ERP Course: Analysis Patterns Accountability, Inventory, and Accounting
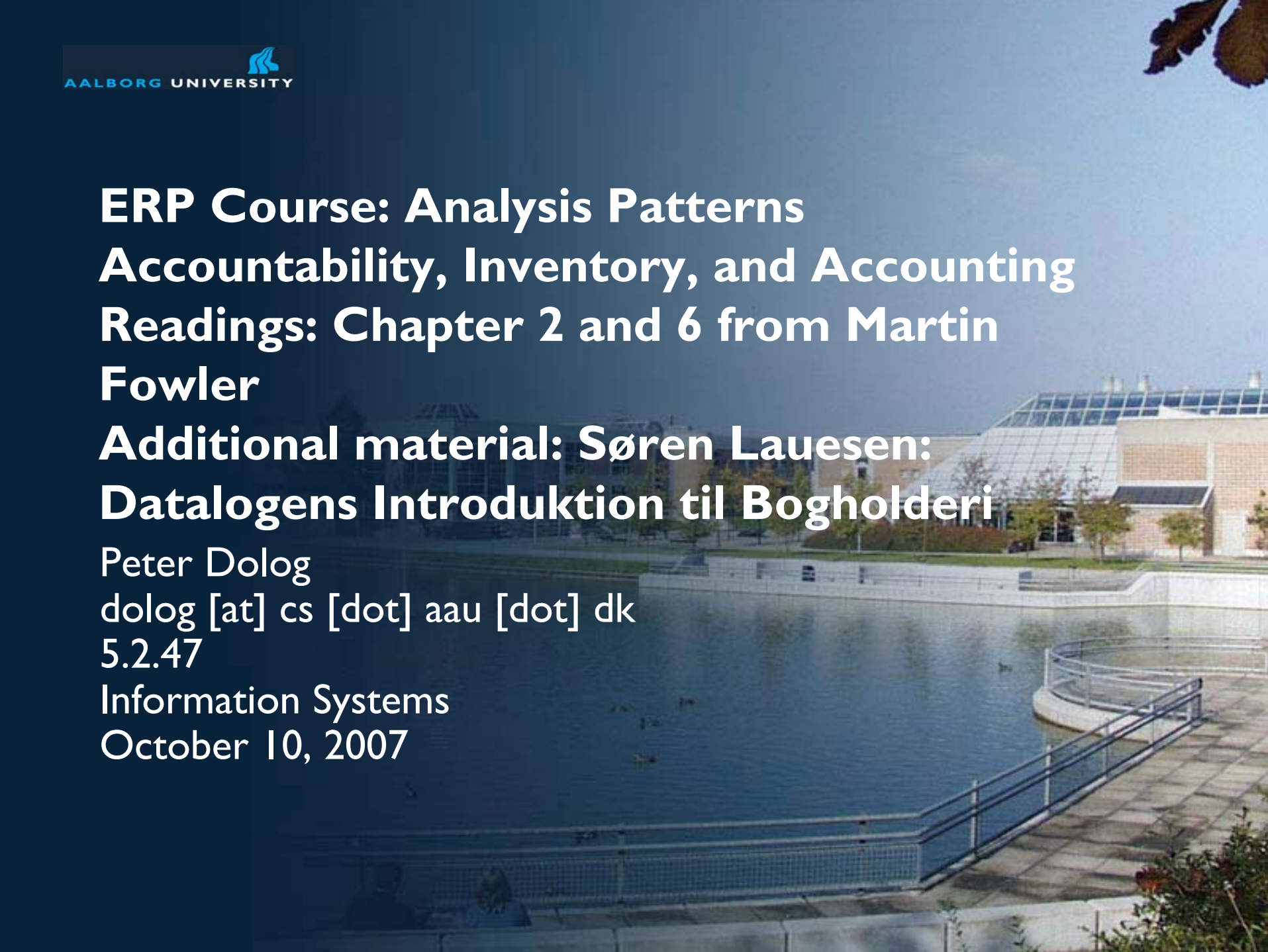# Readings: Chapter 2 