Calling a Spade a Spade in the MDA Infrastructure

Colin Atkinson
University of Mannheim

Thomas Kühne
Darmstadt University of Technology

Classification Dimensions

Living Being

Animal

Four Legged Object

Dog

Movie Star

Collie

Celebrity
Classification Dimensions

**Ontological Classification** (domain types)
- Animal
  - Dog
- Celebrity
  - Four Legged

**Linguistic Classification** (representation form)
- Model Element
  - Instance
- Object

**Classification Dimensions**

- $O_0$: Lassie (ontological)
- $O_1$: Collie (ontological)
- $O_2$: Breed (linguistic)

**Levels**
- $L_1$: Metaclass (type)
- $L_2$: Class (instance)
- $L_3$: Object (linguistic)
**Classification Dimensions**

$L_1$

- **Metaclass**
  - type
  - instance
  - linguistic

$L_0$

- **Breed**
  - ontological
- **Collie**
  - ontological
- **Lassie**
  - ontological

**Metamodelling & Stereotypes**

- **usage**
- **effect**

- **Breed**
  - Collie

- **Class**
  - **Breed**

- **M2**
  - **Collie**

- **M1**
  - **Collie**

- **use of stereotypes is cast as linguistic metamodelling**
- **in most cases this is inappropriate**
Metamodeling

Providing Domain Metatypes

- "Product Type" extension is not metamodeling, *linguistically*
- ..., however, it is *ontologically*

Conclusion

- metamodeling comes in two flavors
  - linguistic, pertaining to form
  - ontological, pertaining to content
- non-linguistic metamodeling occurs all the time
  - use of stereotypes and profiles
- from the user’s perspective, ontological metamodeling is the more important dimension
  - better support should exist \(\Rightarrow O_2\) level with metatypes
  - MDA technologies depend on UML extendibility