

# Simulating Human Associations with Linked Data

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## Introduction

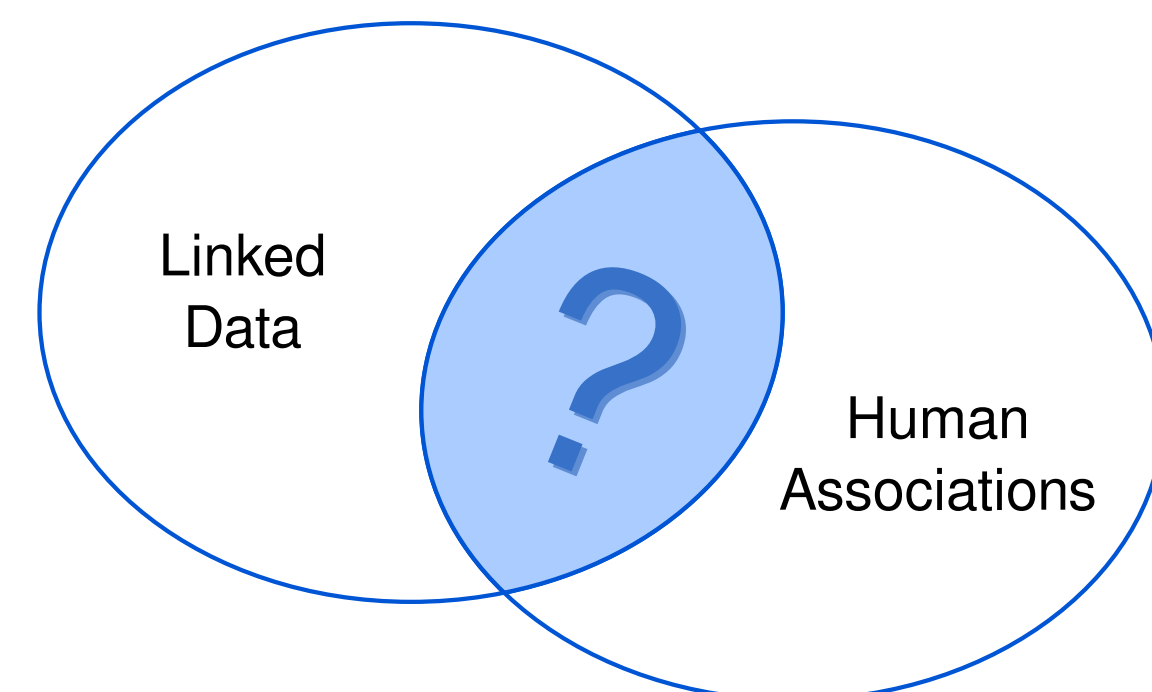
The Semantic Web with its ever growing amount of Linked Open Data represents the largest machine processible collection of knowledge ever seen. Nevertheless the advances of intelligent machines are still relatively small.

One of the largest problems with incorporating Knowledge from Linked Data into intelligent systems is the selection of relevant facts. Psychological research shows that humans make heavy use of associations to filter for relevant facts, reduce their search space and disambiguate.

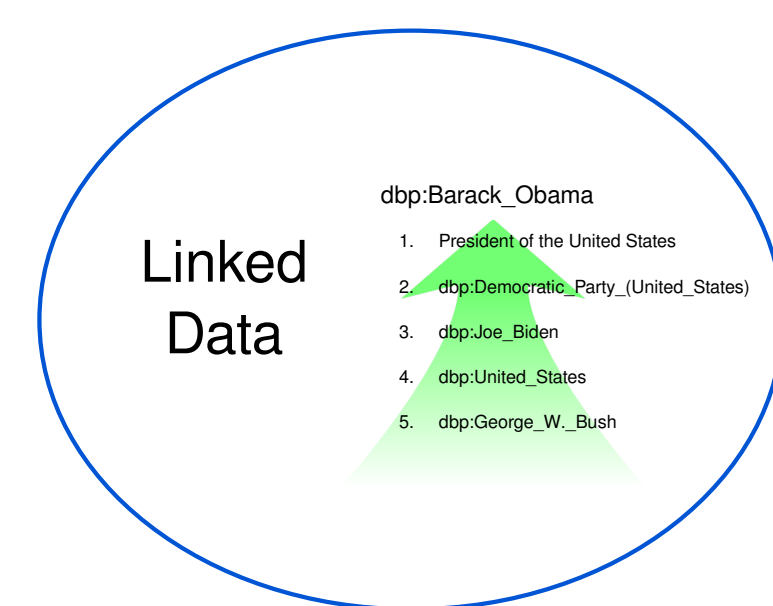
Hence it is tempting to investigate if we can simulate human associations based on Linked Data.

## Two questions

- Is Linked Data sufficient to cover human associations?