and 6 from Martin Fowler
Additional material: Søren Lauesen: Datalogens Introduktion til Bogholderi

Peter Dolog
dolog [at] cs [dot] aau [dot] dk
5.2.47
Information Systems
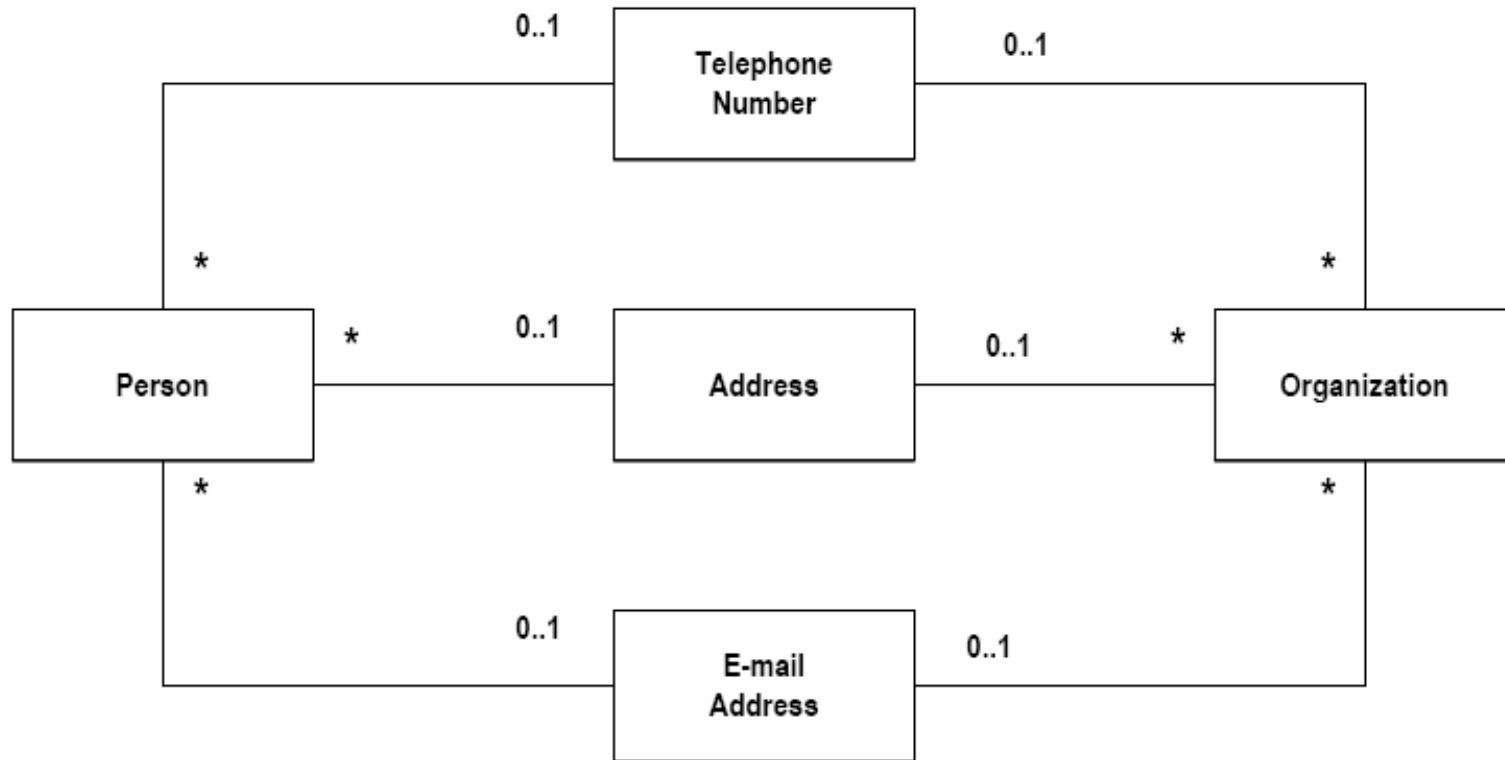October 10, 2007

Accountability

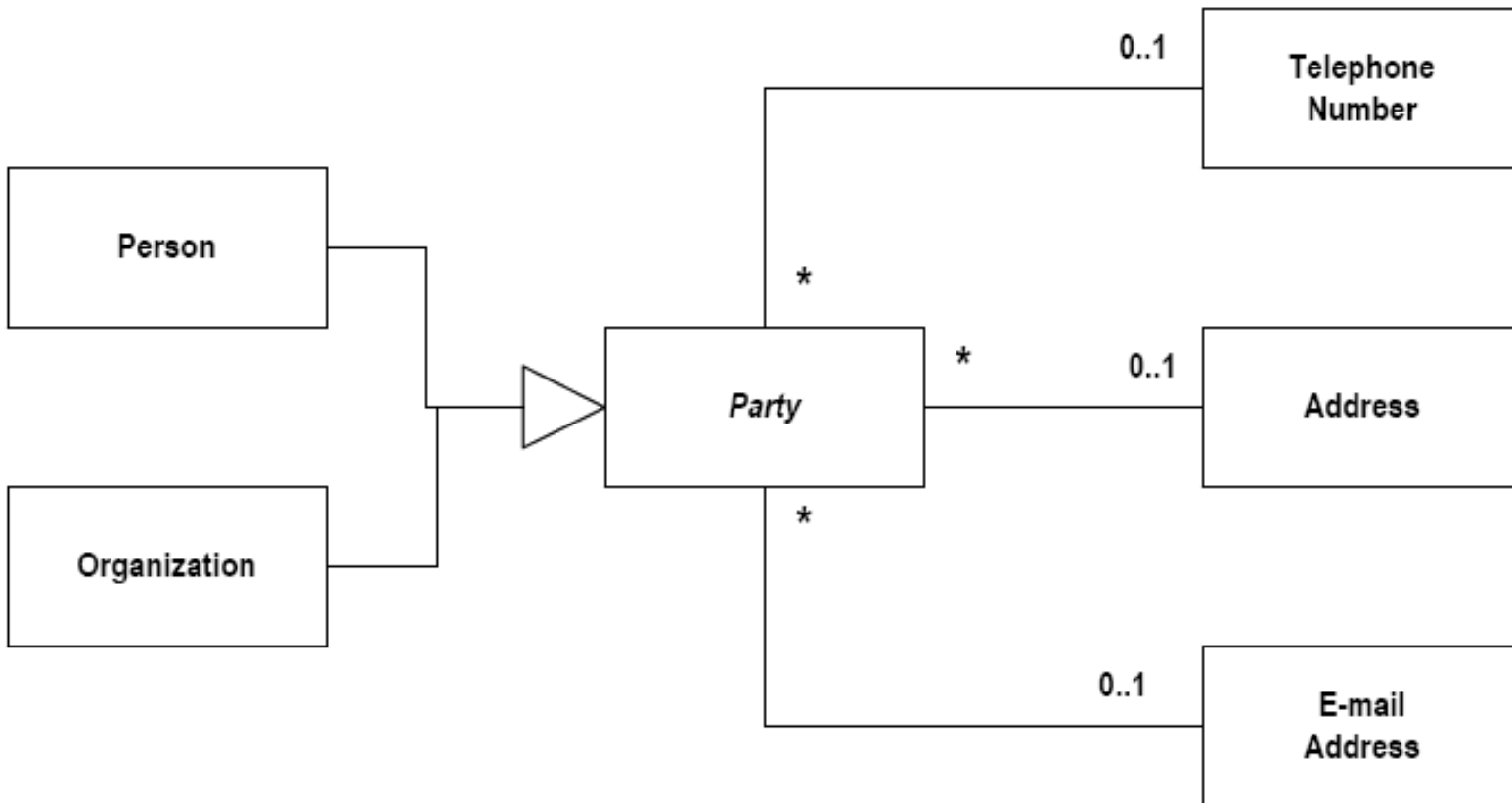