

Slides contain material from www.yawlfoundation.org

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CHAPTER 14 - EPC

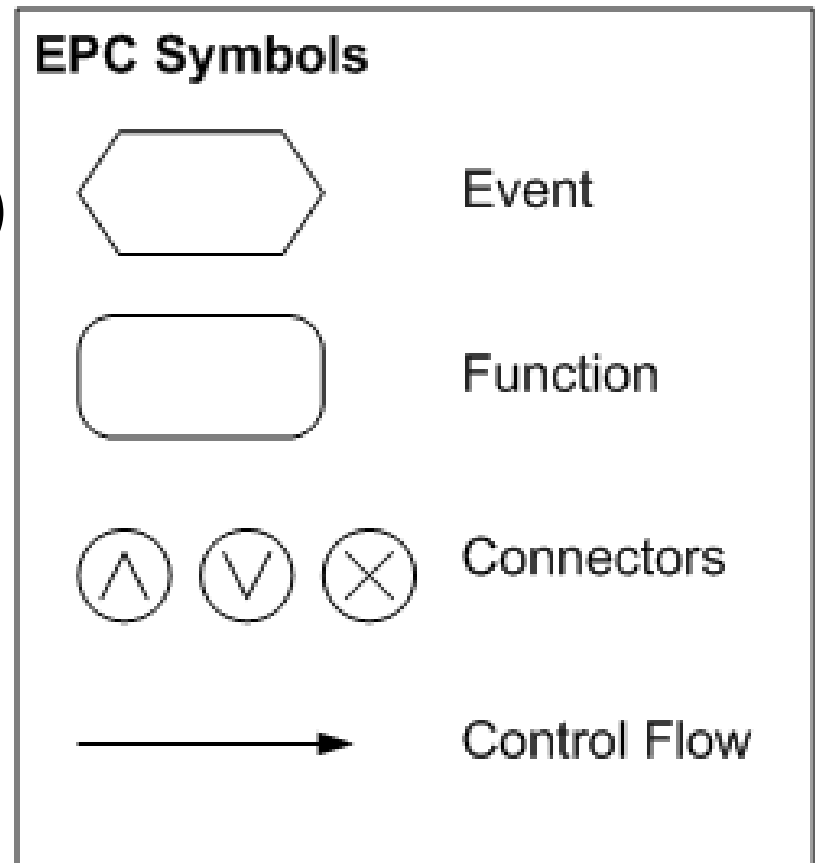
Business 2710 – Class 22

Agenda

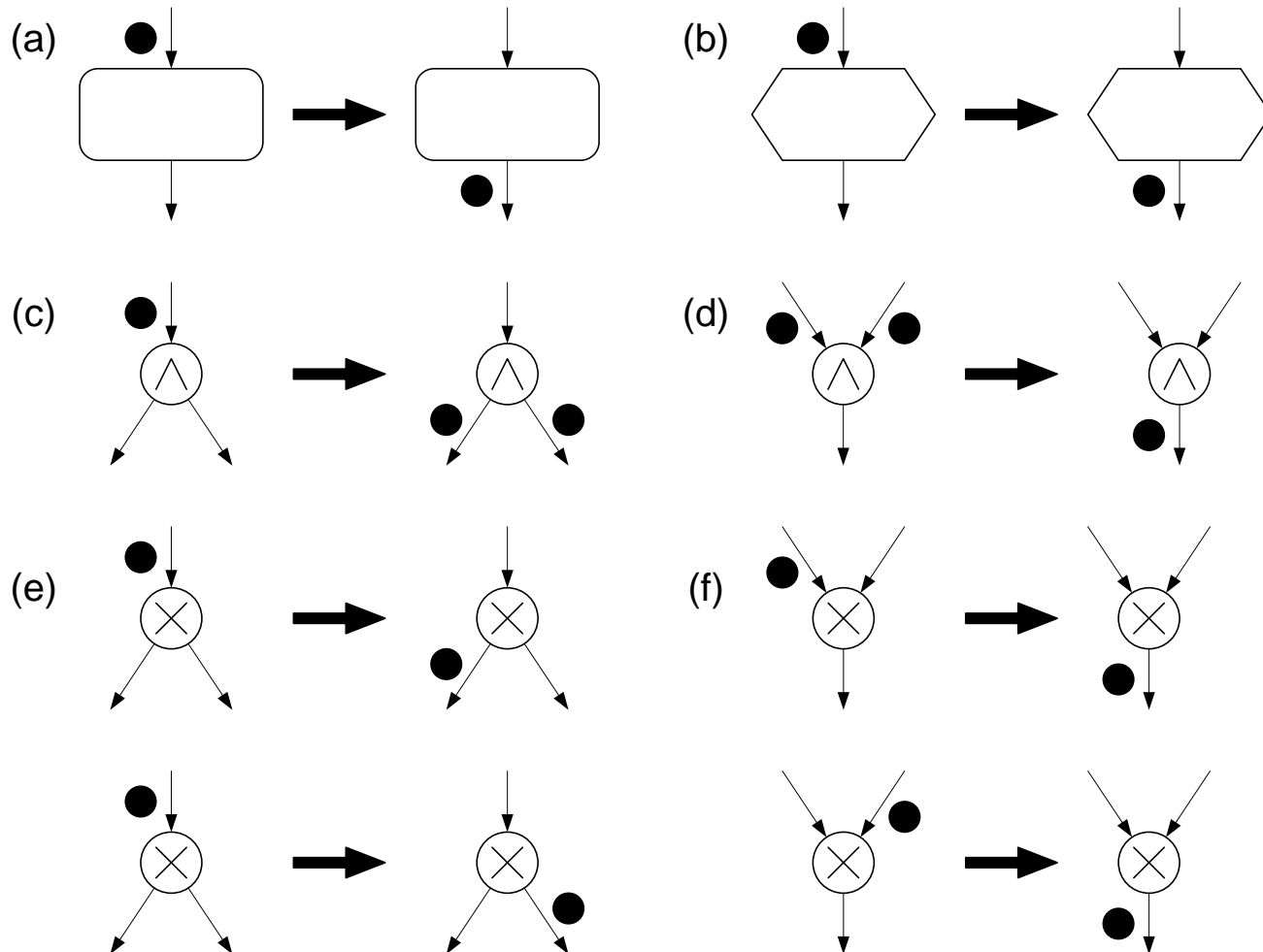
- Introduction to EPCs
- Mapping EPCs to YAWL
- Mapping YAWL to EPCs

