Stratified Data Integration

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Outline

• Motivation
• Stratification of Diversity
• Representing Diversity
• Stratified Data Integration - iTelos
• Evaluation
Motivation

Representation = Concepts + Language + Knowledge + Data

Semantic Heterogeneity - the existence of variance in the representation of the same real-world phenomenon, rooted in World Diversity.

Impediment in multilingual data integration from heterogeneous sources
Stratification of Diversity

We take *Representation Diversity* to mean semantic heterogeneity, as organized in the *four layers*:

- **Conceptual Diversity (L1)**
- **Language Diversity (L2)**
- **Knowledge Diversity (L4)**
- **Data Diversity (L5)**
Stratification of Diversity: *Advantages*

- Each layer models a different type of phenomenon and the corresponding type of diversity.
- Diversity which appears in one layer is *independent* of how it appears in any other layer.
- Within each layer, it is possible to exploit methods and techniques specialized just for that layer.
The Representation Diversity Architecture
Stratified Data Integration: iTelos
Evaluation

Knowledge and Data Integration (KDI) [https://unitn-kdi-2020.github.io/unitn-kdi-2020/]

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Thank You!

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