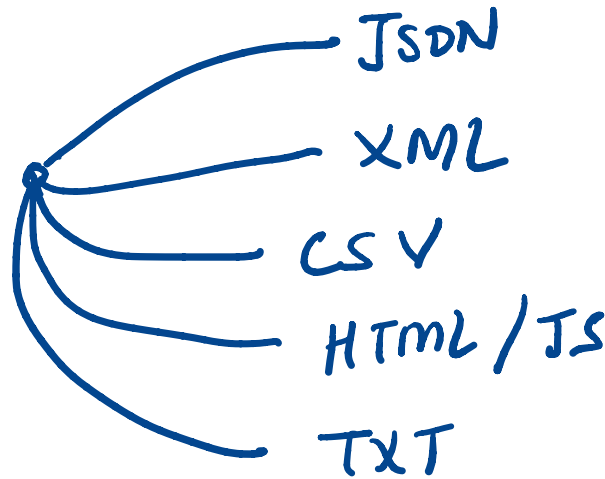
## ① Right to Data Portability (GDPR A.20)

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② Structured Commonly Used and

RDF ? ← Machine-Readable → XML  
JSON  
CSV

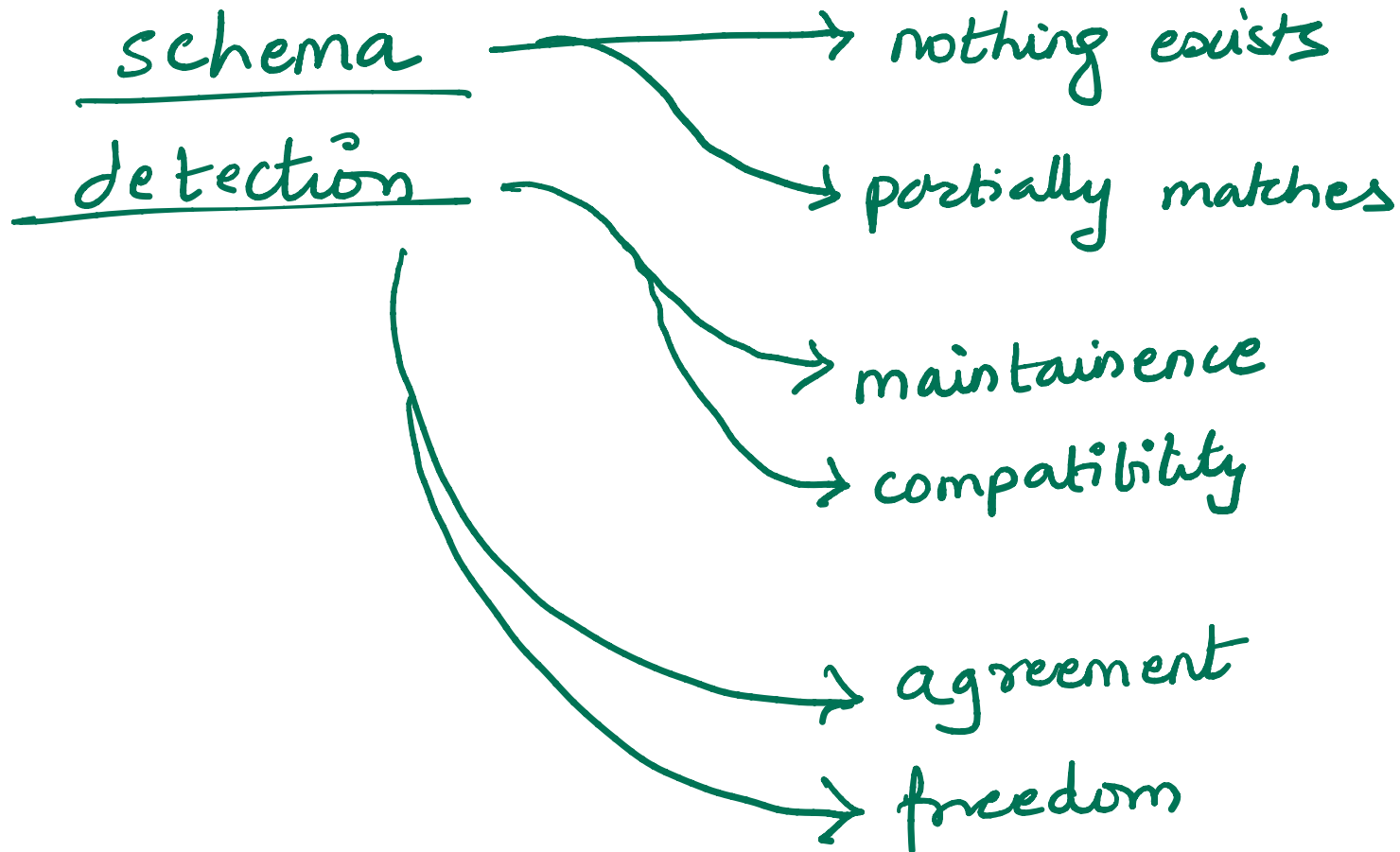
- ① Right to Data Portability (GDPR A.20)
- ② Structured Commonly Used and Machine-Readable  
RDF ? ← Machine-Readable → XML  
JSON  
CSV
- ③ Transfer from one Controller to Another  
✓ → standardisation? → schema negotiation?

