Zurich, 17-18 March 2010

Ubiquitous Languages for Software Engineering

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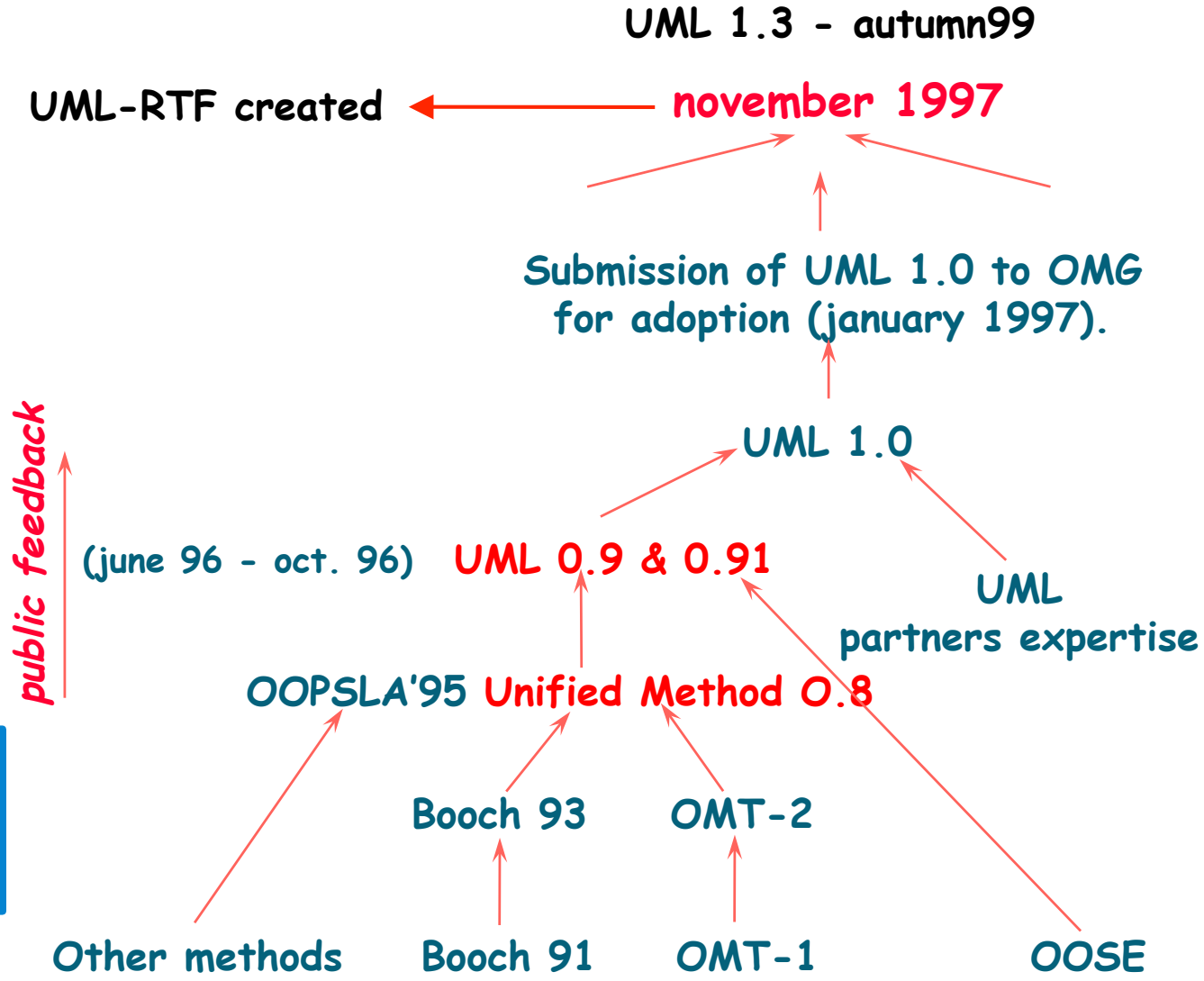
Main UML contribution: separation of concerns

