CAMPaM Barbados, April 20-26, 2008

Modeling & Simulation : foundations and advanced concepts

- **Focus is on the DEVS paradigm**
  - **towards a more complete formal M&S framework**
  - **identification and formal specification**
- **Combined with formal methods**
  - **symbolic reasoning (reuse, composability, trace analysis, V&V…)**
  - **automated/assisted code synthesis**
- **And on the optimization of simulation techniques and user interface**
  - **simulation algorithms**
  - **middleware (interoperability, high/low level specification…)**

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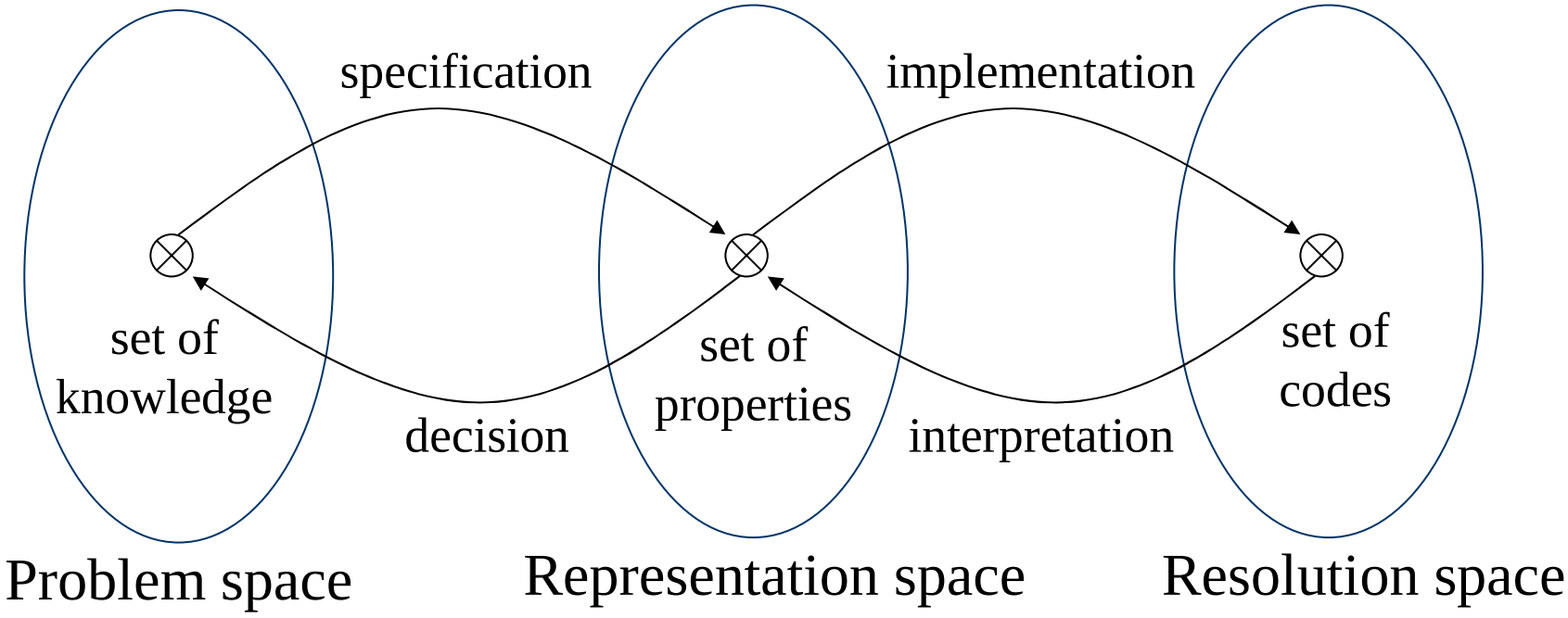
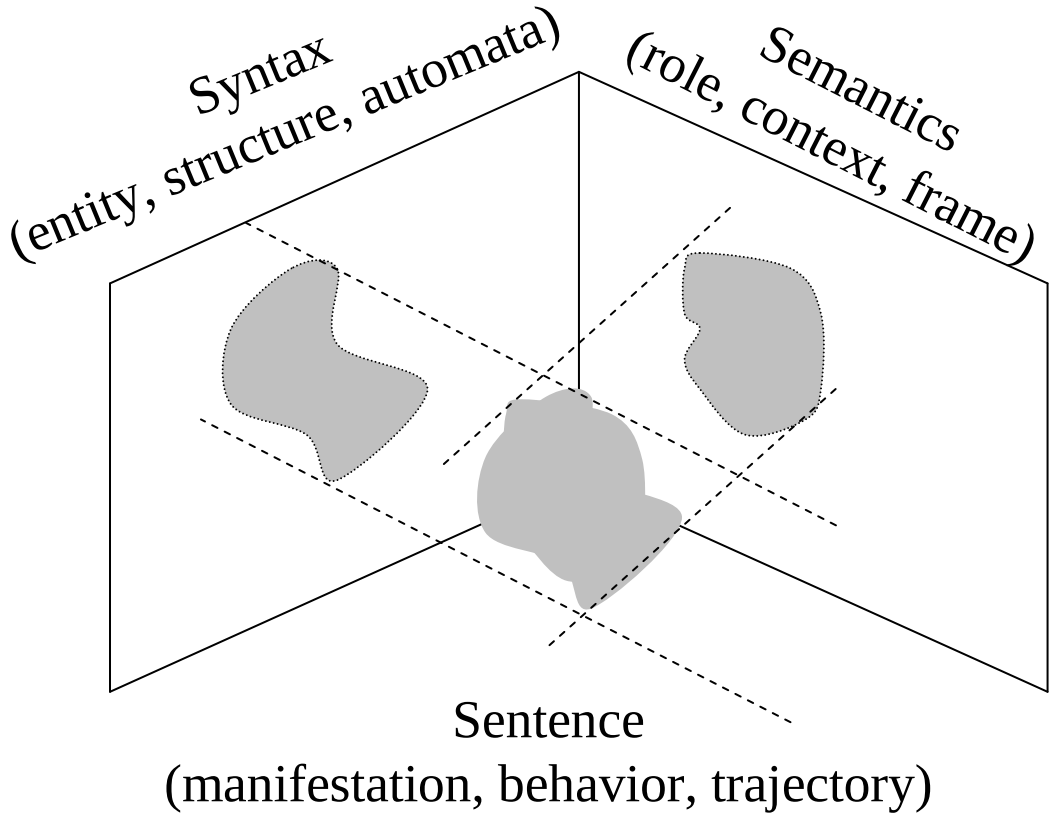
Continue discussion