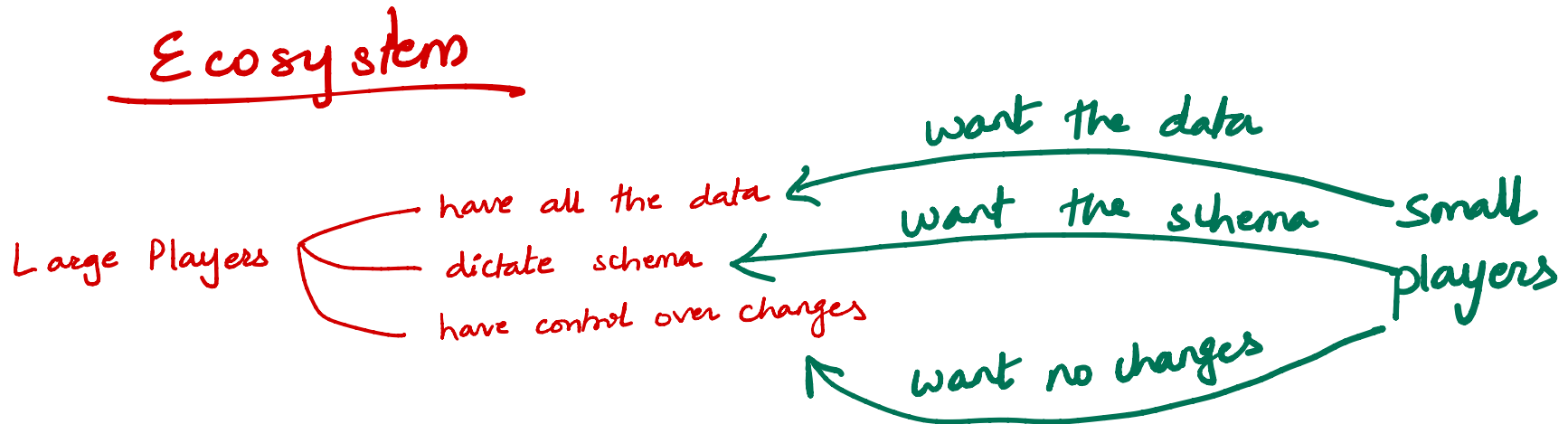


① no schema  
② has schema

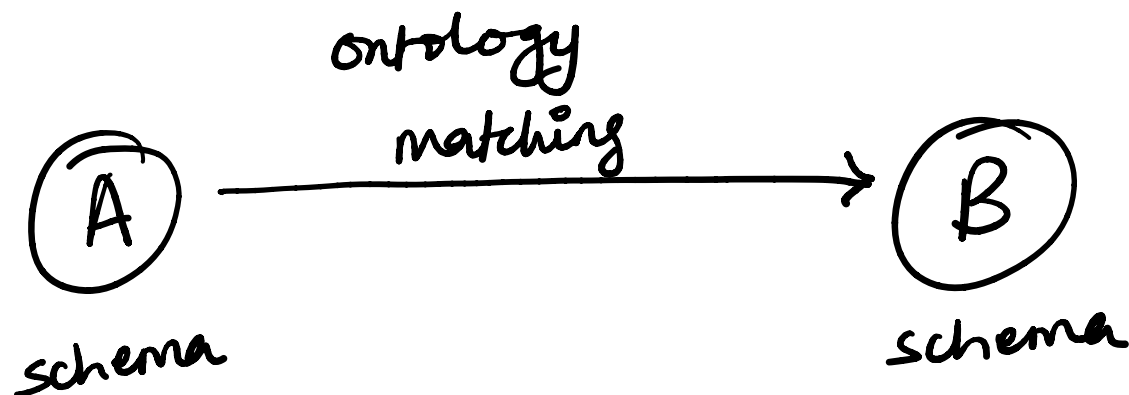
What is it?  
Who controls it?