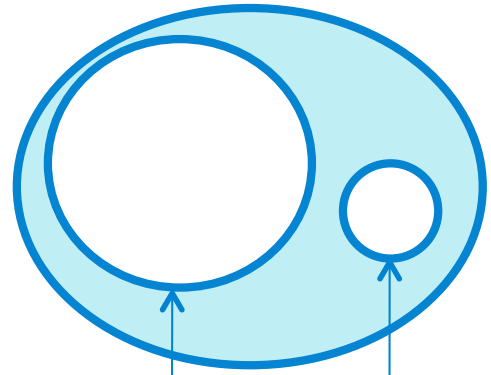


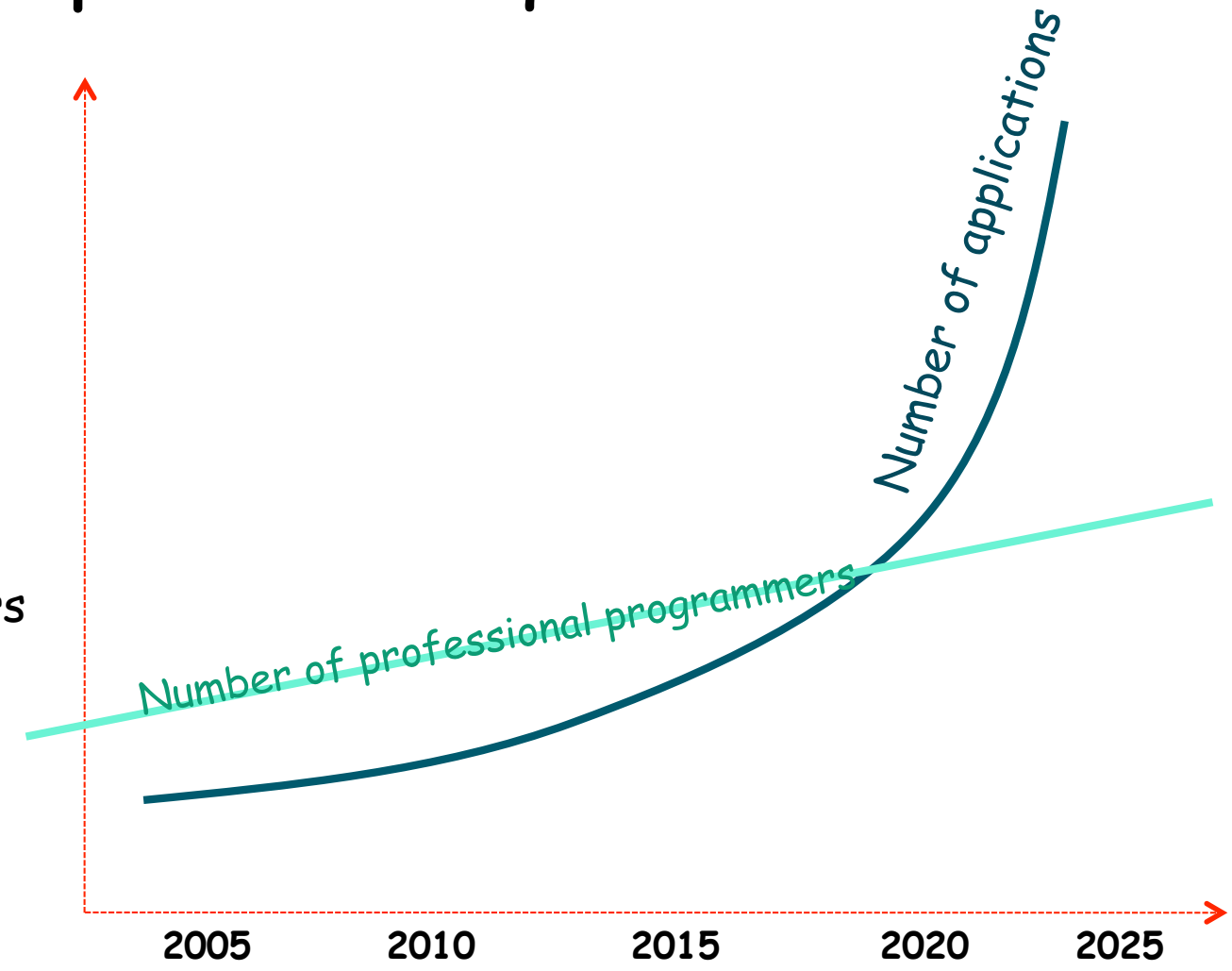
From Unified Method to Unified Language

Software Language Engineering

- Ubiquitous languages
  - ✓ For process and product
  - ✓ For business and IT
  - ✓ For objects, rules, events, etc.
  - ✓ For code and data
  - ✓ Normative and Proprietary
  - ✓ Textual, Visual, Tabular, Form-based, …
  - ✓ Grammar-based, metamodel-based, schema-based, …
  - ✓ For professionals and end-users
  - ✓ etc.

The impossible equation





USA:

90 Millions computer users;
50 Millions Spreadsheet & DB users;
12 Millions self described programmers;
3 Millions professional programmers;

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Towards a Language Definition Framework

- **We need**
  - ✓ an extensible collection of languages
  - ✓ a framework to define these languages and their correspondances
- **to express**
  - ✓ Languages
  - ✓ Language correspondances
  - ✓ Situations/Phenomenon
  - ✓ Tools (automated or not)
  - ✓ Methods/Practices
  - ✓ Skills
  - ✓ Roles
  - ✓ etc.

- **Are the existing frameworks satisfactory?**
  - ✓ BNF (Grammars), XML (Schemas), ECORE (Metamodels), Protégé (Ontologies)

- **If not do we need to build a new one?**

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Robin Milner

Language is the raw material of software engineering, rather as water is the raw material for hydraulic engineering. The difference is that water is rather well understood by physical science; but software - as a raw material - is still not scientifically understood.

Speech by Robin Milner
on receiving an Honorary Degree
from the University of Bologna

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