

TRAINING OVERVIEW

INTRODUCTION

ADOXX.ORG: META MODEL PLATFORM COMMUNITY




The ADOxx Metamodelling... x

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"Develop your own Modelling Toolkit using the ADOxx Meta Modelling Platform."

What you can do with ADOxx:

- ✓ Build your full-fledged, professional and personalised modelling tool and link it into your specific application environment.
- ✓ Develop your individual and domain-specific graphical modelling language, by developing your syntax, semantic and graphical notation for your modelling concepts
- ✓ Use vast pre-developed functionalities to enrich your modelling language with available or self-written algorithms and mechanisms to enhance your model editor to become a full-fledged modelling tool.
- ✓ Create your own professional modelling tool by packing your code into an installable and distributable software package.
- ✓ Join, contribute or establish communities at ADOxx.org or related laboratories.

Get Modelling Tools@ADOxx:

Have a look at the following realization cases of modelling approaches from research and industrial background to get your own development started.

[BPMN@ADOxx](#) [UML@ADOxx](#)

[OWL@ADOxx](#) [ER@ADOxx](#)

[DOWNLOAD ADOxx](#)

Watch the ADOxx.org "Hello World" Video [ONLINE](#)

As a starting point, have a look at the "Hello World" Screencast demonstrating the usage of the metamodelling platform ADOxx.


Further cases/best practice usages of ADOxx are available at OMILab/University of Vienna: <http://www.omilab.org>

ADOxx Event

ADOxx TRAINING SESSIONS 2015

September 23. - 25., 2015 in Vienna
November 18. - 20., 2015 in Vienna

REGISTRATION REQUIRED!
Contact us at tutorial@adoxx.org



Imprint

www.adoxx.org

OMILAB: APPROACH

- A research and experimental laboratory for the conceptualization, development and deployment of modelling methods and the models designed with them.
- Project space for Engineering of modelling methods and modelling tools
- A space for a community of researchers and practitioners sharing a common understanding about model value