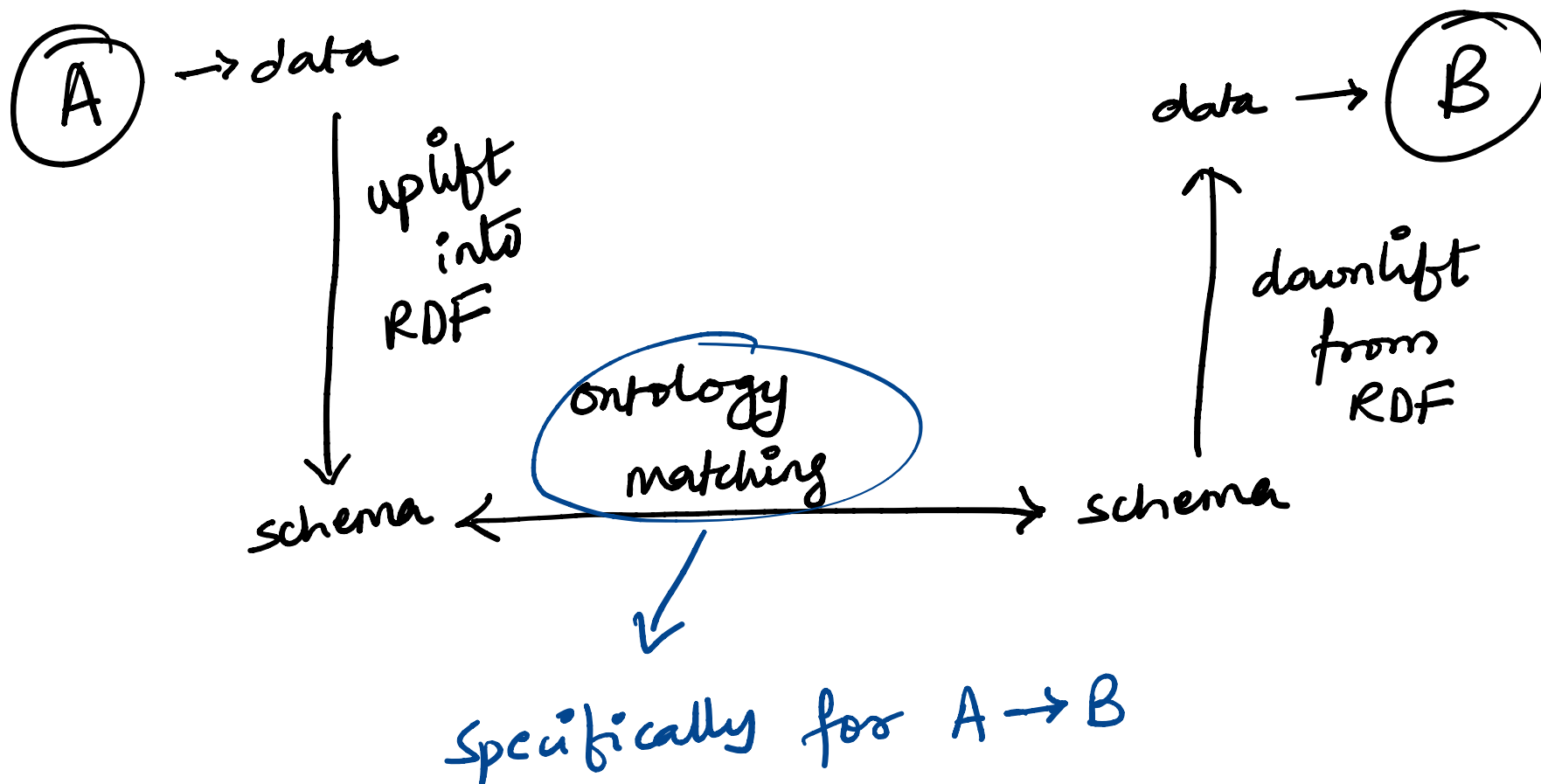
download  
data  
from some  
service

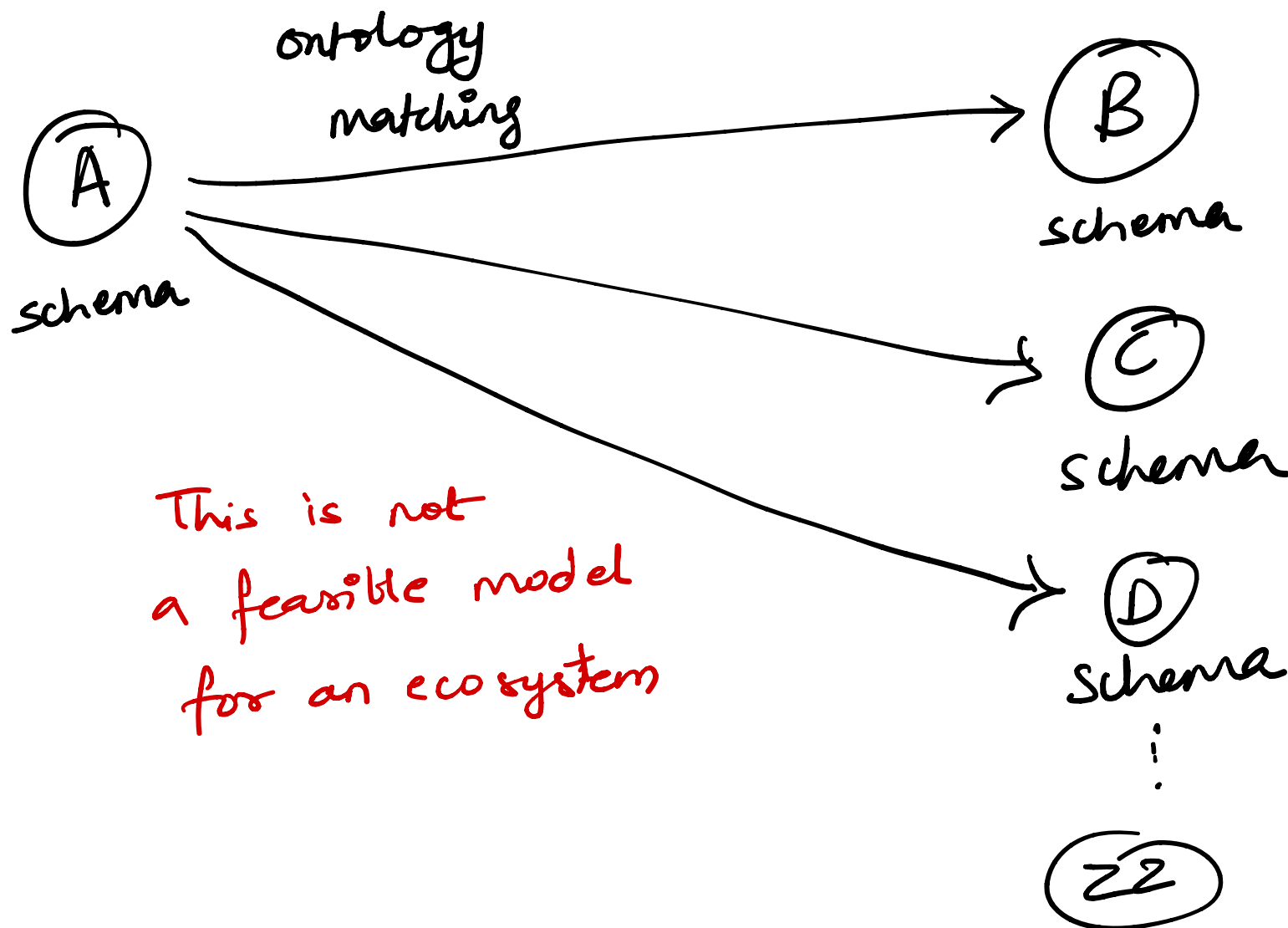