Introduction to EPCs

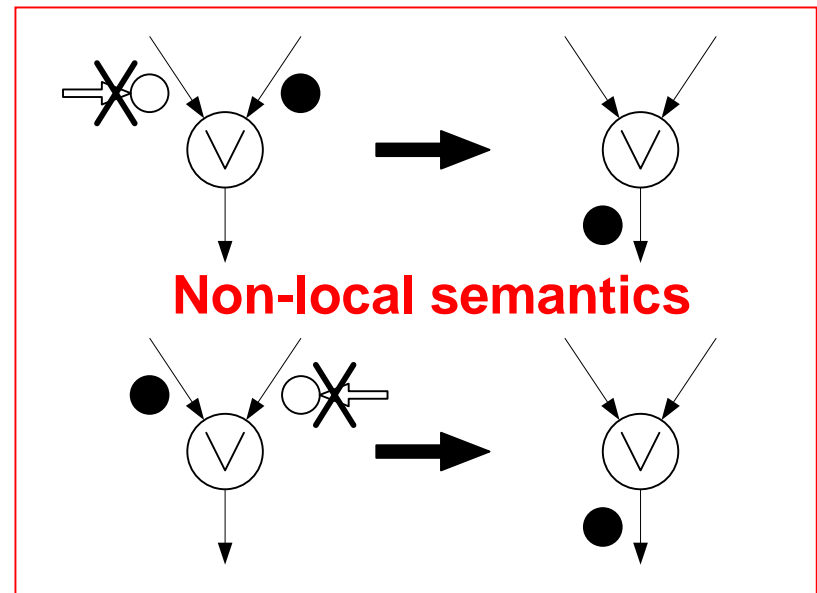
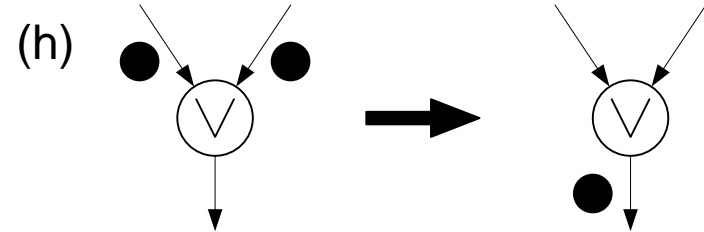
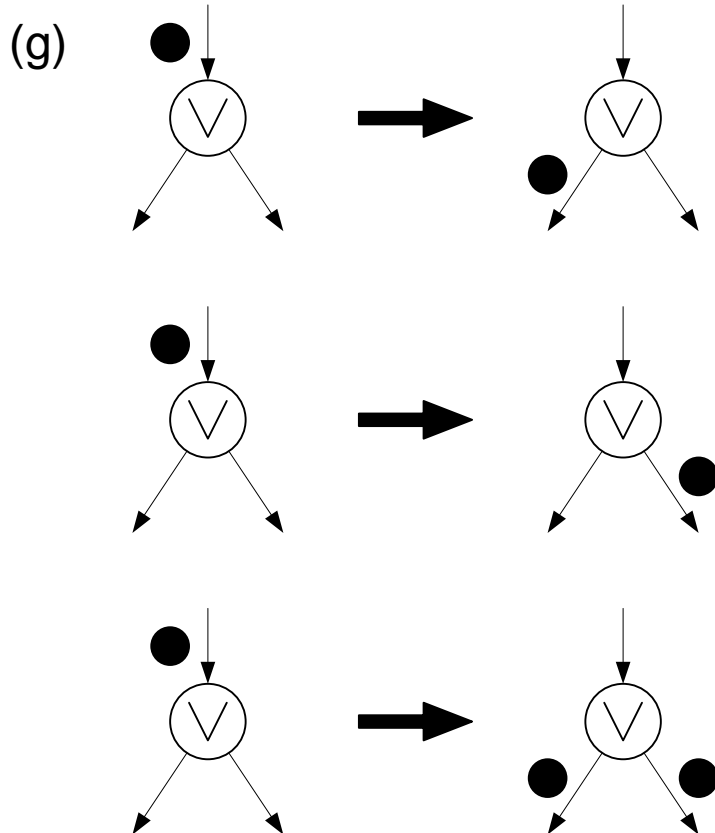
- Functions
- Events
- Connectors (and, xor, or)
- Control flow arcs