Organisation: University of Vienna,
Faculty of Computer Science

Research Group: Knowledge Engineering

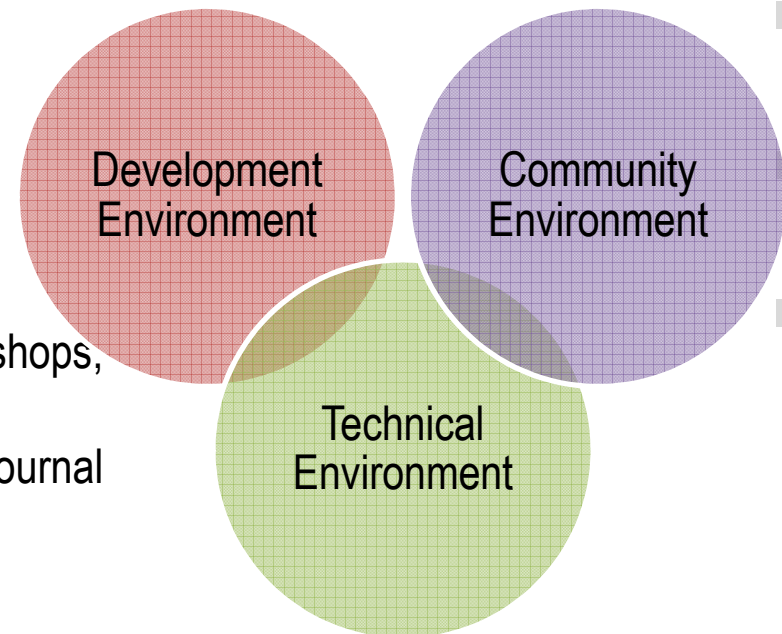


OMILAB@Faculty of Computer Science
Währinger Str. 29

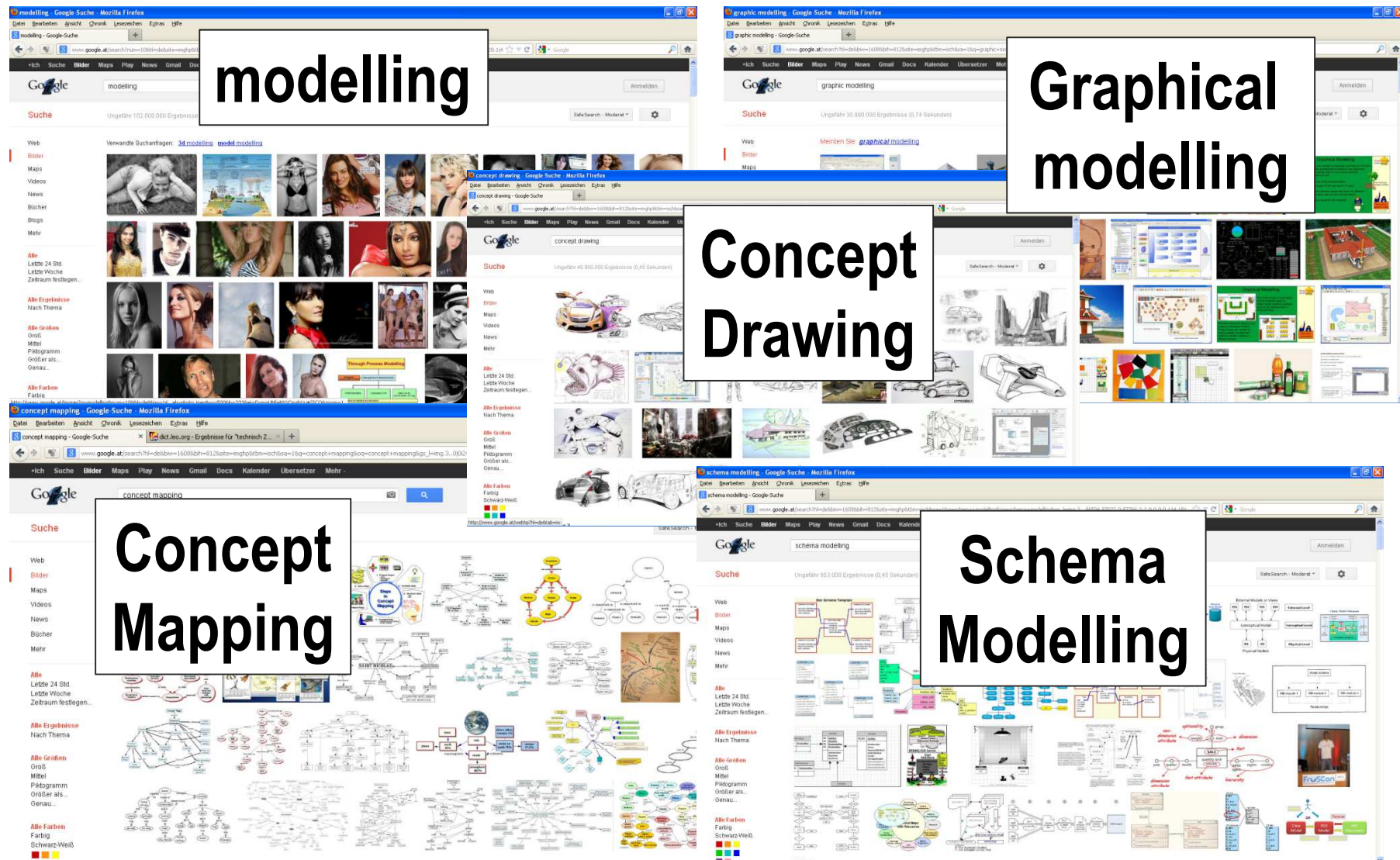


OMILAB: ENVIRONMENT

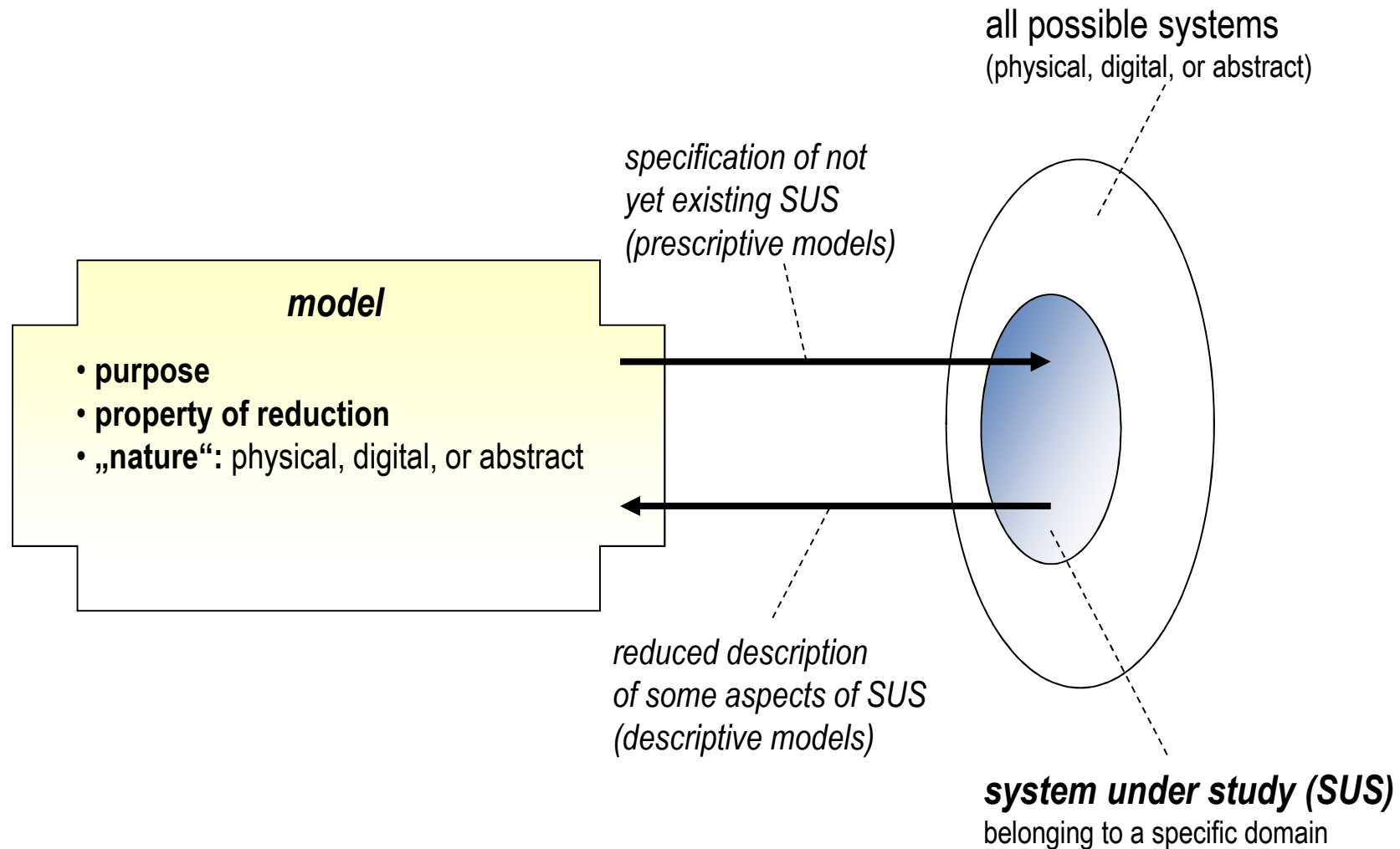
- **Development environment** consists of
 - Core (Open Use): ADOxx on OMiLAB
 - Add-Ons (Open Source): implemented community tools such as Model Annotator, GraphRep Generator, Model Publisher, Method Publisher, OM-Repository, Meta-Model Browser, MLEA – Modelling Language Engineering Assistant
- **Technical environment** supports
 - virtual and physical accessibility
 - packaging and deployment capabilities
- **Community environment** provides
 - Web-platform based on Liferay
 - Community events like conferences, workshops, summer schools
 - Publications like books, conference and journal papers
 - Project networking activities
 - Newsletters, media and OM-TV



WHAT GOOGLE IS TELLING US ...



