Context in Abstract Role Models and in the General Formal Ontology

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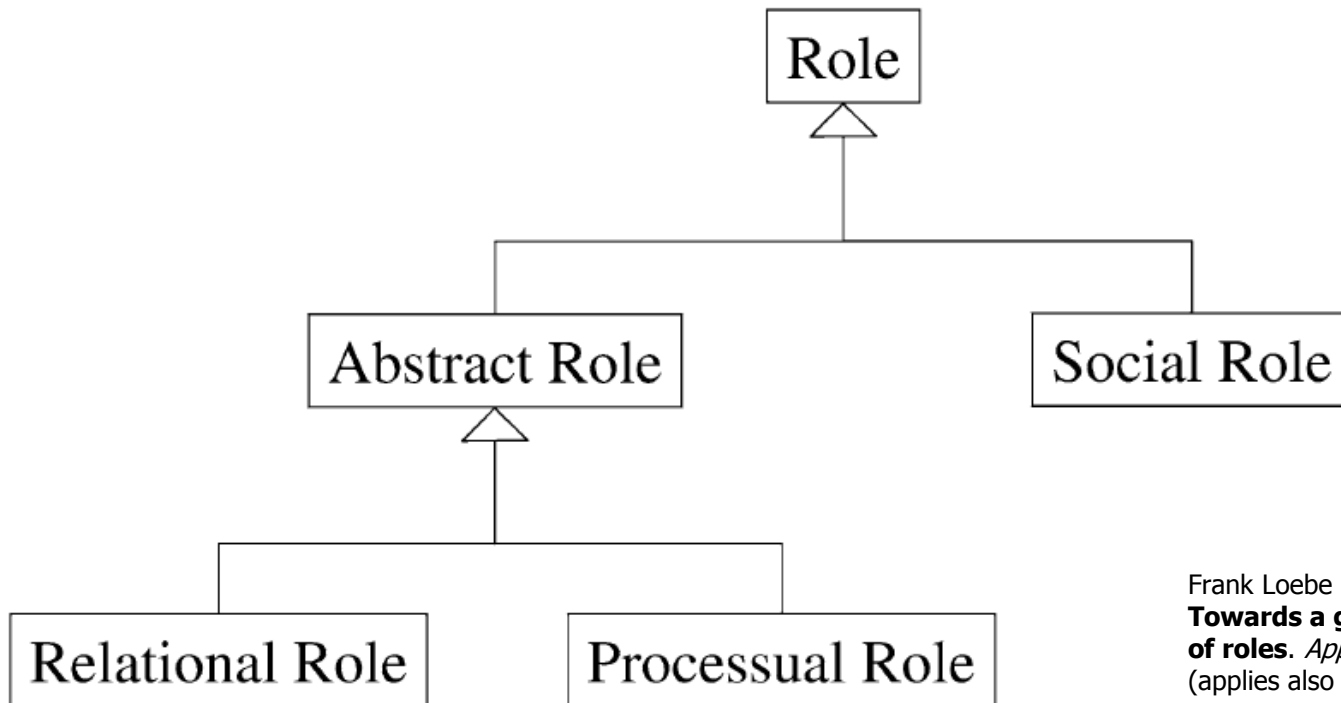
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Upper Ontologies for Specifying Context – Session 1

Motivation

- upper ontology perspective: General Formal Ontology (GFO)

- two earlier connections to context

  - one originating from the medical domain:
    context as something that determines manifestations and views

    - e.g. a specific hospital may adapt regulations
      (Good Clinical Practice (GCP), Standard Operating Procedures (SOPs))

    - e.g. definition of view for a model for data dictionaries
      „A view is a projection of the base model which contains only the content relevant in the current situative context."

  - one originating from analyzing the notion of ‚role'

    - trying to cover examples …
      e.g. student, customer, participant, breather, ‚that which is above'

    - … and literature (e.g. modeling and programming, theta roles (lin-guistics), role theory (social sciences), philosophy)