EPC Semantics: Transition Relation



EPC Semantics: Transition Relation II

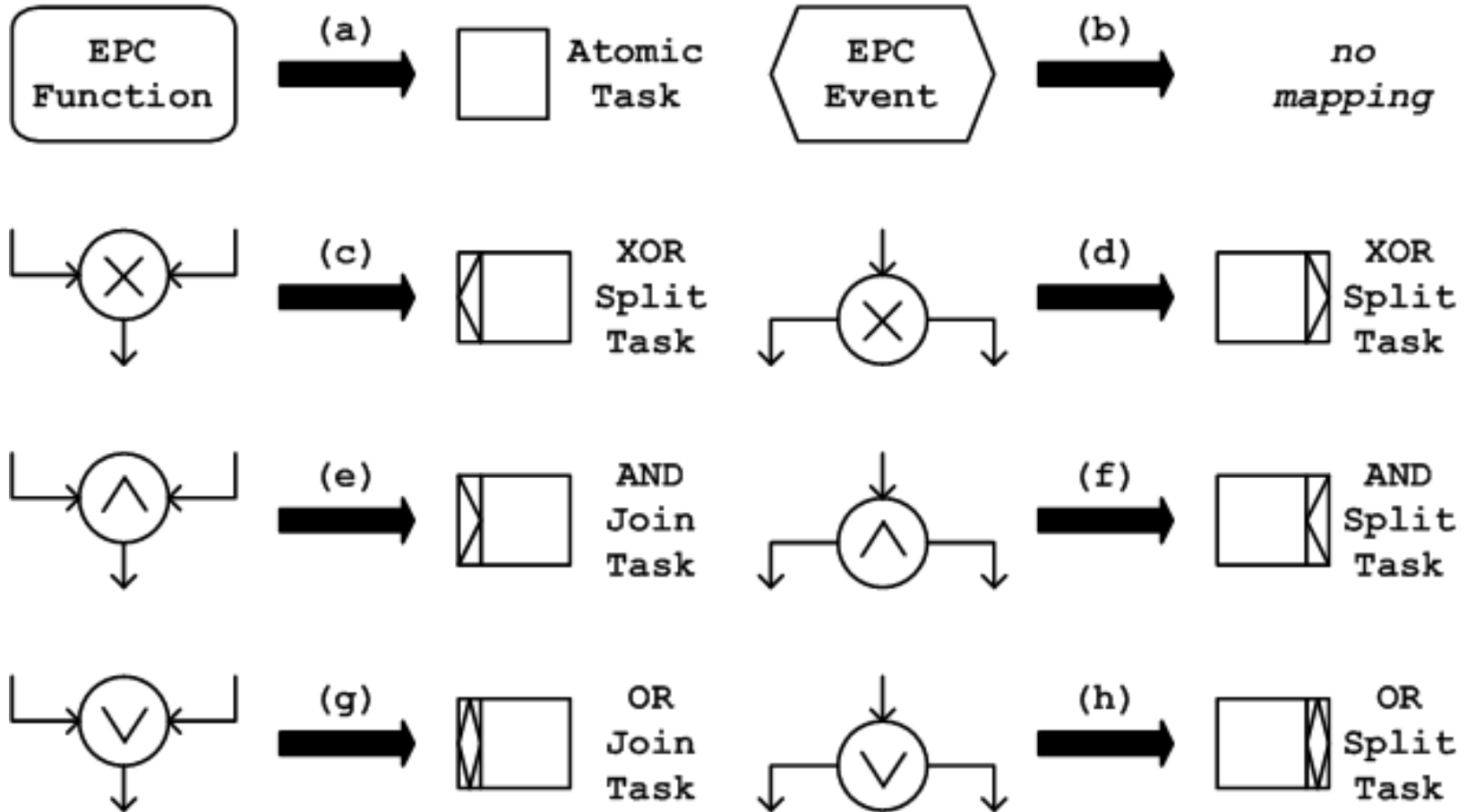


Mapping EPCs to YAWL

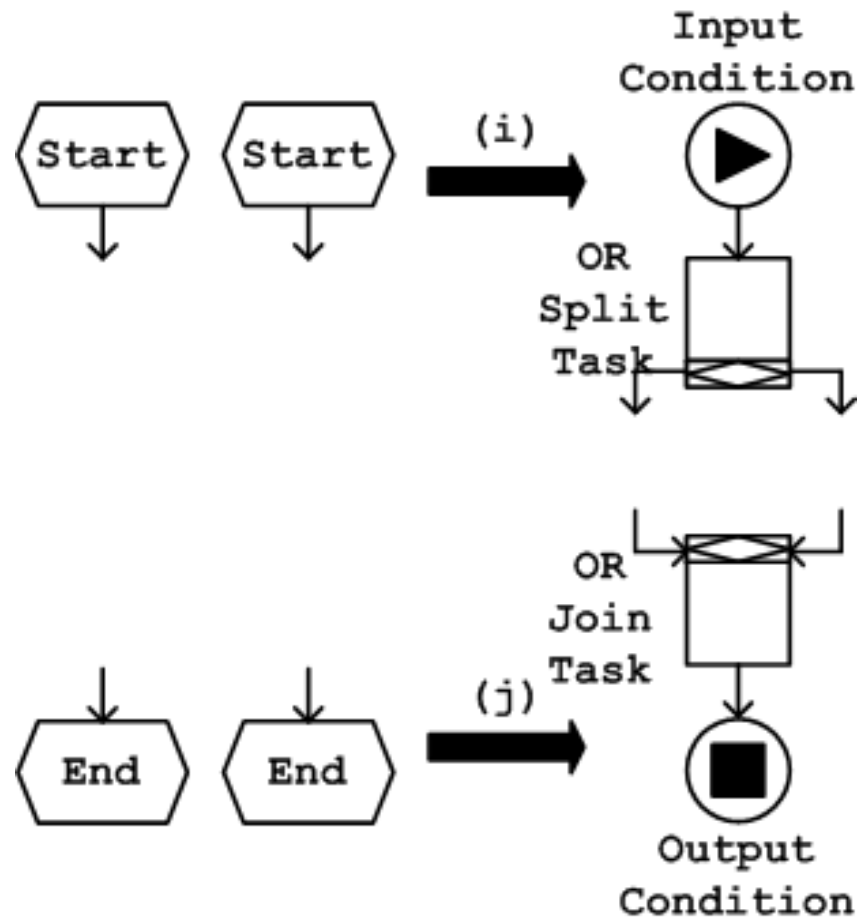
Challenges

- **State Representation:** There is no direct counterpart for YAWL conditions in EPCs
- **Connector chains:** There can be several connectors in a row while in YAWL splits and joins are part of a task
- **Multiple start and end events:** EPCs can have multiple start and end events while YAWL requires one unique start and unique end

Mapping EPCs to YAWL



Mapping EPCs to YAWL (cont.)