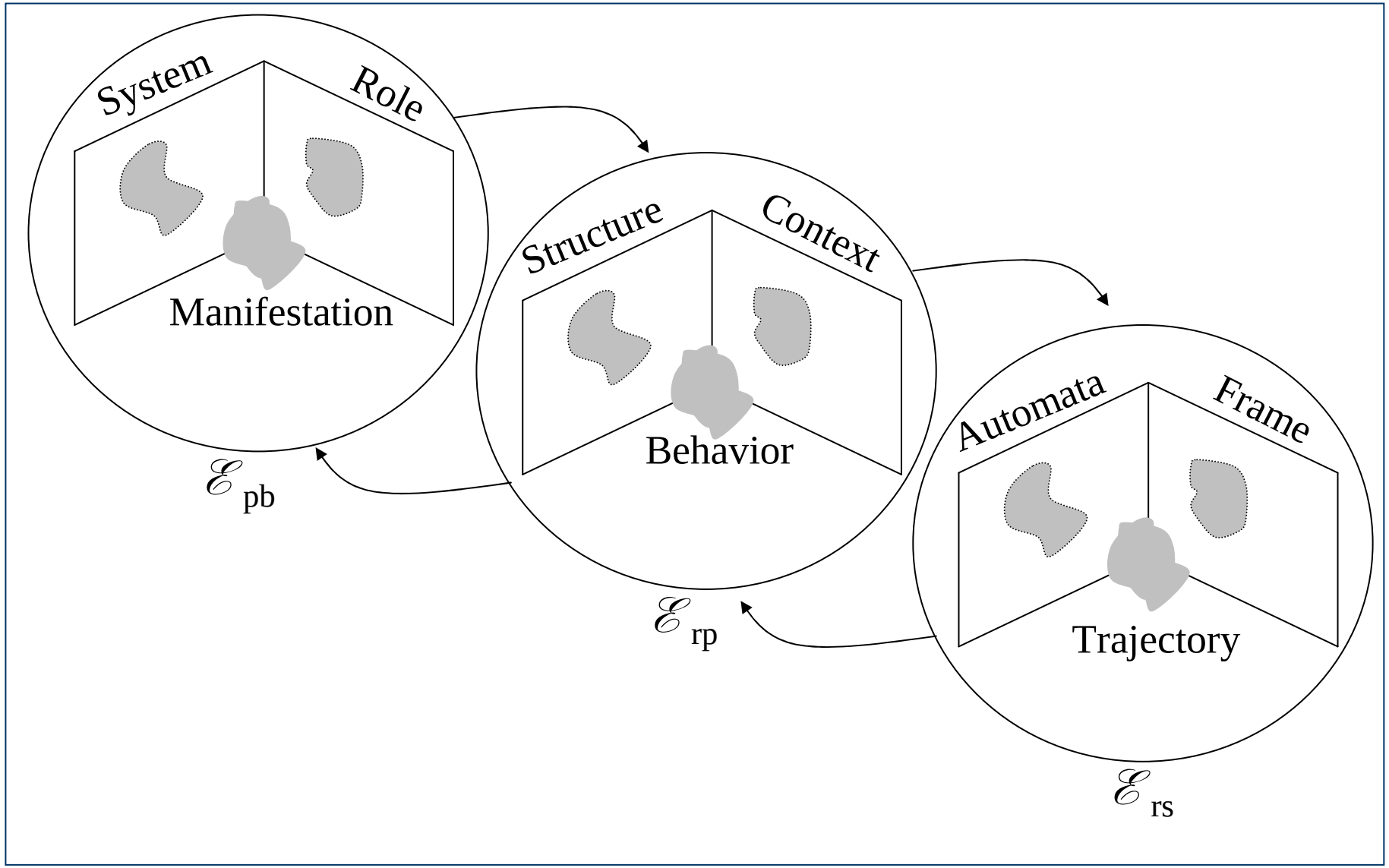
- M&S life-cycle as a set of (model) transformations
  - ontology
  - mathematical expression
- Meta modeling to make explicit general rules
  - theorems?
  - automated mechanisms