1. DEFINITION OF SYSTEM UNDER STUDY





SIXTEEN REASONS OTHER THAN PREDICTION TO BUILD MODELS

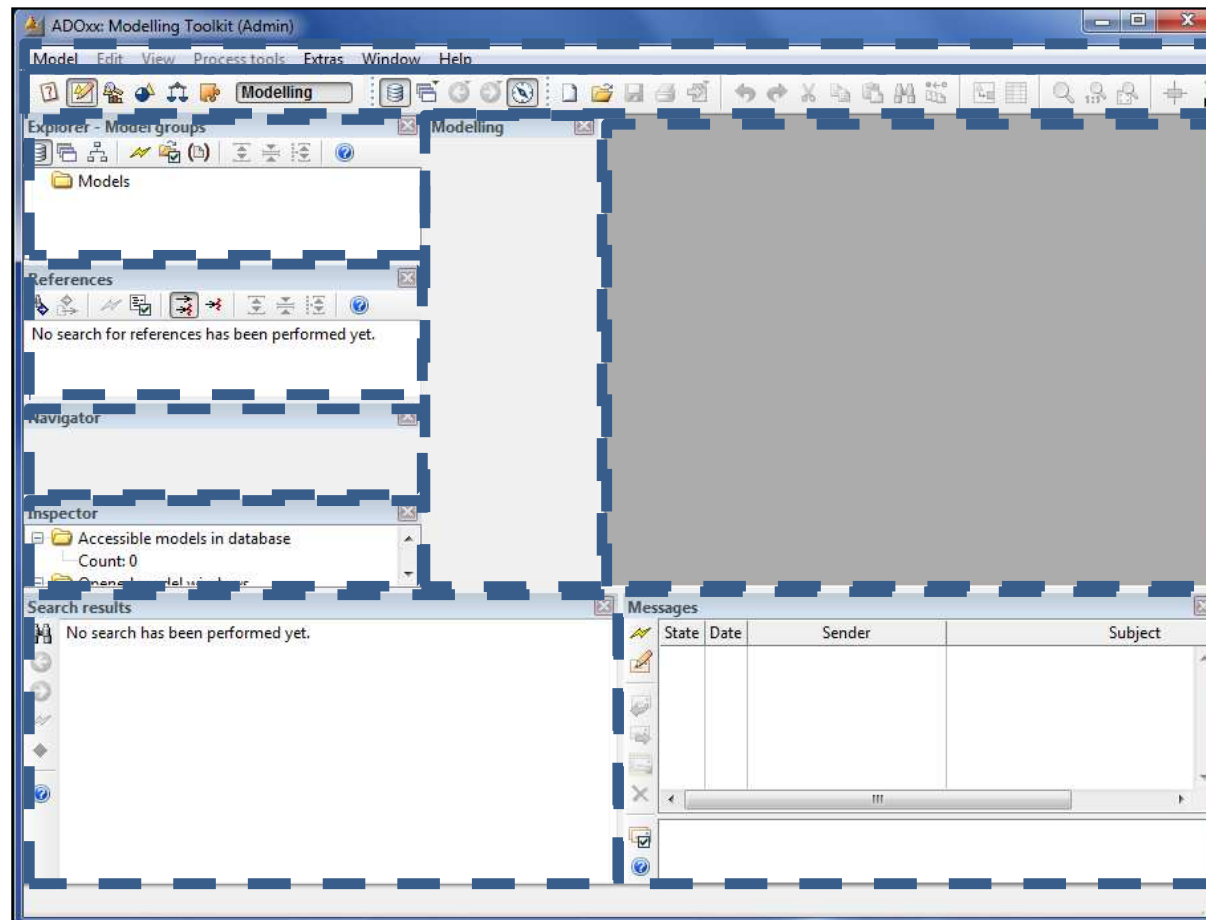
1. Explain (very distinct from predict)
2. Guide data collection
3. Illuminate core dynamics
4. Suggest dynamical analogies
5. Discover new questions
6. Promote a scientific habit of mind
7. Bound (bracket) outcomes to plausible ranges
8. Illuminate core uncertainties.
9. Offer crisis options in near-real time
10. Demonstrate tradeoffs / suggest efficiencies
11. Challenge the robustness of prevailing theory through perturbations
12. Expose prevailing wisdom as incompatible with available data
13. Train practitioners
14. Discipline the policy dialogue
15. Educate the general public
16. Reveal the apparently simple (complex) to be complex (simple)

Source: Joshua M. Epstein (2008)

GOAL: Development of Modelling Toolkit



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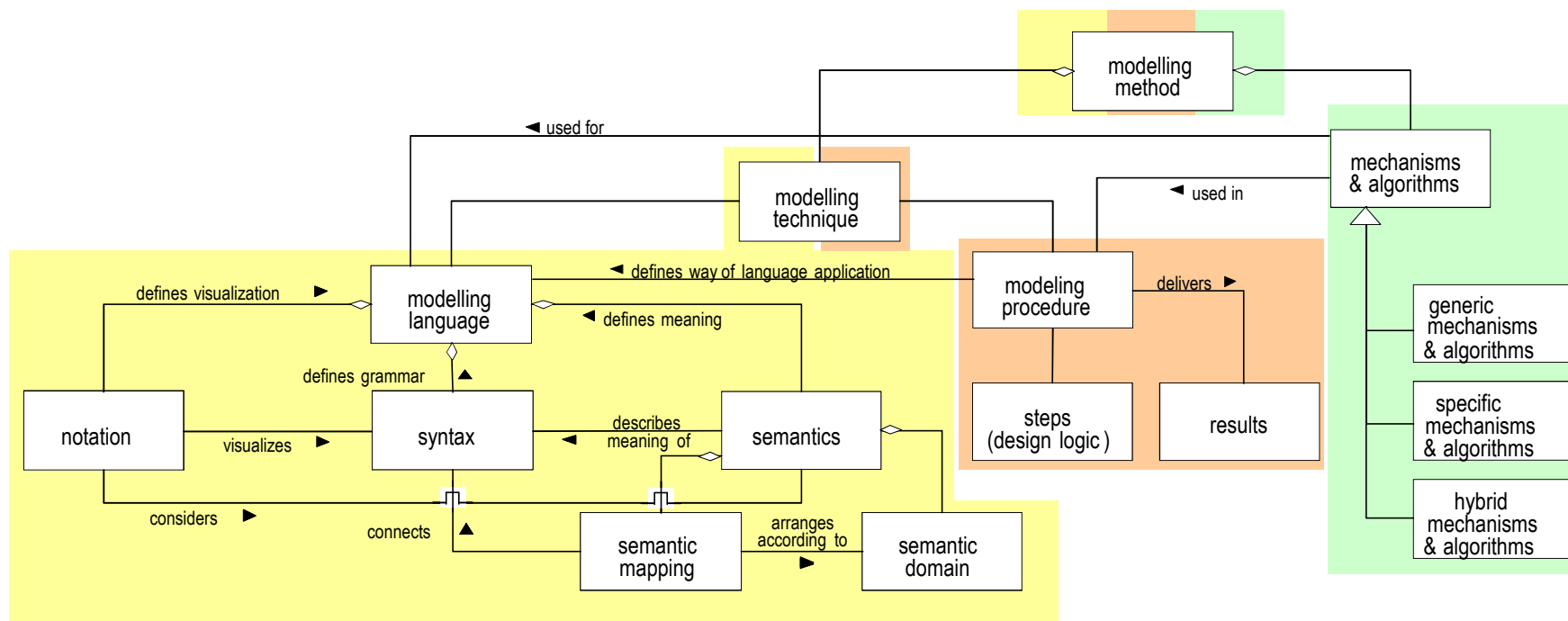