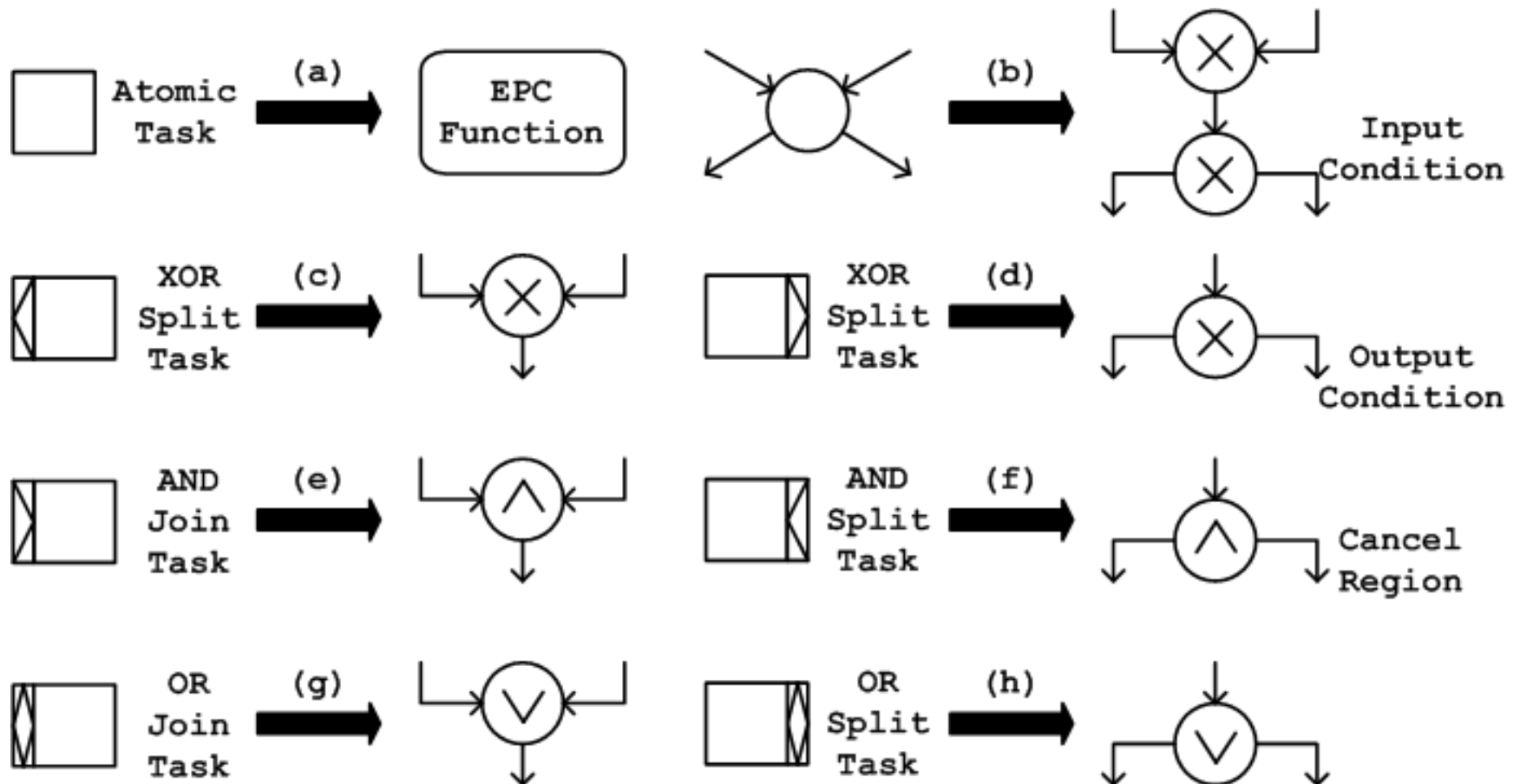


Mapping YAWL to EPCs

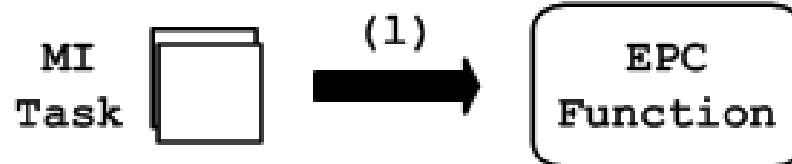
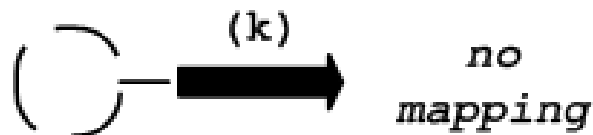
Challenges

- **Free choice property:** EPCs are free choice while YAWL can have non-free choice behaviour
- **Multiple instantiation:** YAWL offers multiple instantiation, EPCs do not
- **Cancellation:** YAWL offers cancellation, EPCs do not
- **Syntax:** In EPC's functions and events have to alternate