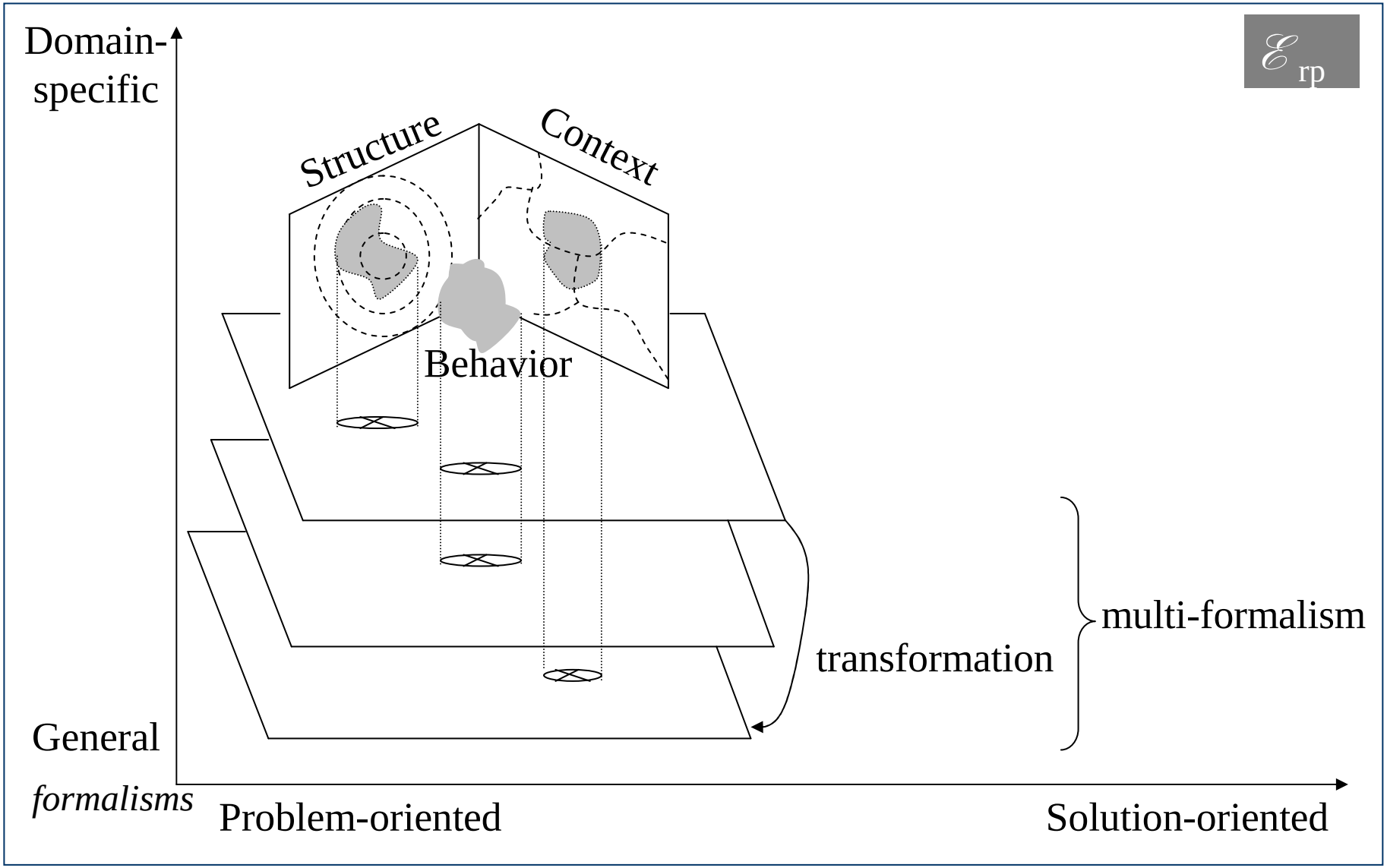
Concrete deliverables

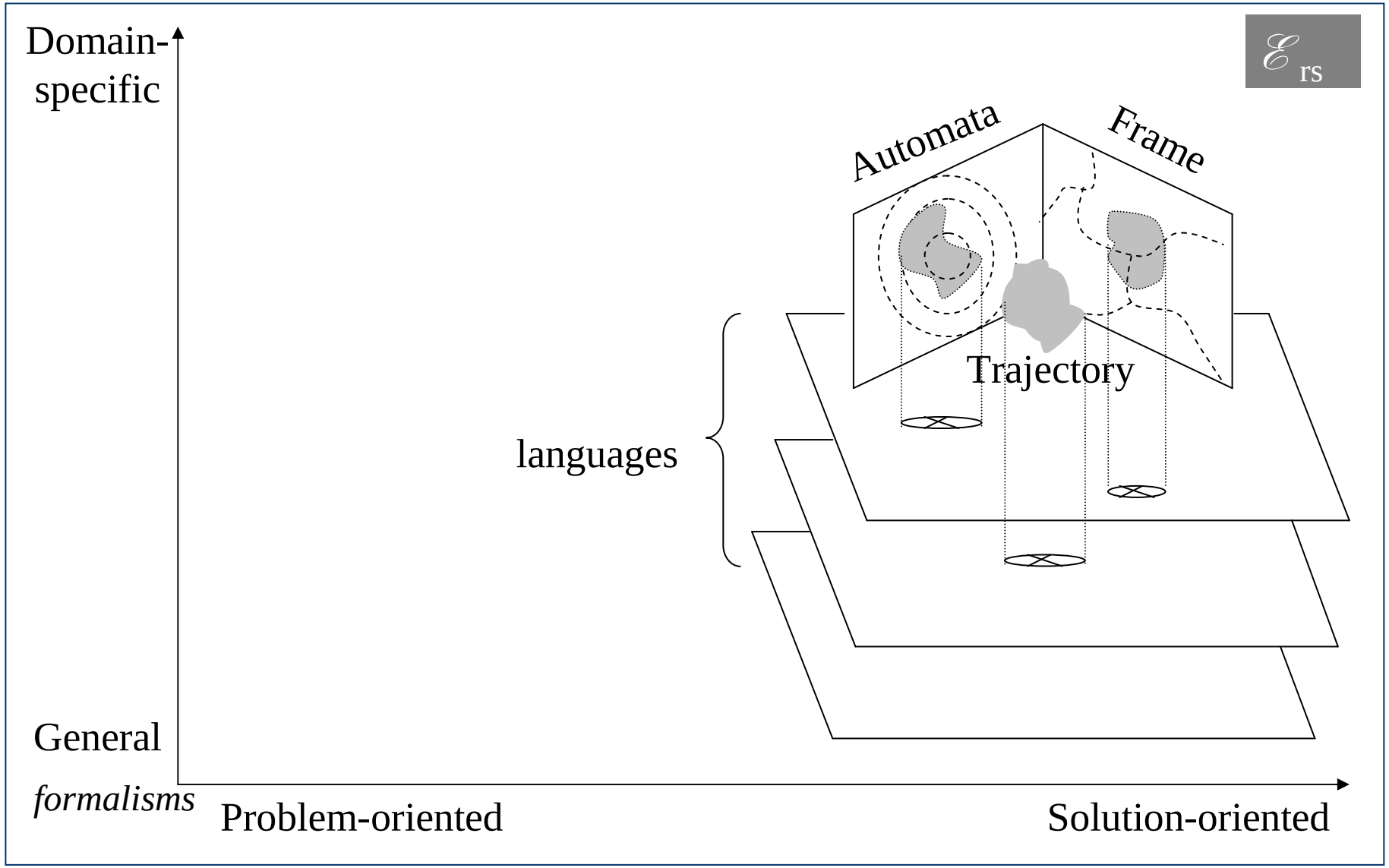
- Papers
  - Collaborations


specification
implementation
set of knowledge
set of properties
set of codes
decision
interpretation
Problem space
Representation space
Resolution space


Syntax
(entity, structure, automata)
Semantics
(role, context, frame)
Sentence
(manifestation, behavior, trajectory)


System
Role
Manifestation
Structure
Context
Behavior
Automata
Frame
Trajectory
$\mathscr{E}_{pb}$
$\mathscr{E}_{rp}$
$\mathscr{E}_{rs}$


Domain-specific
Structure
Context
Behavior
transformation
multi-formalism
General formalisms
Problem-oriented
Solution-oriented


Domain-specific
General
formalisms
Problem-oriented
Solution-oriented
languages
Automata
Frame
Trajectory
Ers