Modelling

Drawing Area

Messages

GENERIC MODELLING METHOD FRAMEWORK



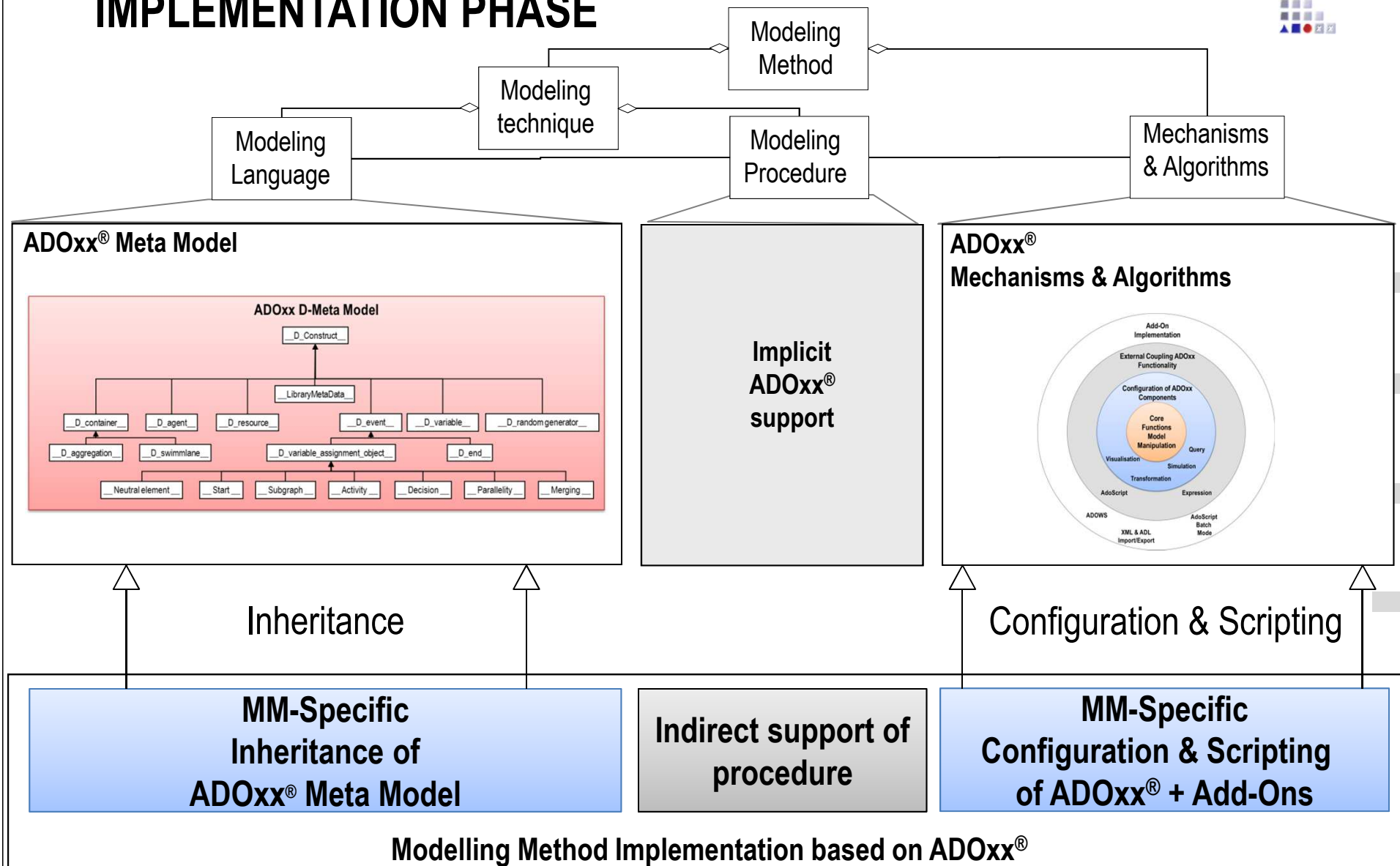
Reference: Karagiannis, D., Kühn, H.: „Metamodelling Platforms“. In Bauknecht, K., Min Tjoa, A., Quirchmayer, G. (Eds.): Proceedings of the Third International Conference EC-Web 2002 – DEXA 2002, Aix-en-Provence, France, September 2002, LNCS 2455, Springer, Berlin/Heidelberg, p. 182 ff.

We thank you for your attention!

Any Questions?



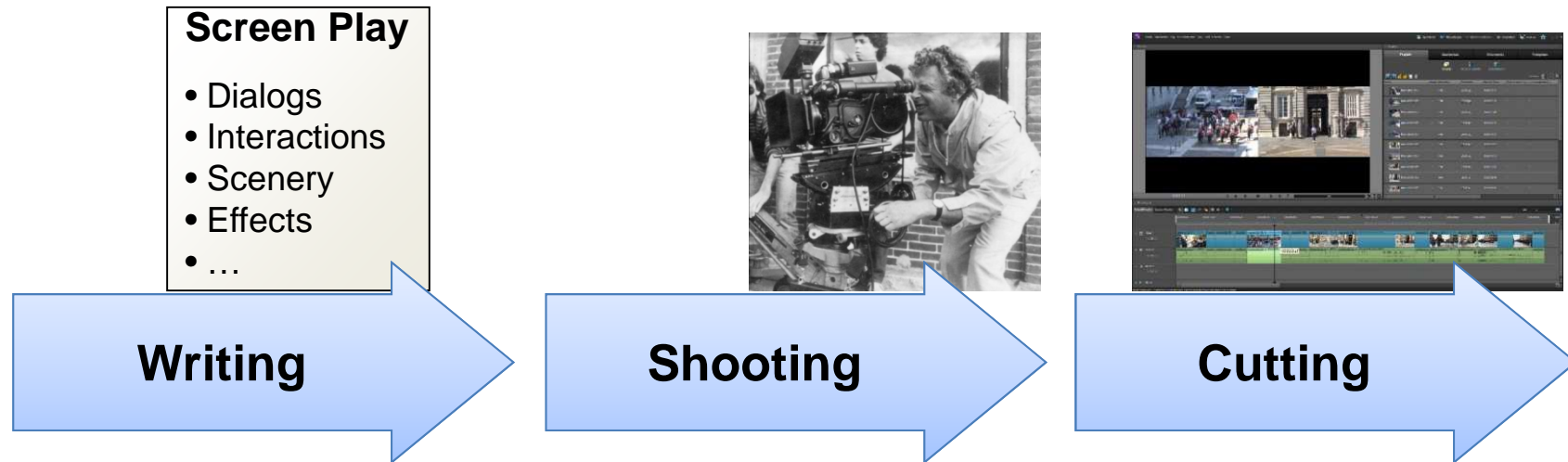
IMPLEMENTATION PHASE



MM ... Modelling Method

Reference: Kühn, H. (2004). Methodenintegration im Business Engineering. PhD Thesis, University of Vienna