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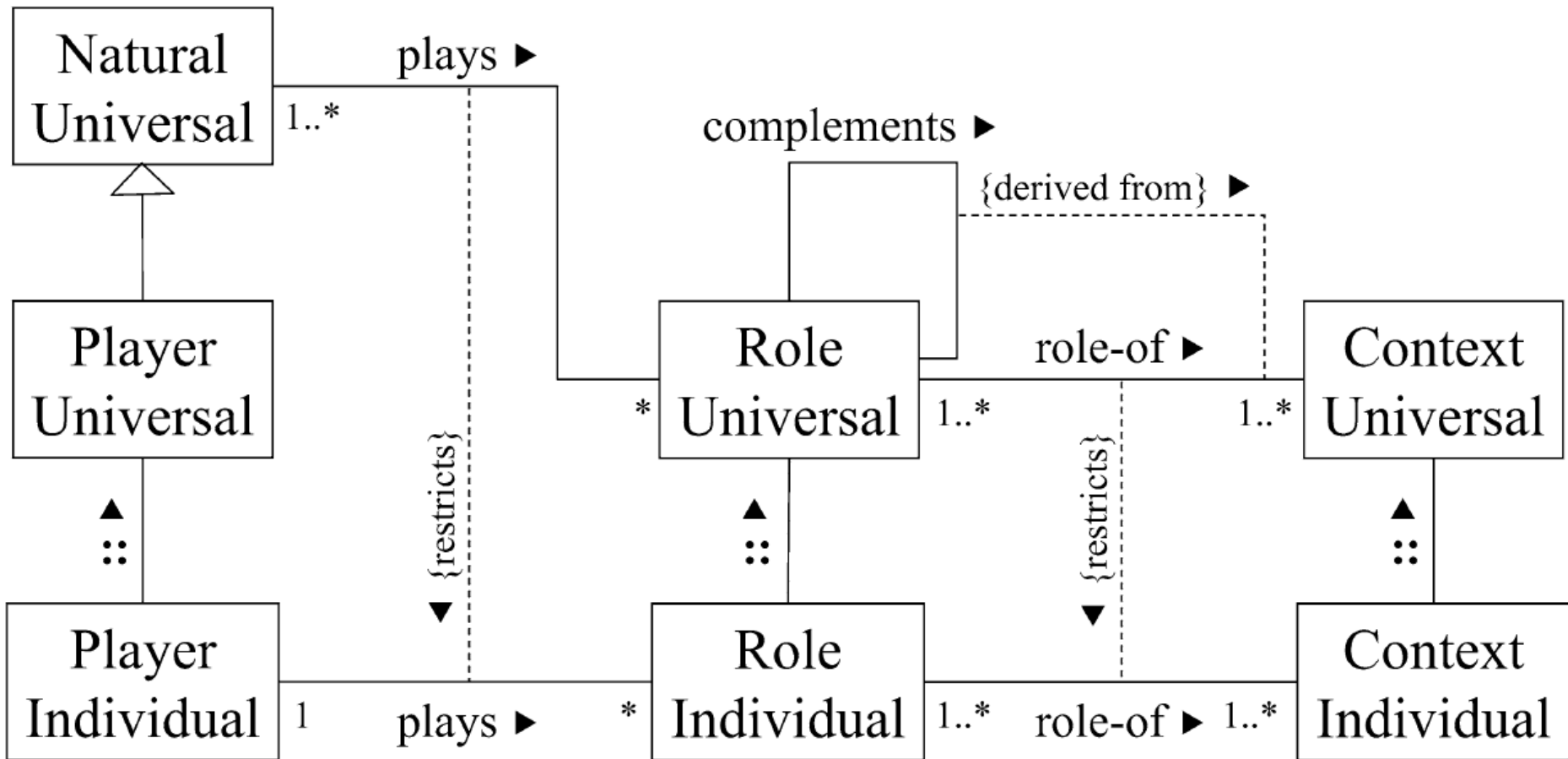
Abstract Role Model

Frank Loebe (2007). **Abstract vs. social roles – Towards a general theoretical account of roles**. *Applied Ontology* 2(2):127–158. (applies also to the next 2 slides)

Brief Characterization of Role Types

- **relational role**   context: relation
  - the way in which an argument/entity is involved in a relation

- **processual role**   context: process
  - the manner in which a single participant behaves in a process
  - a „participant-wise slice" of a process

- **social role**   context: social object/context (*less clear*)
  - the involvement of a social object within some society/social context