A relationship of responsibility between responsee and
responsible
Organizational structures
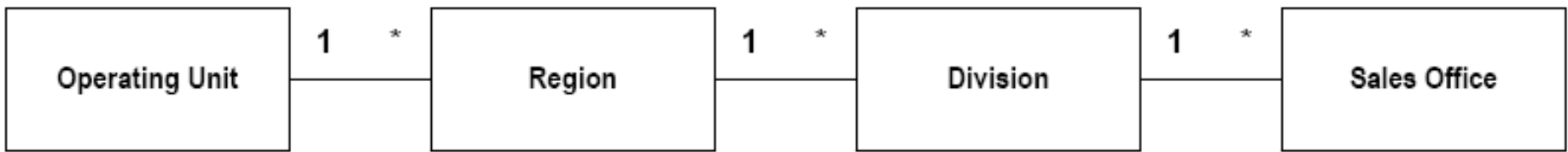Employments
Contracts

Address Book

Party

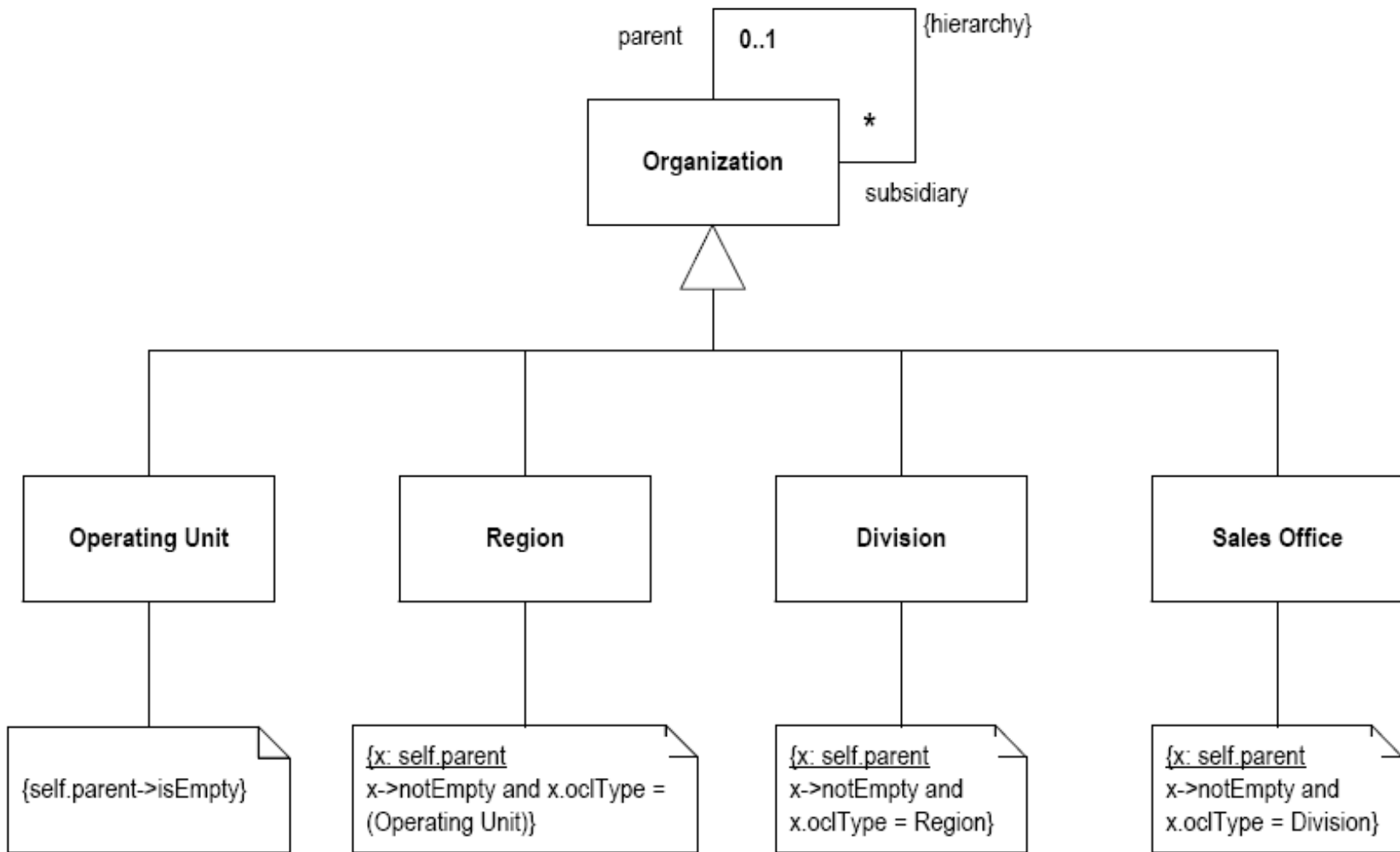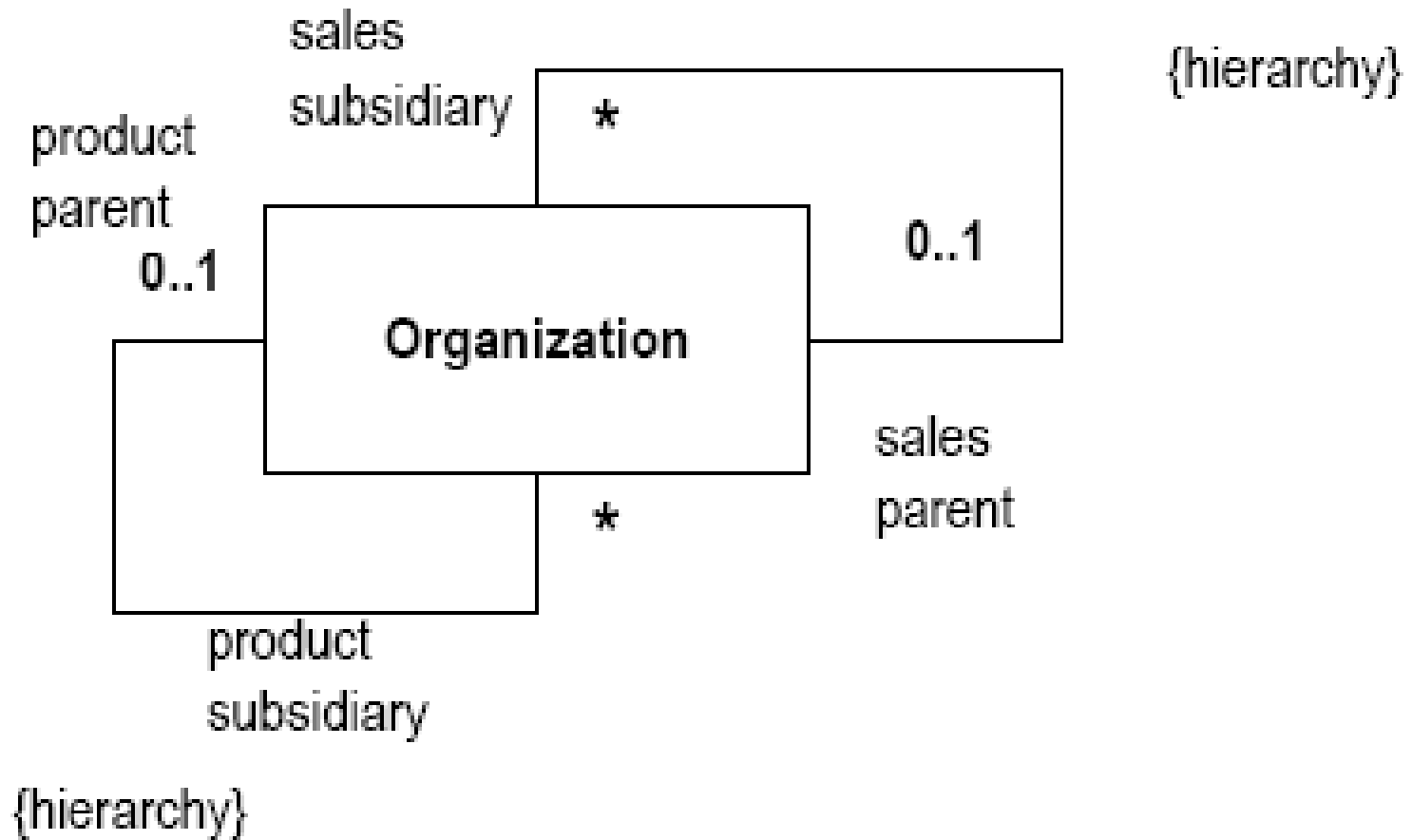