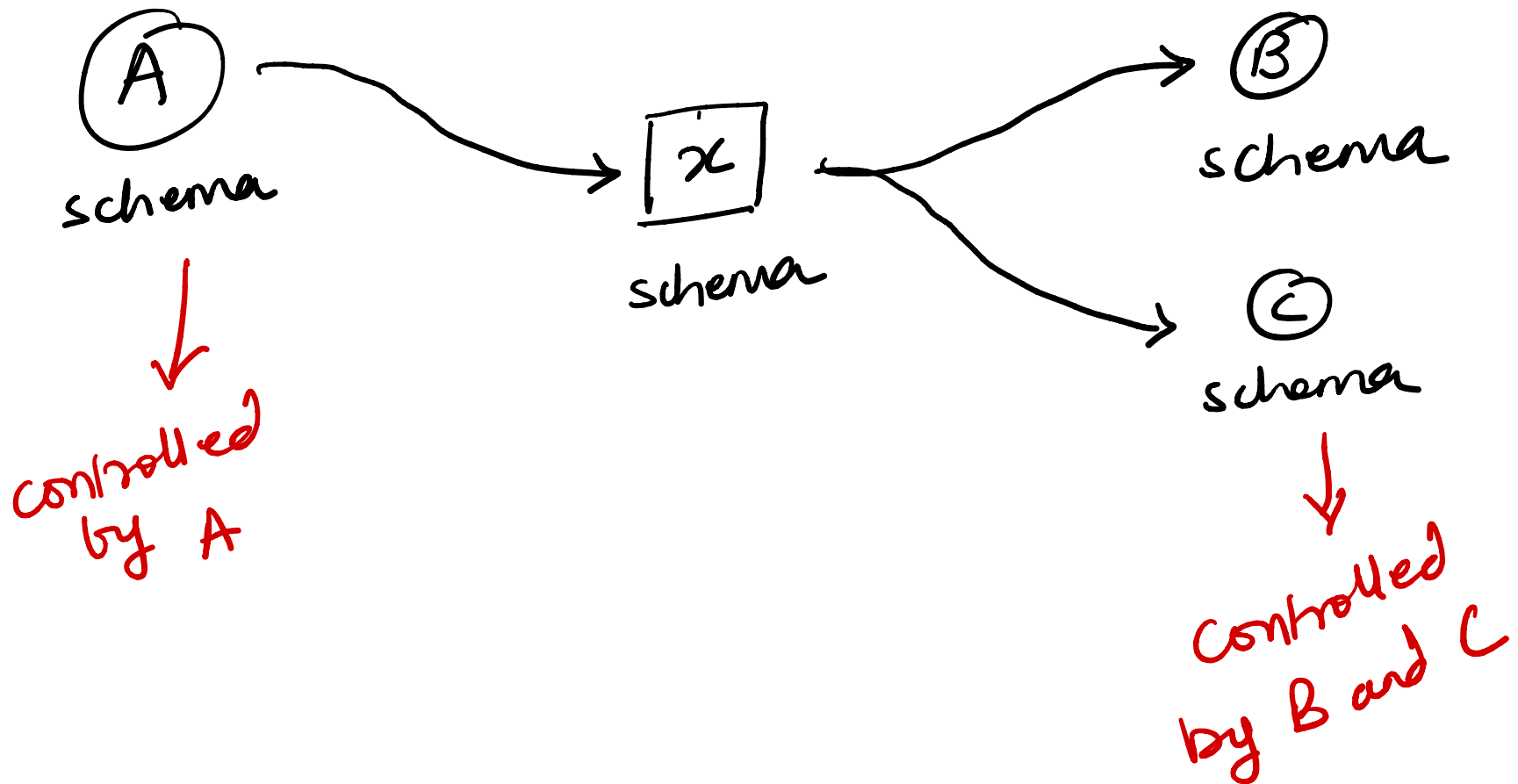


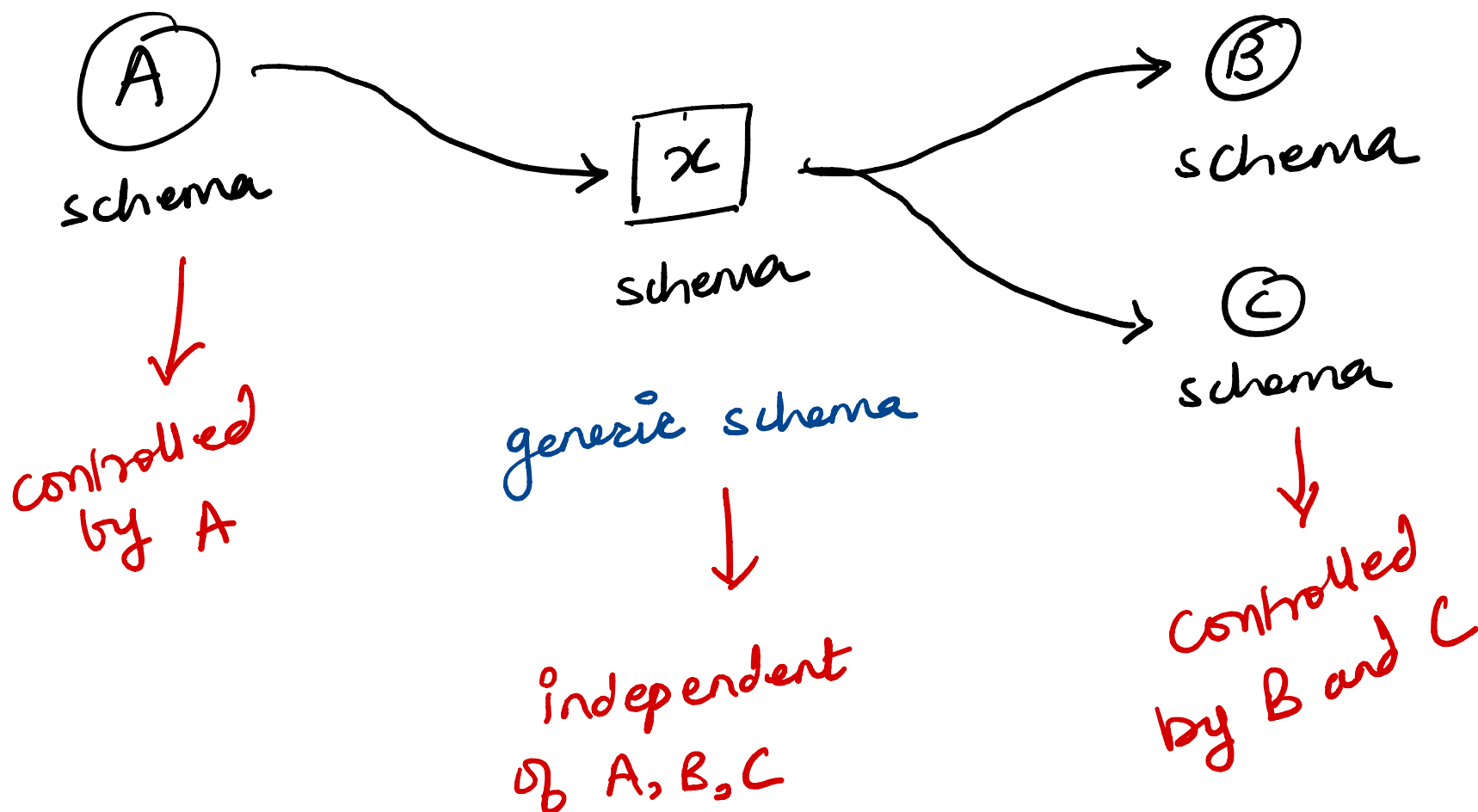
Reusability of data is skewed in favour of larger players and smaller players have to do a lot of work to even offer competitive services

