Models and Domains

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- or modeling for purposes of keeping track of information.

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- Tonight I'll introduce you to a diagrammatic notation that we'll come back to in later presentations.

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- Consider three categories of things we might believe are real: physical things, abstract things, and social things (Ferraris, 2011; Jubien, 1997).

Physical things

Physical things exist in space and time: if they exist, then there is some place and time where we can find them. Examples include:

- the particular chair you're sitting in right now,

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Physical things exist in space and time: if they exist, then there is some place and time where we can find them. Examples include:

- the particular chair you're sitting in right now,
- particular sound waves reaching your ears at this moment,
- the electric current circulating through wires in this room,
- the seat back that is part of your chair
- any specific atomic particle from which the chair is composed.

Social things

Social things exist in time, but not in space. Examples include:

- my marriage,

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- the mortgage on my house,
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- the University of Illinois School of Information Sciences.

Abstract things

Abstract things are not found in the physical universe. They don't come into existence, nor are they destroyed or modified. Examples include:

- The number eleven,

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- The property of being red,
- the proposition that I am employed by the University if Illinois,
- the relationship "employed by the University of Illinois,"
- the state of affairs "Dave's being employed by the University of Illinois."

Properties

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- soluble
- "having been a female US President before 1997"

Relationships

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- the "betweenness" relationship that can obtain physical objects in space;
- the instantiation relationship that can link a property to a particular thing that exemplifies the property;

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- In models such as RDF, these relational properties can only obtain between exactly two individuals (binary relationships only).

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- Propositions are language-independent entities. You can think of them as the information content of simple declarative sentences.
- The Platonistic conception of propositions has them outside of time and space.
- So a proposition is not in your mind: it's the kind of thing with respect to which you can stand in a relationship such as belief or desire.

States of Affairs

- Maria E. Reicher (2009) characterizes the "standard conception" of states of affairs as: "complex entities, consisting of particulars, (universal) properties and relations, such that an atomic state of affairs is a particular's exemplifying a property (or one or more particulars' exemplifying a relation)."

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- States of affairs are the parts of reality responsible for making propositions true or false.

State of affairs diagram

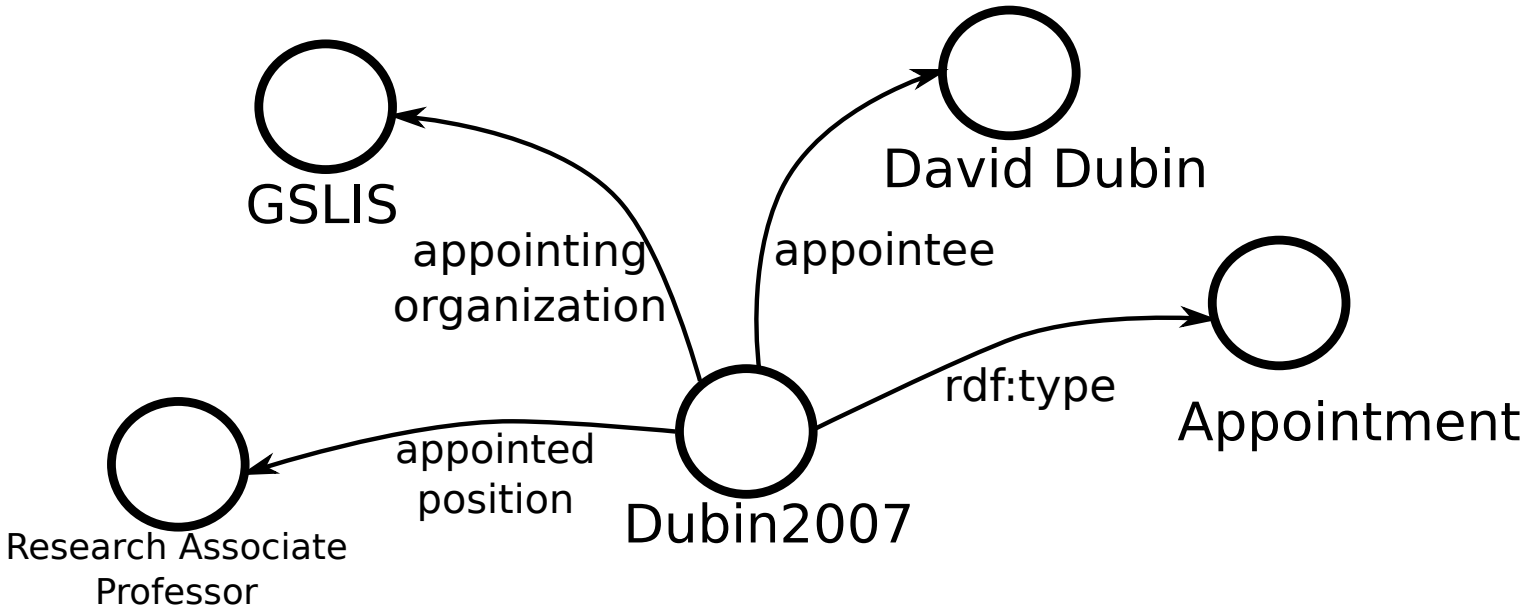

Figure 1: Dave's being employed by the University of Illinois

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Further Reading

Ferraris, M. (2011). Social Ontology and Documentality. In G. Sartor, P. Casanovas, M. Biasiotti, & M. Fernández-Barrera (Eds.), *Approaches to Legal Ontologies: Theories, Domains, Methodologies* (pp. 83–97). Dordrecht: Springer.

Jubien, M. (1997). Platonism. In *Contemporary Metaphysics: An Introduction* (pp. 36–62). Cambridge MA: Blackwell.

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