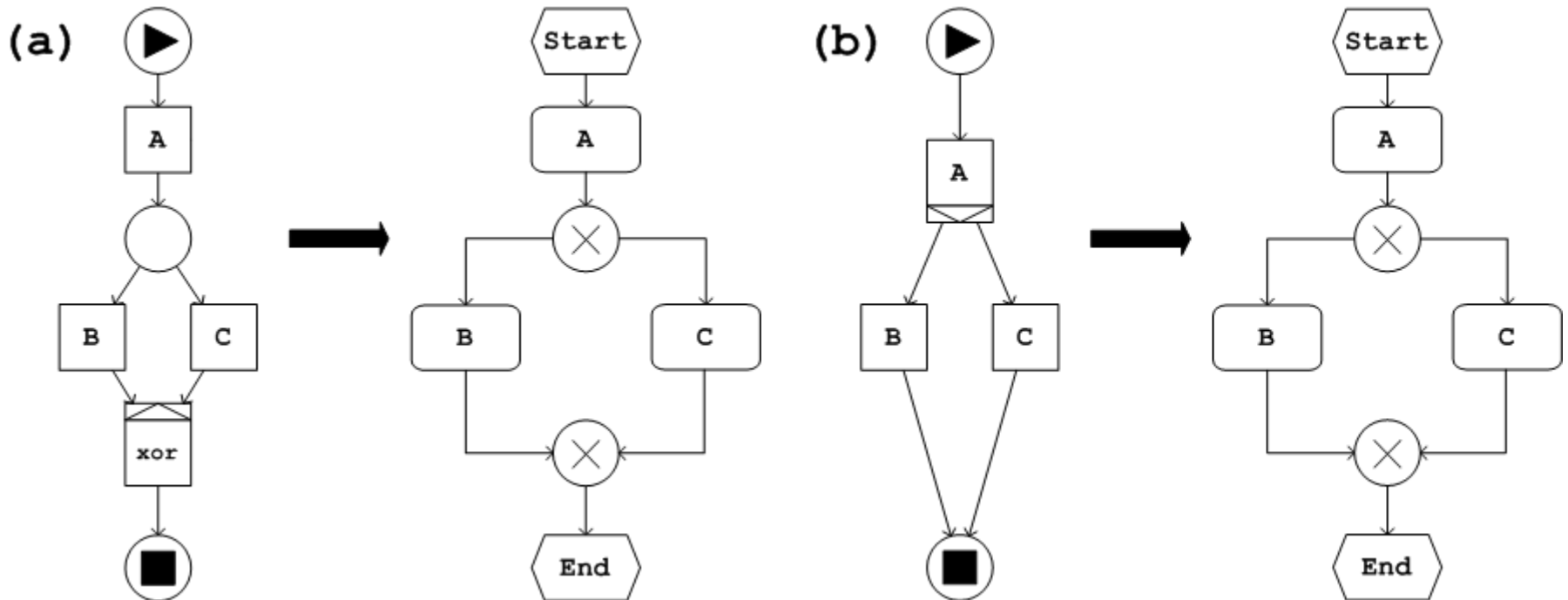
Mapping YAWL to EPCs



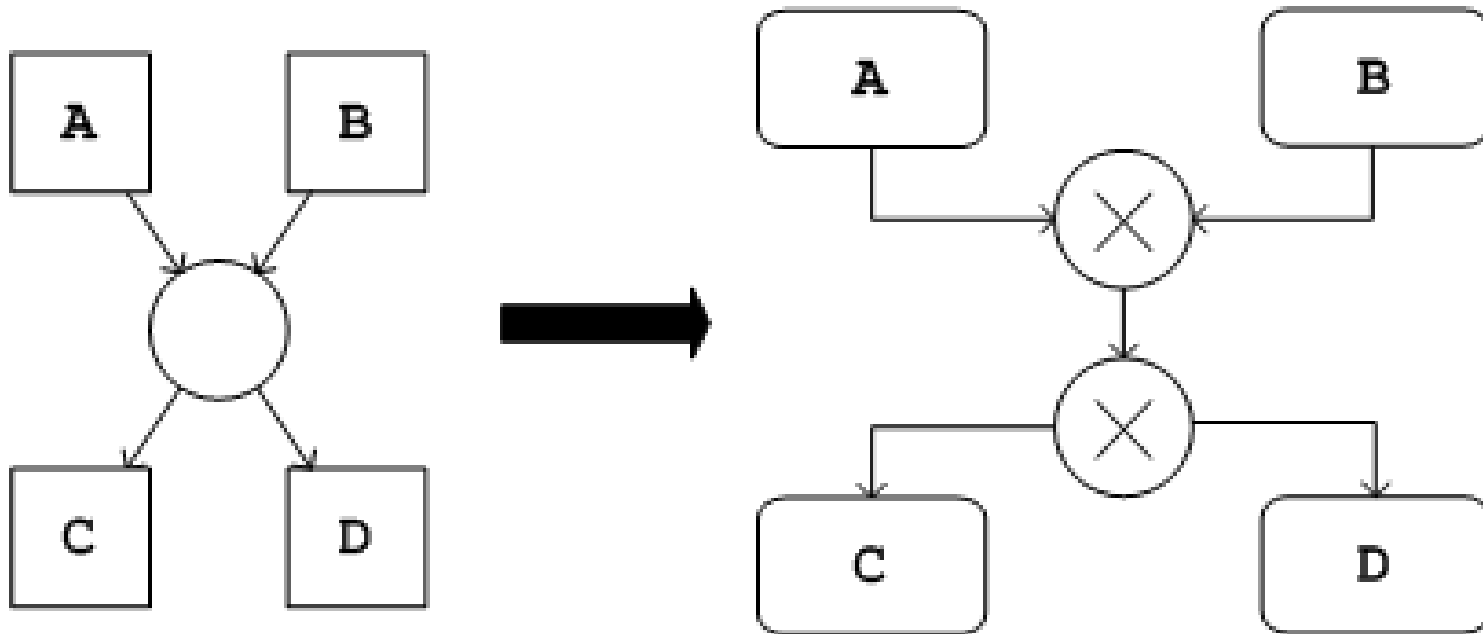
Mapping YAWL to EPCs



Different YAWL, same EPC



A YAWL Condition and two EPC Connectors



Summary

- EPCs are heavily used in industry practice
- A mapping to YAWL is rather straight-forward
- A mapping from YAWL to EPCs is challenging due to missing non-free-choice, cancellation and multiple instance support
- A behavior-preserving transformation is possible using the reachability graph and synthesis techniques