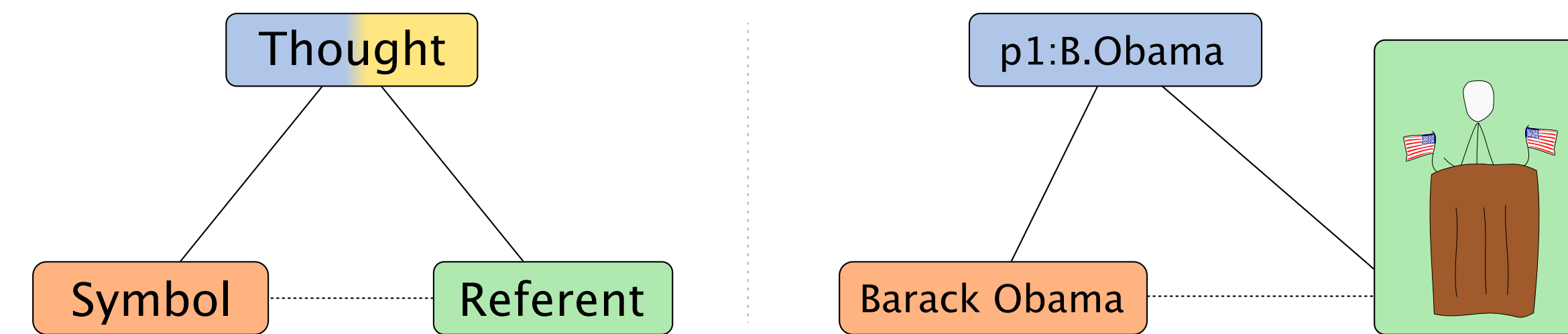
- How can human association strengths be simulated?



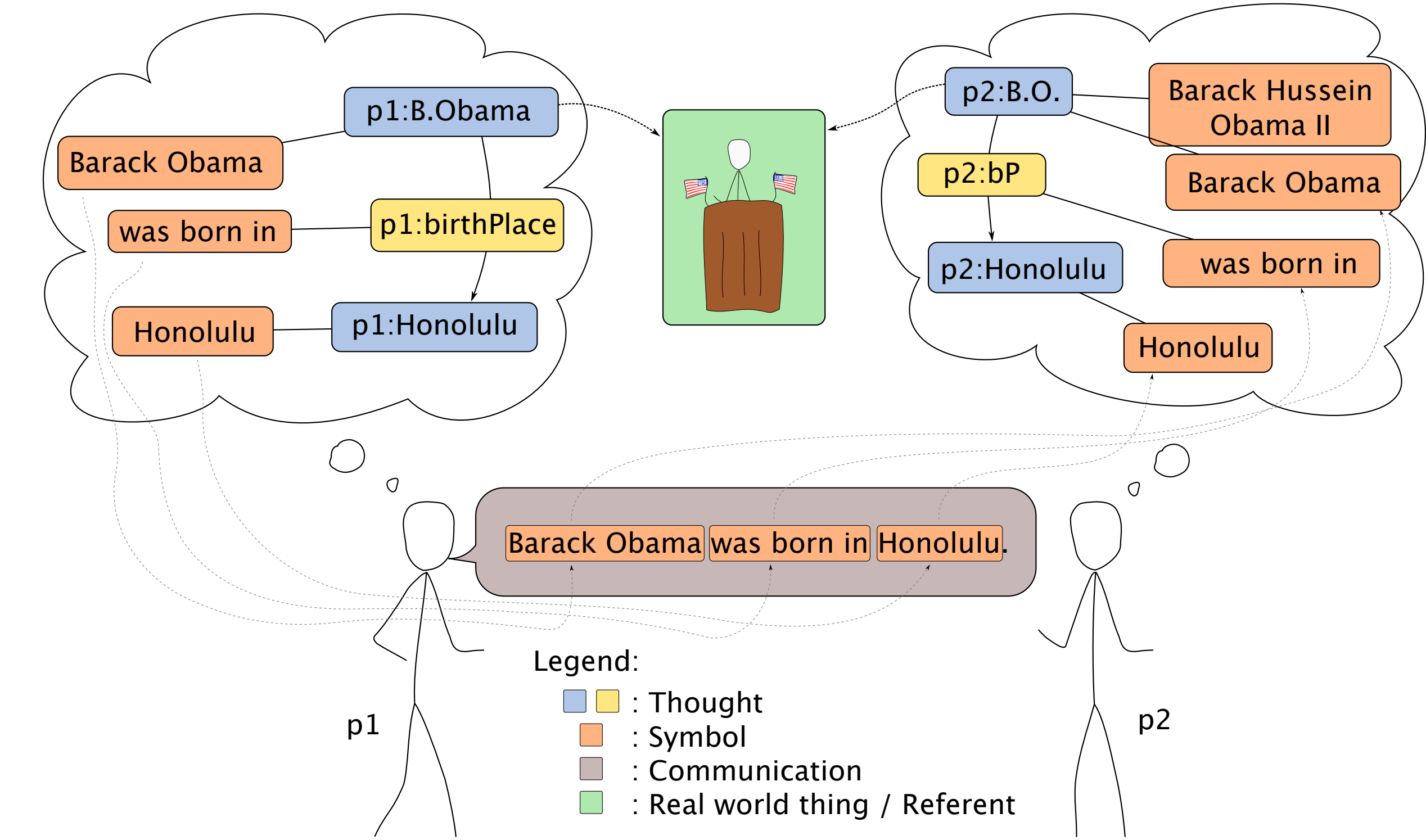
In order to answer both questions we need two large datasets for comparison with Linked Data. As the size of these datasets and the subjectivity of the requested data render traditional approaches infeasible, we present an idea for each of them in order to turn the data collection into games in line with Luis von Ahn's "Games with a purpose". von Ahn & Dabbish (2008)