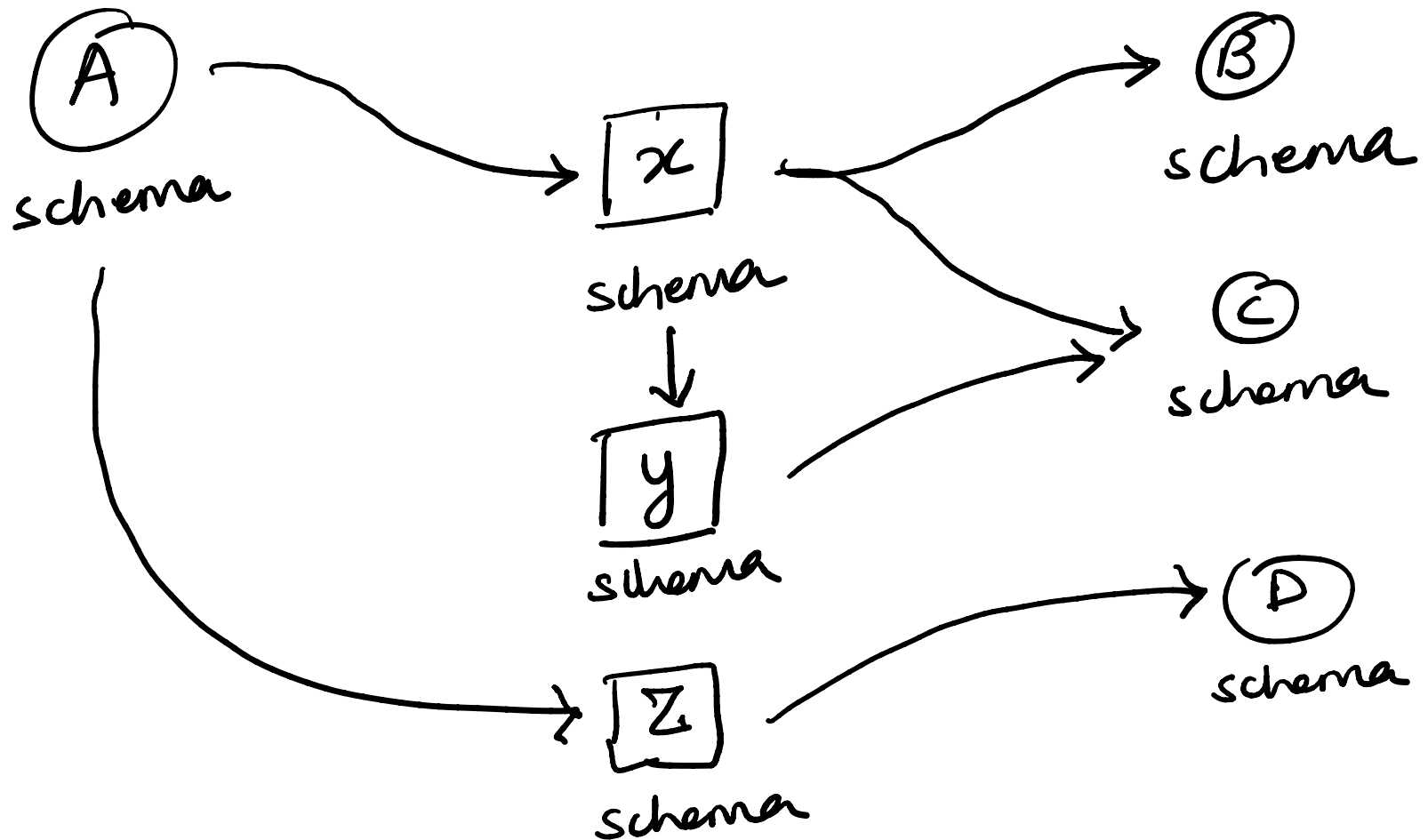


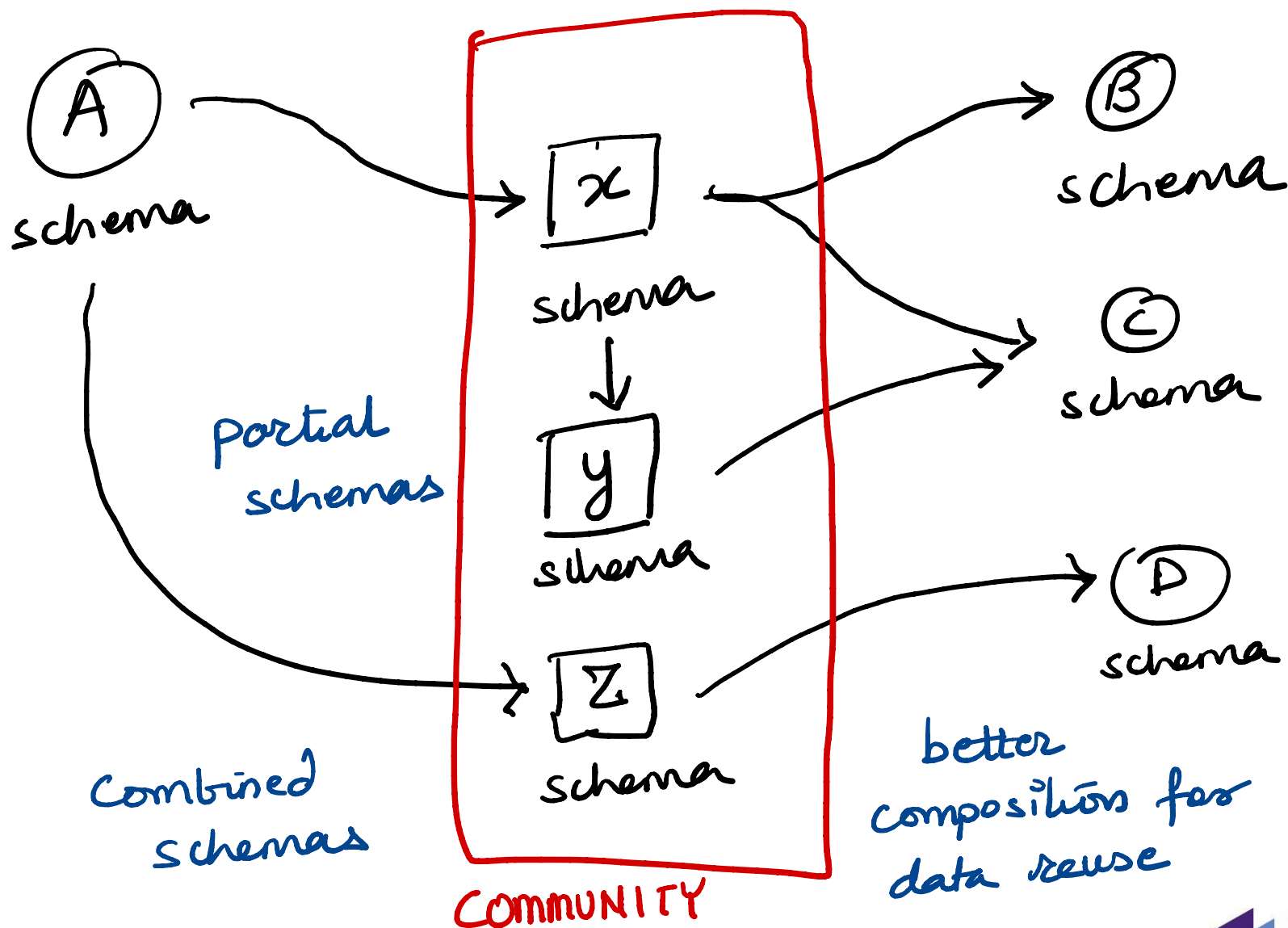


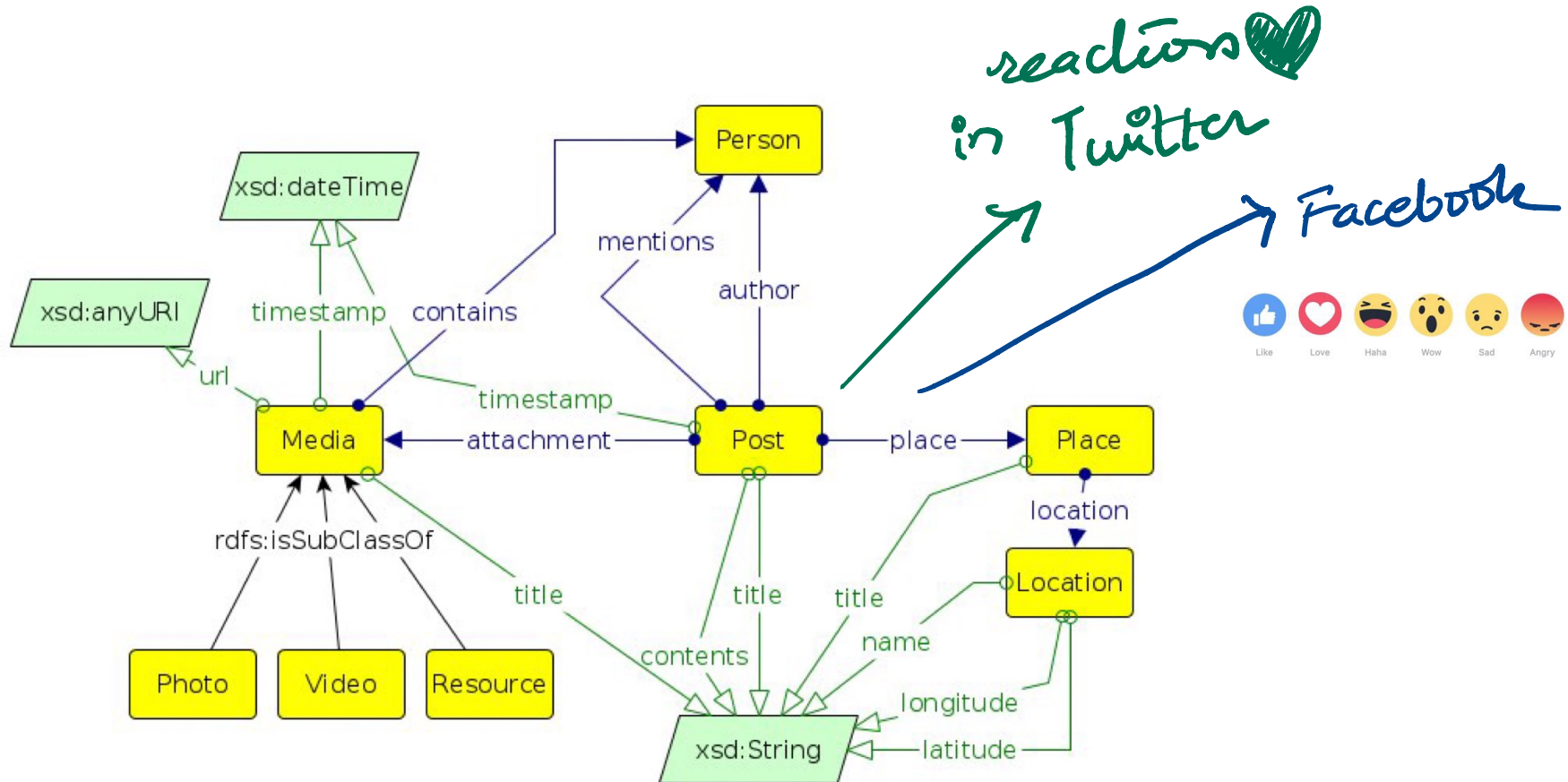












- ① schemas are open  
maintained by community
- ② remove points of control for data hoarding  
bottlenecks for innovation
- ③ reduce burden for data export / import  
reduce complexity of reuse
- ④ automate uplift / downlift / mapping

- NEW CHALLENGES  
FOR MATCHING / ALIGNMENTS
- APPLY SOTA TO REAL-WORLD
- SEMANTIC WEB TECHNOLOGIES  
ARE PERFECT FOR THIS!



CALVIN & HOBBS  
- BILL WATTERSON

- DATA PORTABILITY = MORE DATA  
= MORE SERVICES  
= INTEROPERABILITY
- SCHEMAS = MATCH  
= ALIGN  
= MAINTAIN
- DATA PIPELINES = UPLIFT / DOWNLIFT  
= CONVERSIONS