FROM BOOK TO MOVIE: A METAPHOR

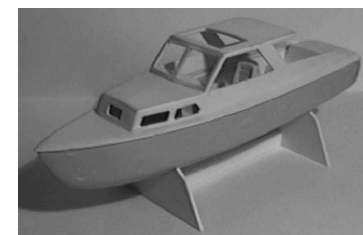
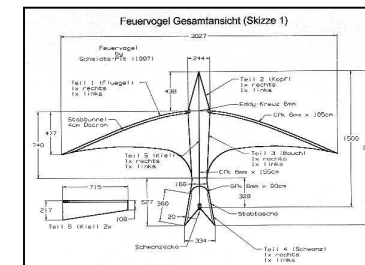
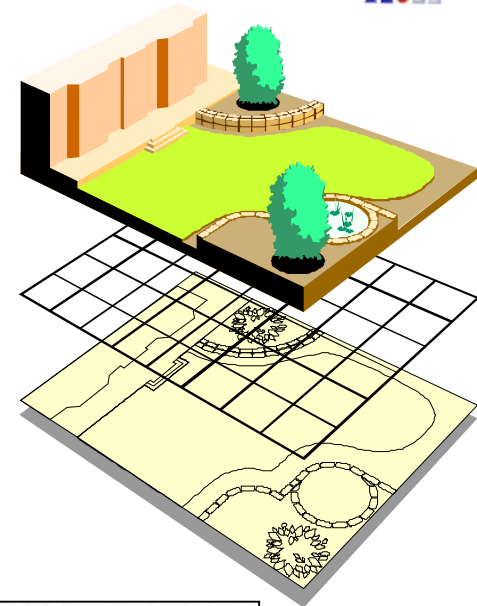


WHAT IS THE ANALOGUE FOR MODELLING METHODS ?



2. TYPE OF APPLICATION SCENARIO

- ▶ Representation Characteristic
"Models as a representation of natural or artificial originals, that again can be models." [translated]
- ▶ Abstraction Characteristic
"Models in general do not capture all attributes of the represented original, but only those that seem relevant to the modeller or model user." [translated]
- ▶ Pragmatic Characteristic
Models meet their substitution function for specific subjects, within a pre-determined time intercal and with limitations on defined intellectual and/or real operations. [translated]

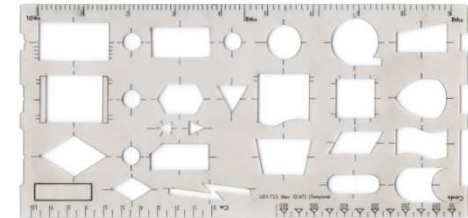


Reference: Herbert Stachowiak: Allgemeine Modelltheorie. Wien 1973.

3. INTRODUCTION OF TERMS

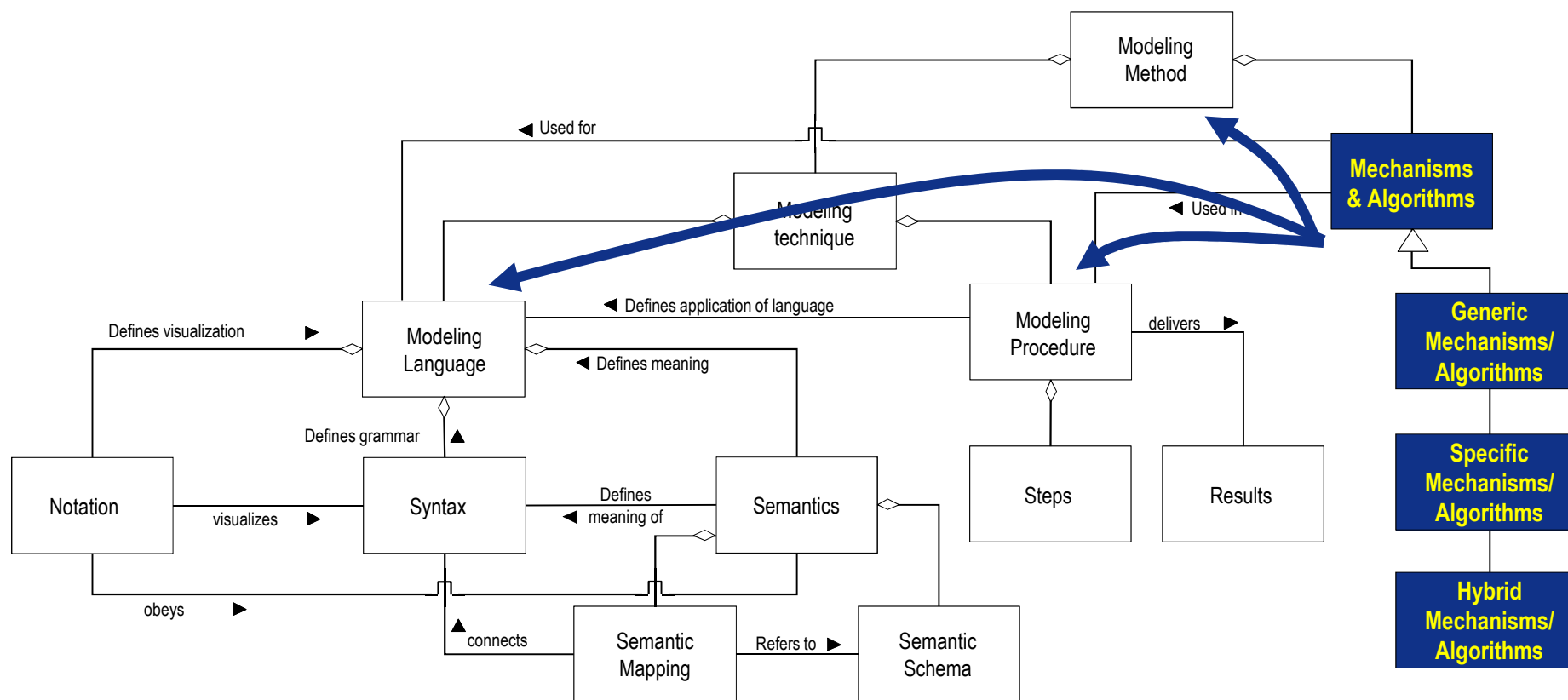


- ▶ **Modelling Language:**
Modelling constructs (object types) and their relations (relation types) to each other to declare a model.
- ▶ **Metamodel:**
The model of the syntax of the modelling language
- ▶ **Meta² Model:**
Model of abstract syntax of a language to describe meta models.
- ▶ **Modelling Technique:**
A modelling language and proceeding instructions for creation of a model in this modelling language.
- ▶ **Mechanisms und Algorithms:**
Provision of functionalities to process models such as manipulation, visualisation, query, transformation or simulation depending on the modelling language and modelling procedure.