# Organization Structure with Explicit Levels

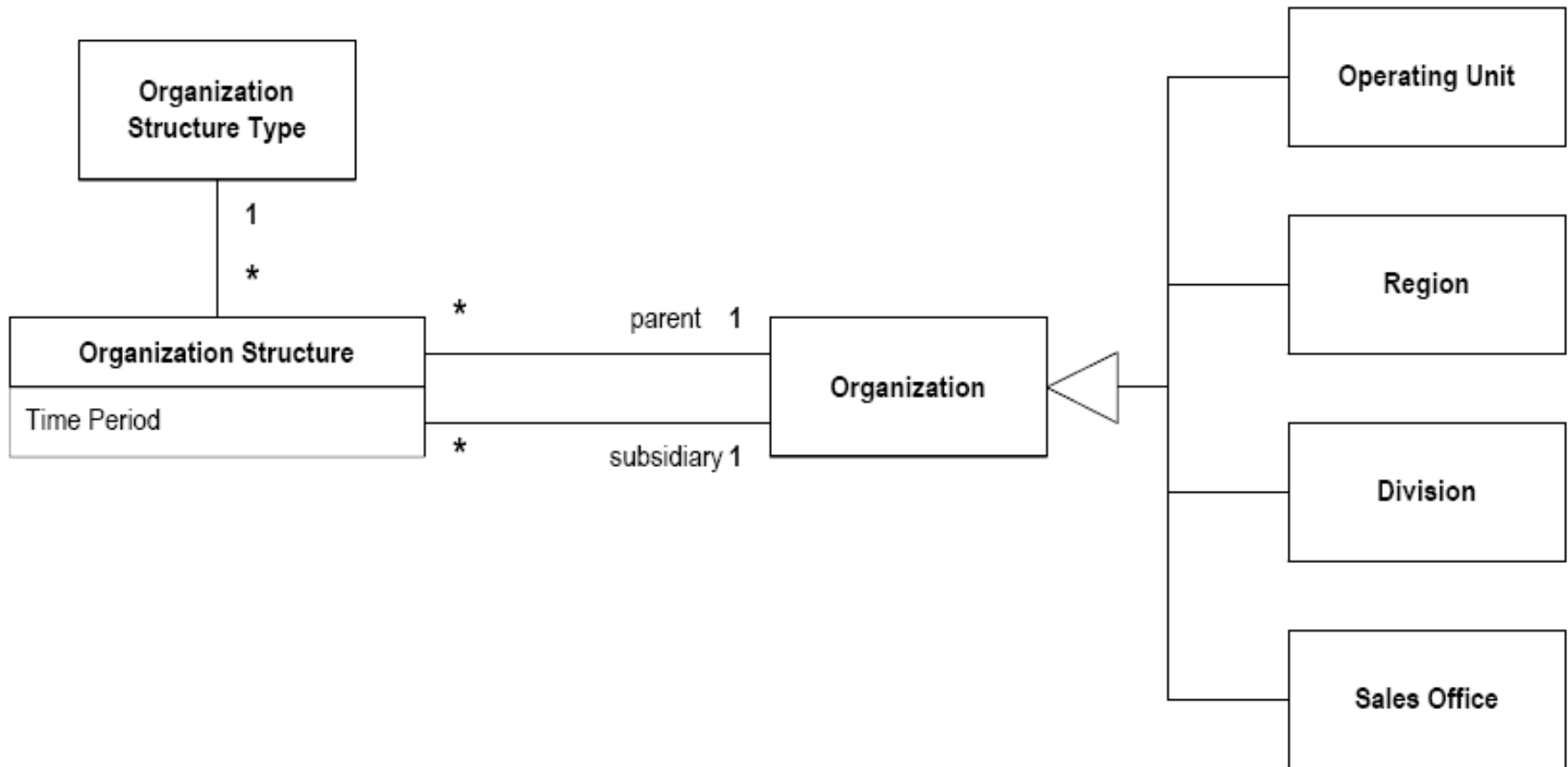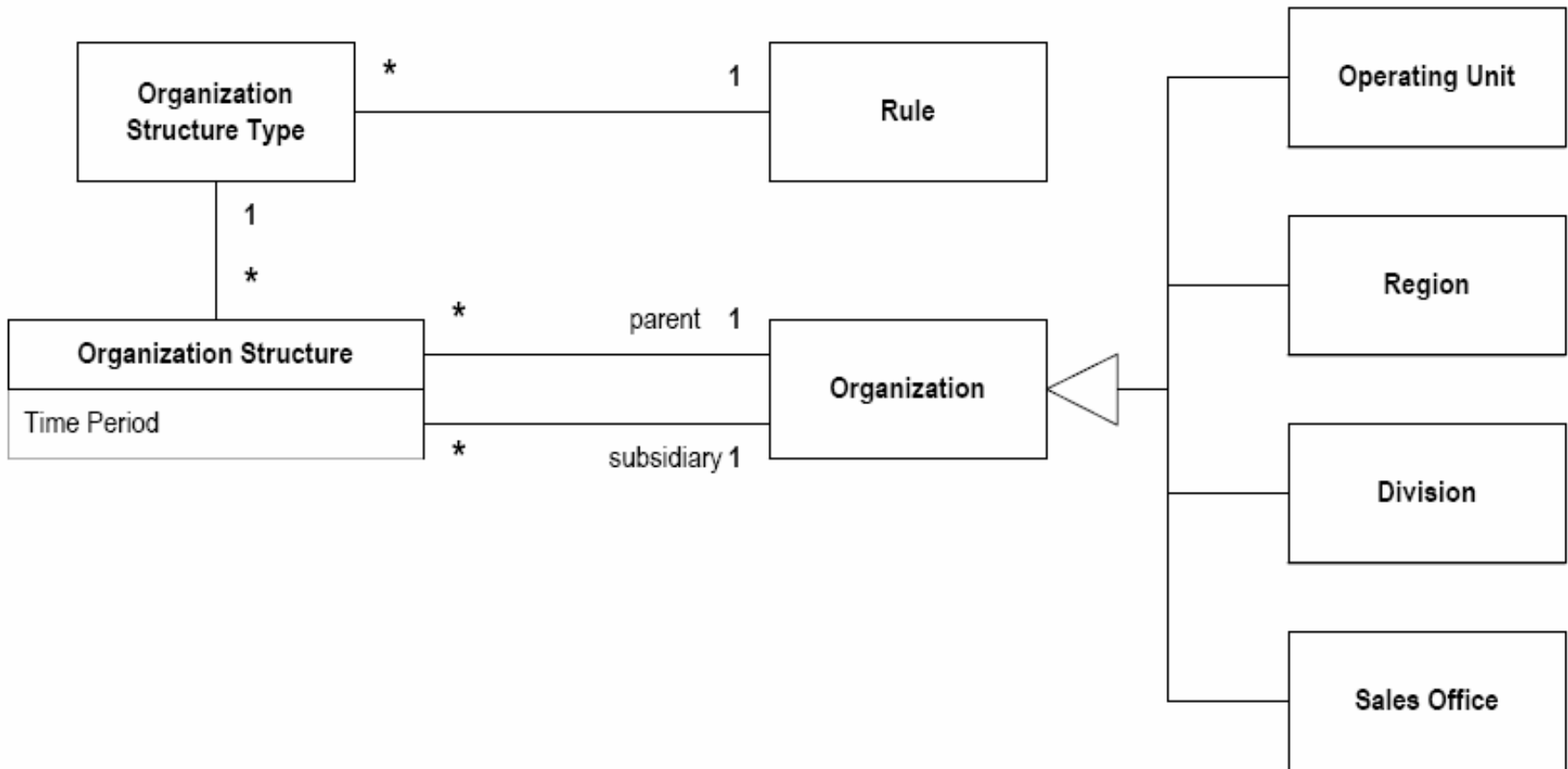| Operating