## Human Communication

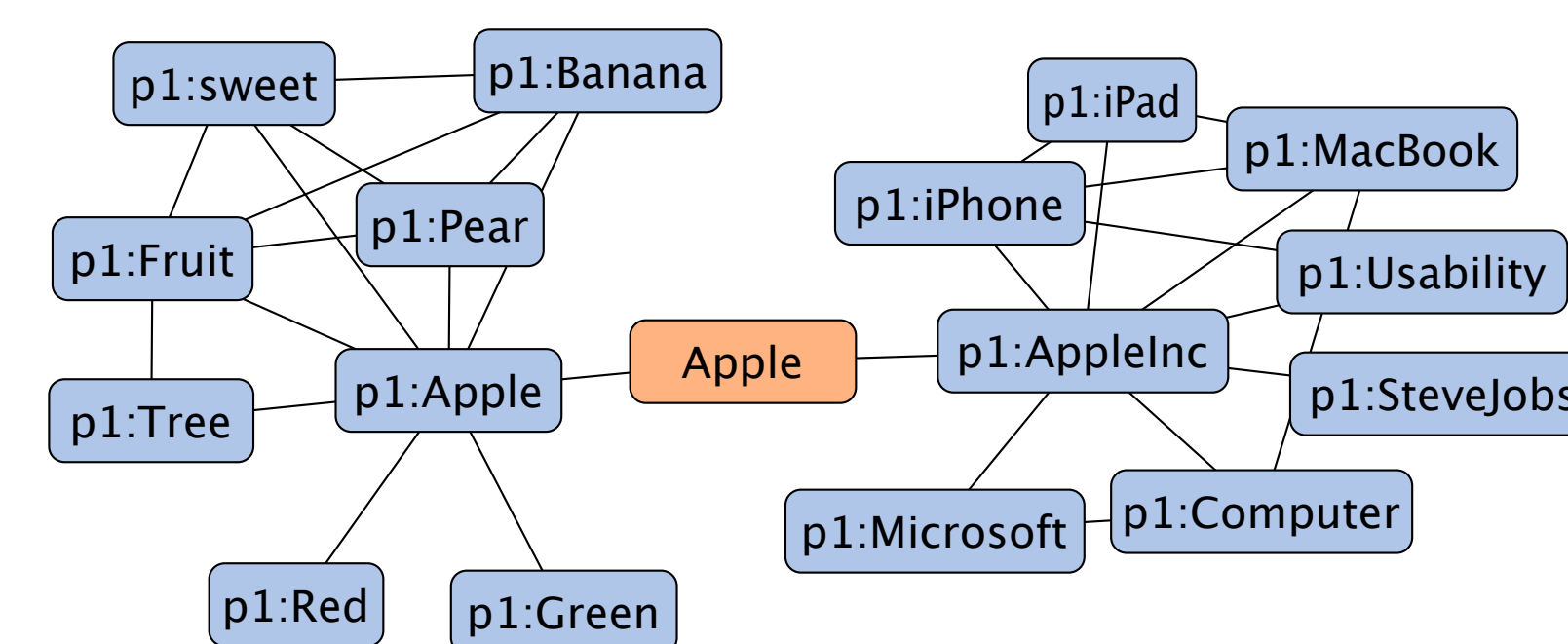
### The Semiotic Triangle



### The symbolic indirection in our communication Gerrig & Zimbardo (2010)



### Associations help us to find the right thing Collins & Loftus (1975)



## Context

Ongoing integration of associations generates our context

- Reduced search space
- Lookup of related thoughts
- Reasoning & Disambiguation

## Linked Data Games

### Associator

### BetterRelations

## References

L. von Ahn & L. Dabbish (2008): Designing games with a purpose. Communications of the ACM, 51 (8), 58-67.

A. M. Collins & E. F. Loftus (1975): A Spreading-Activation Theory of Semantic Processing. Psychological Review, 82 (6), 407-428.

R. J. Gerrig & P. G. Zimbardo (2010): Psychology and Life. Allyn & Bacon, Pearson. 19th edition.