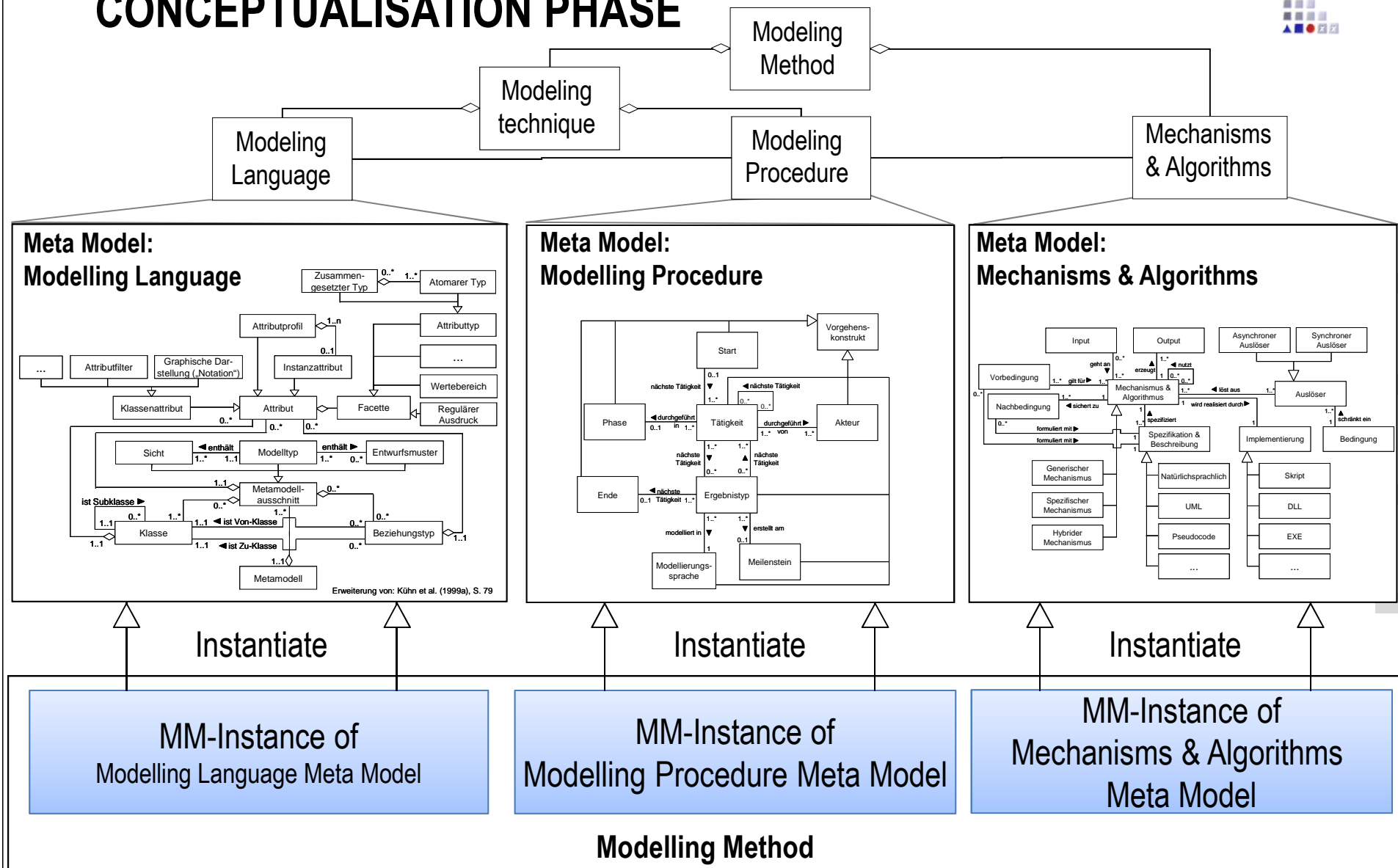


Pictures [SXC] 14

Which functionality is required and how are models expected to be used.