Unit | 1 * | Region | 1 * | Division | 1 * | Sales Office |

Organization Supertype
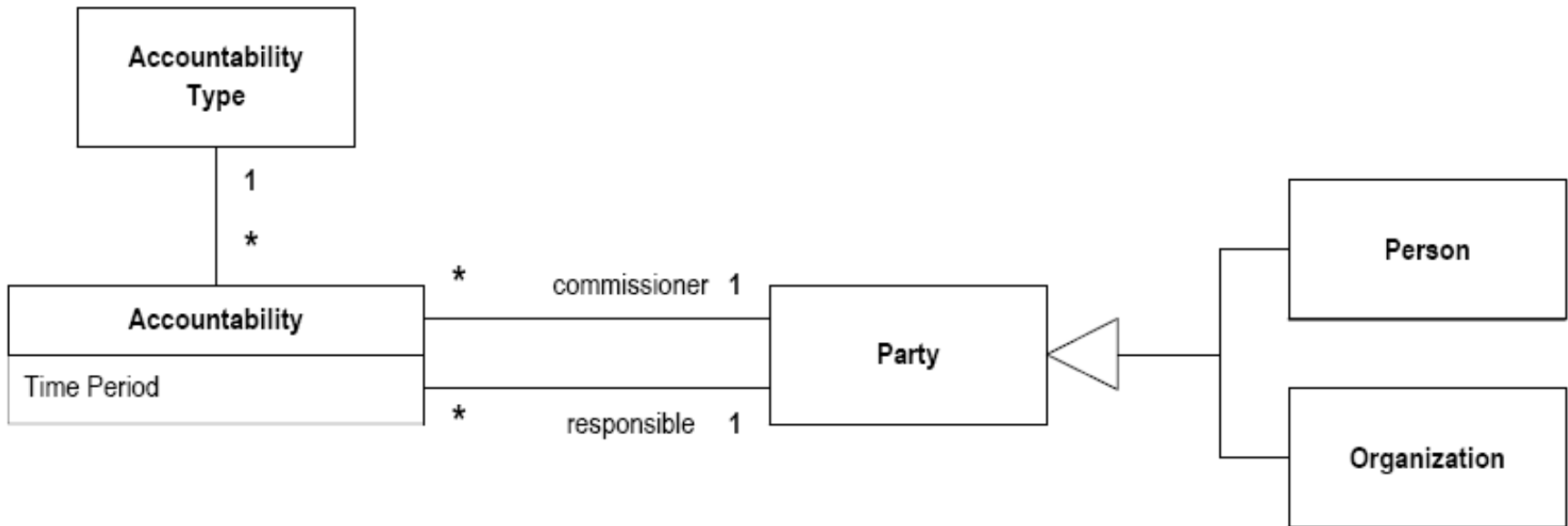