Extended Role Model
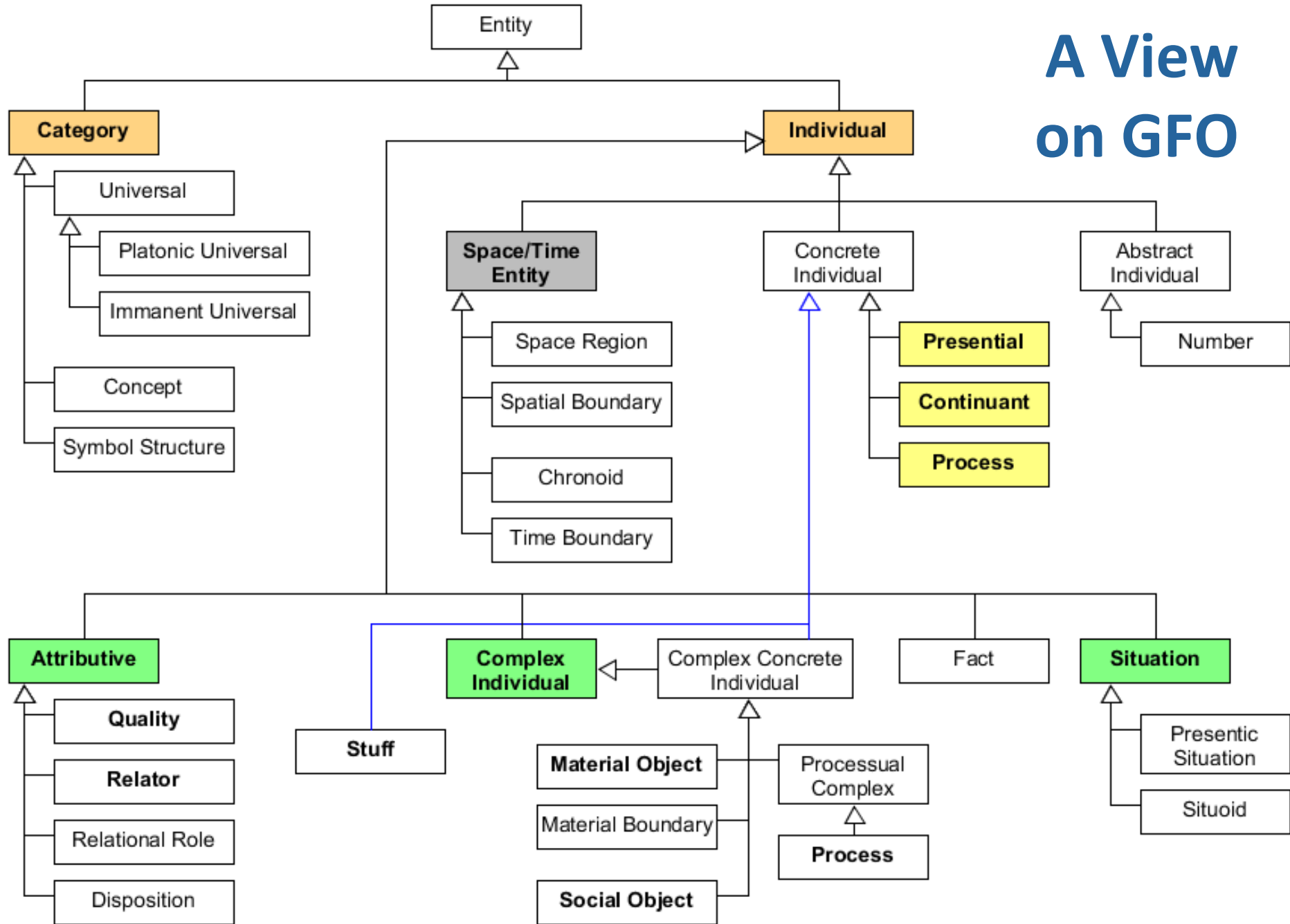
Comments on the Role Model

Note:

- same terminology is used in YAMATO

- reminiscient of „X counts as Y in context C" in Searle's „The Construction of Social Reality"

- Player and Context in this model are themselves roles (no general claim about ‚context' as such)
  → only Role and three specific subcategories adopted **for GFO**

GFO Sources

- **website:**   http://www.onto-med.de/ontologies/gfo/

- GFO **survey chapter** in TAO handbook (2010)
  Herre (2010), General Formal Ontology (GFO): A Foundational Ontology for Conceptual Modelling, In: Poli, Healy, Kameas, *Theory and Applications of Ontology: Computer Applications*, ch.14, p.297-345, Springer.

- GFO **reports** (2006, 2007)
  Herre, Heller, Burek, Hoehndorf, Loebe & Michalek. 2006, General Formal Ontology (GFO): A Foundational Ontology Integrating Objects and Processes. Part I: Basic Principles (Version 1.0). Onto-Med Report, Nr. 8. University of Leipzig. (2007, version 1.0.1, draft)

- thematically focused works, e.g.
  - Time (2012, 2014); Space (2011, 2016)
  - Functions (2006, 2009, 2016); Roles (2003, 2005, 2007)
  - Situations (2004)
  - Causality (2009), Mereology (2010)

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A View on GFO

WHAT IS ‚CONTEXT‘?

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Initial Thoughts on Context

- usually a context is a context **of** something   or something is **in** a context

- this suggests that ‚context' is a role (term)
  - i.e., no genuine contexts; being a context only relative to other entities
  - one option: as relational role   context: ‚context-of' relation

- potential player categories
  - situations, text pieces, theories, social rules/conventions, …

- additional aspects
  - contexts seem to have an impact on contextualized entities (though in various ways)

Thank you!

time for discussion