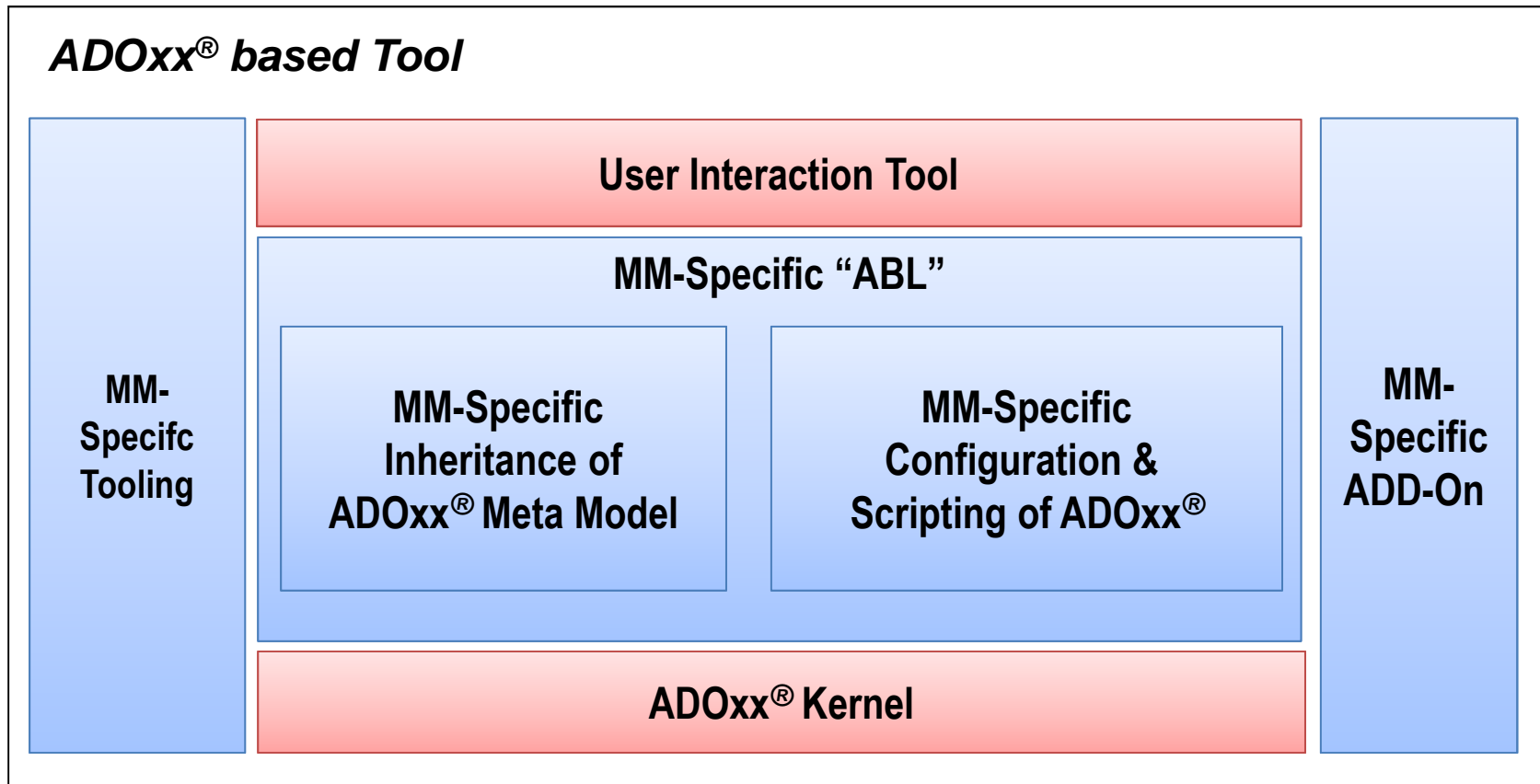
CONCEPTUALISATION PHASE



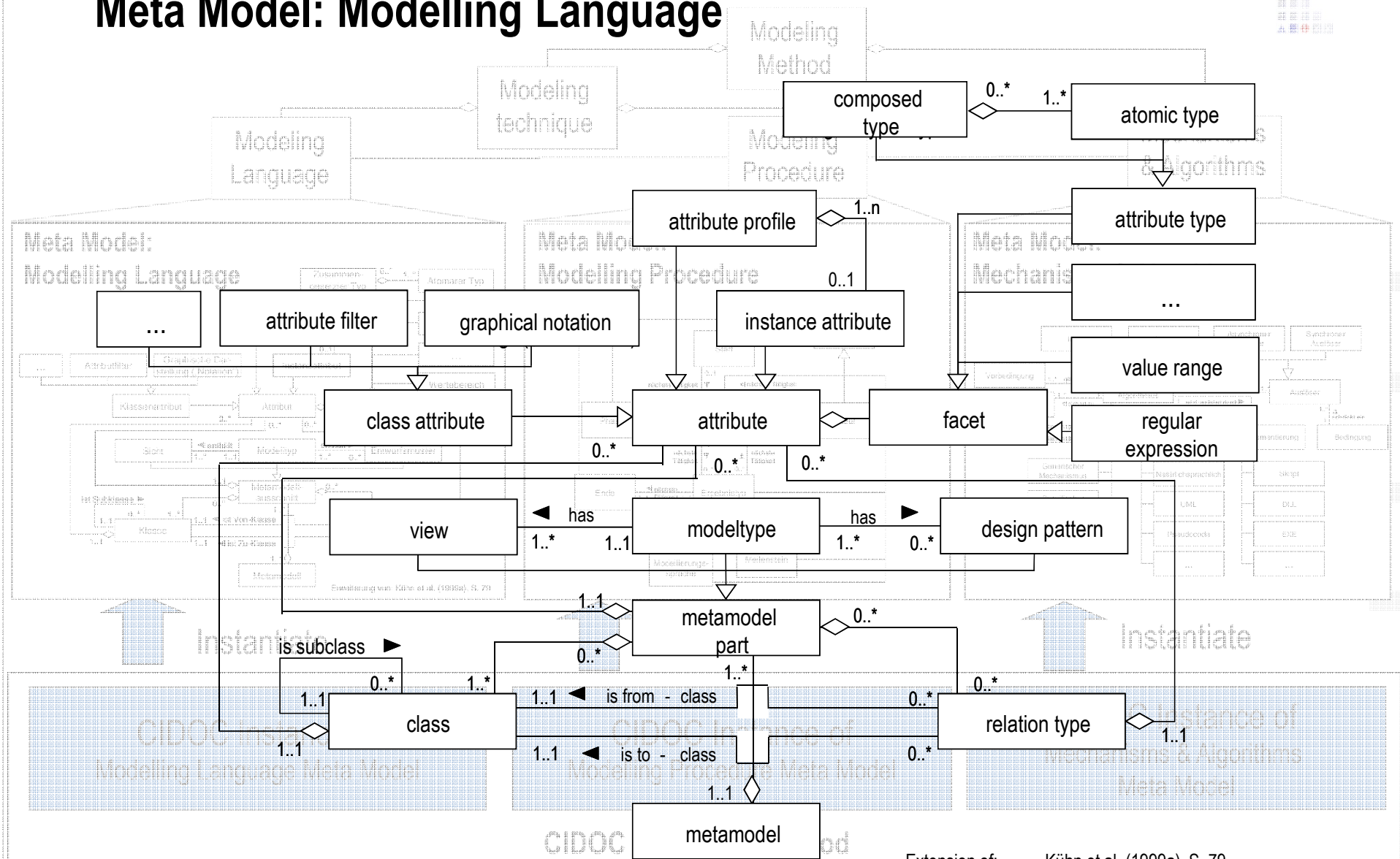
MM ... Modelling Method

Reference: Kühn, H. (2004). Methodenintegration im Business Engineering. PhD Thesis, University of Vienna

DEPLOYMENT AND TOOLING PHASE



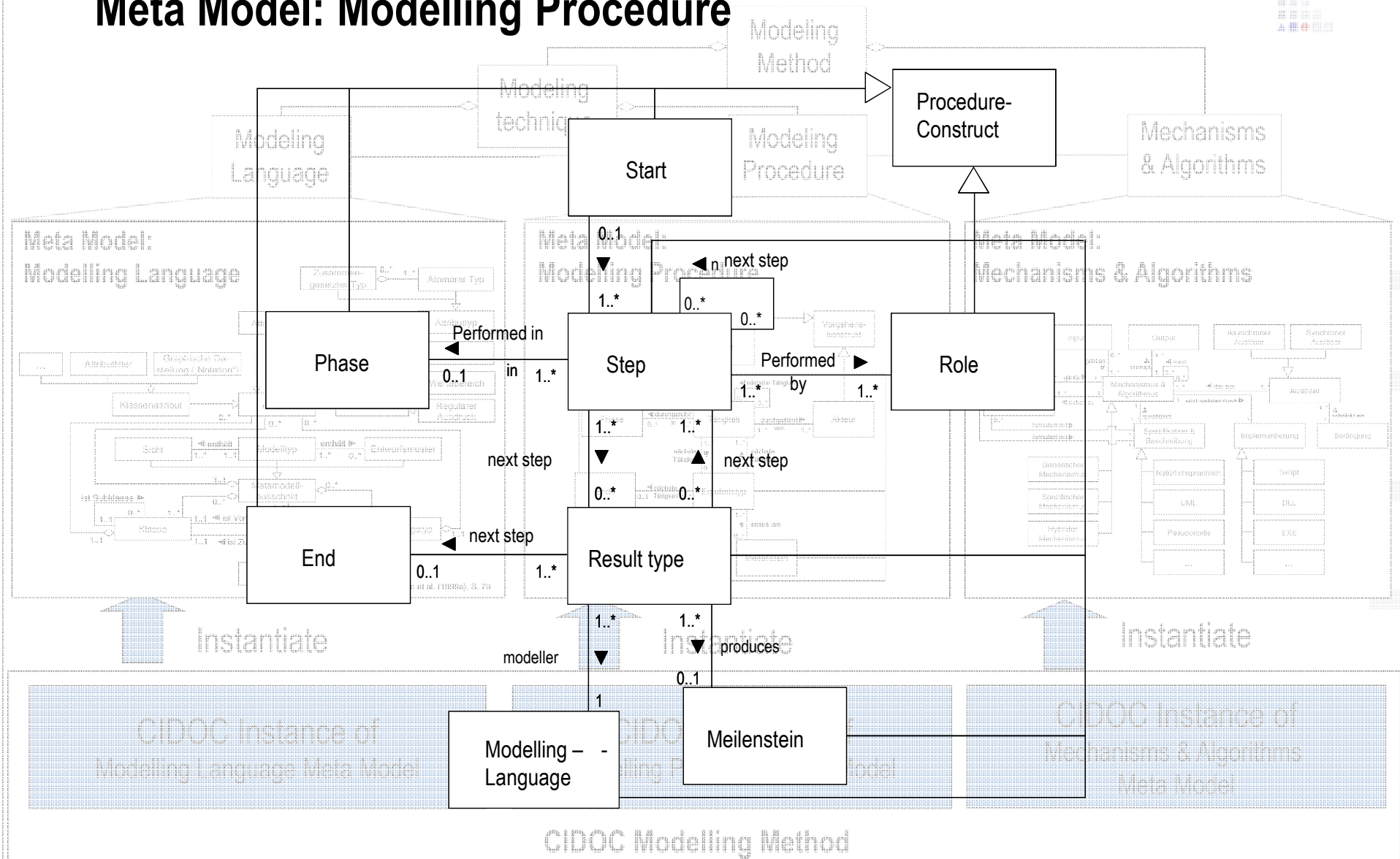
Meta Model: Modelling Language



Extension of: Kühn et al. (1999a), S. 79

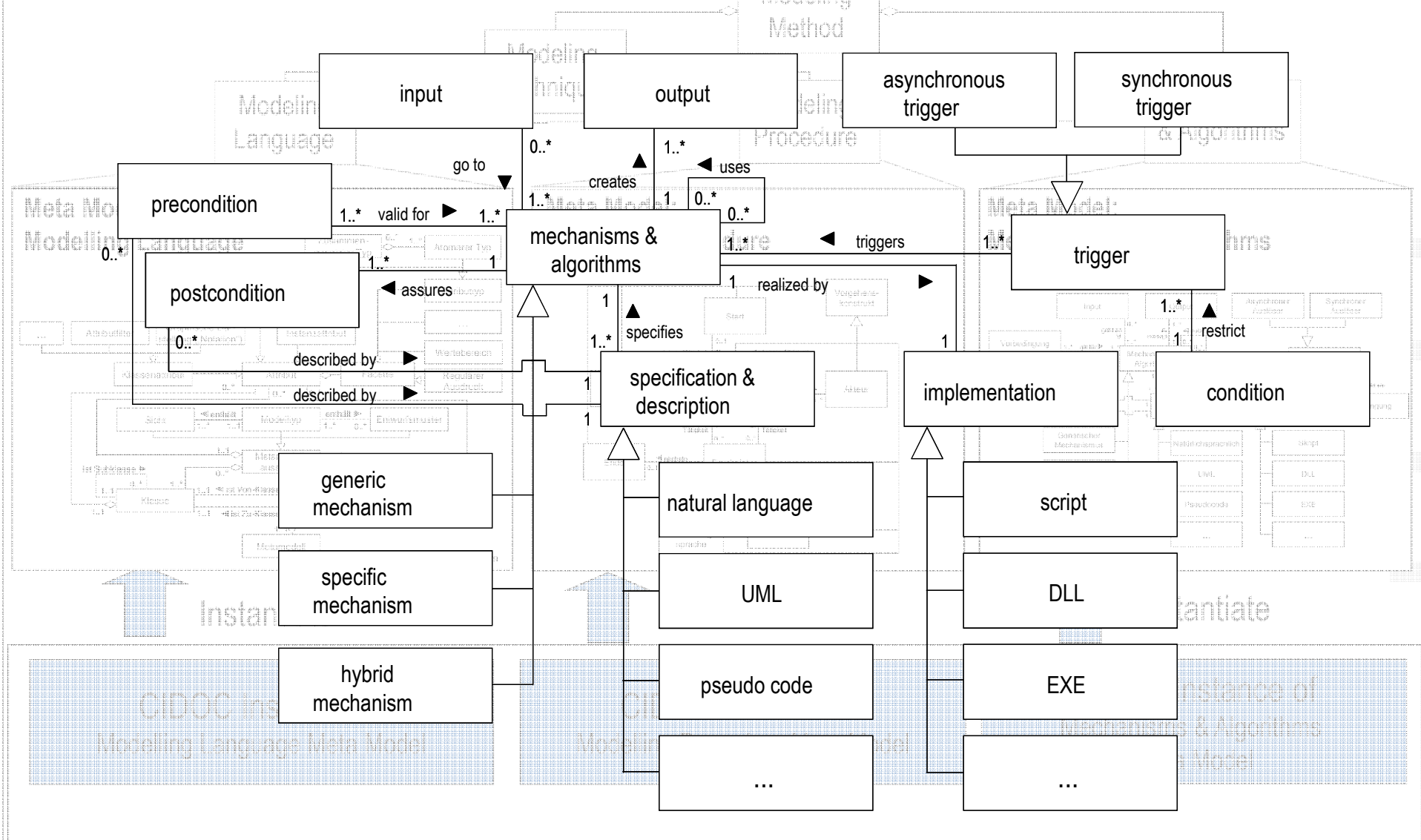
BACK

Meta Model: Modelling Procedure



Reference: Kühn, H. (2004). Methodenintegration im Business Engineering. PhD Thesis, University of Vienna

Meta Model: Mechanisms & Algorithms



← **BACK**