Two organizational hierarchies
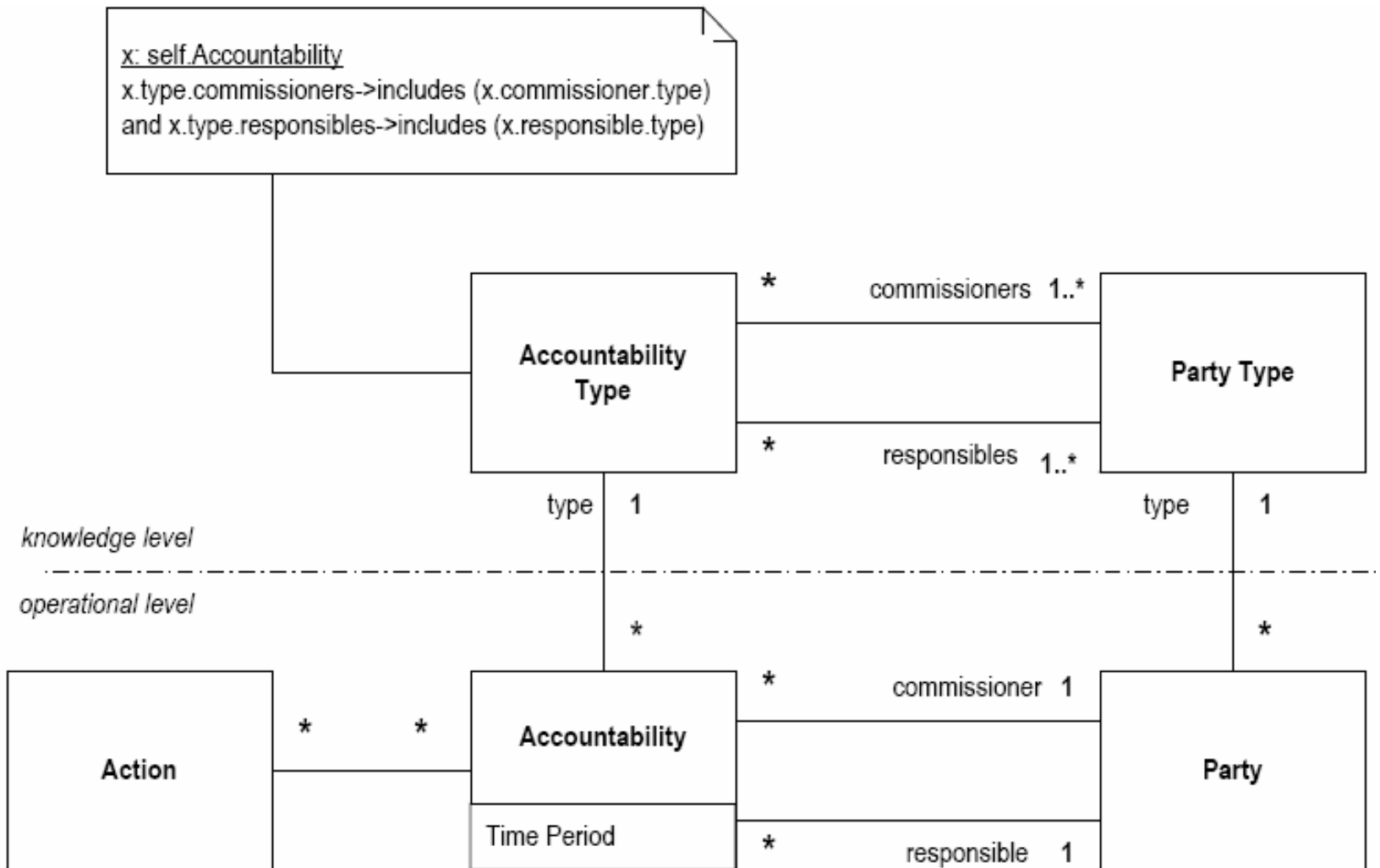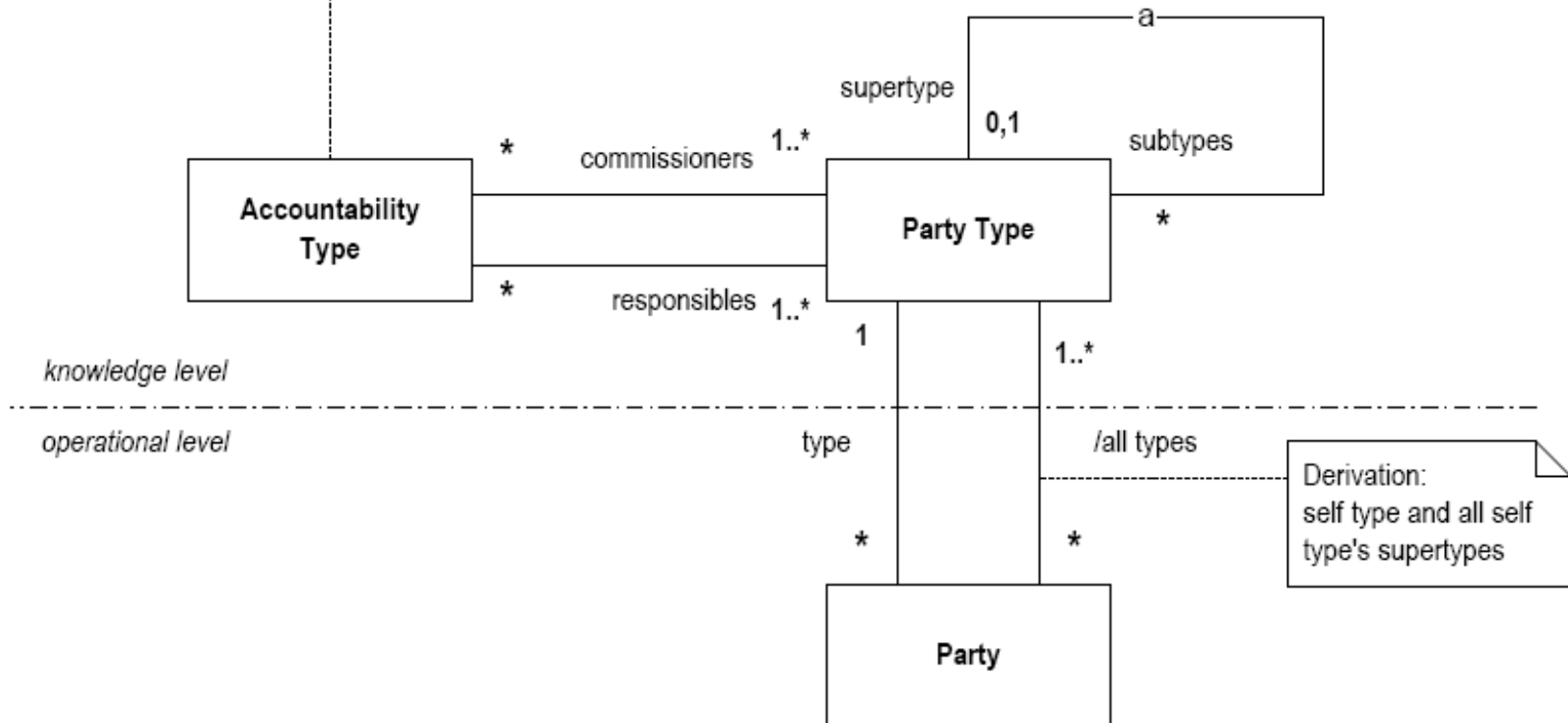
Typed Relationships
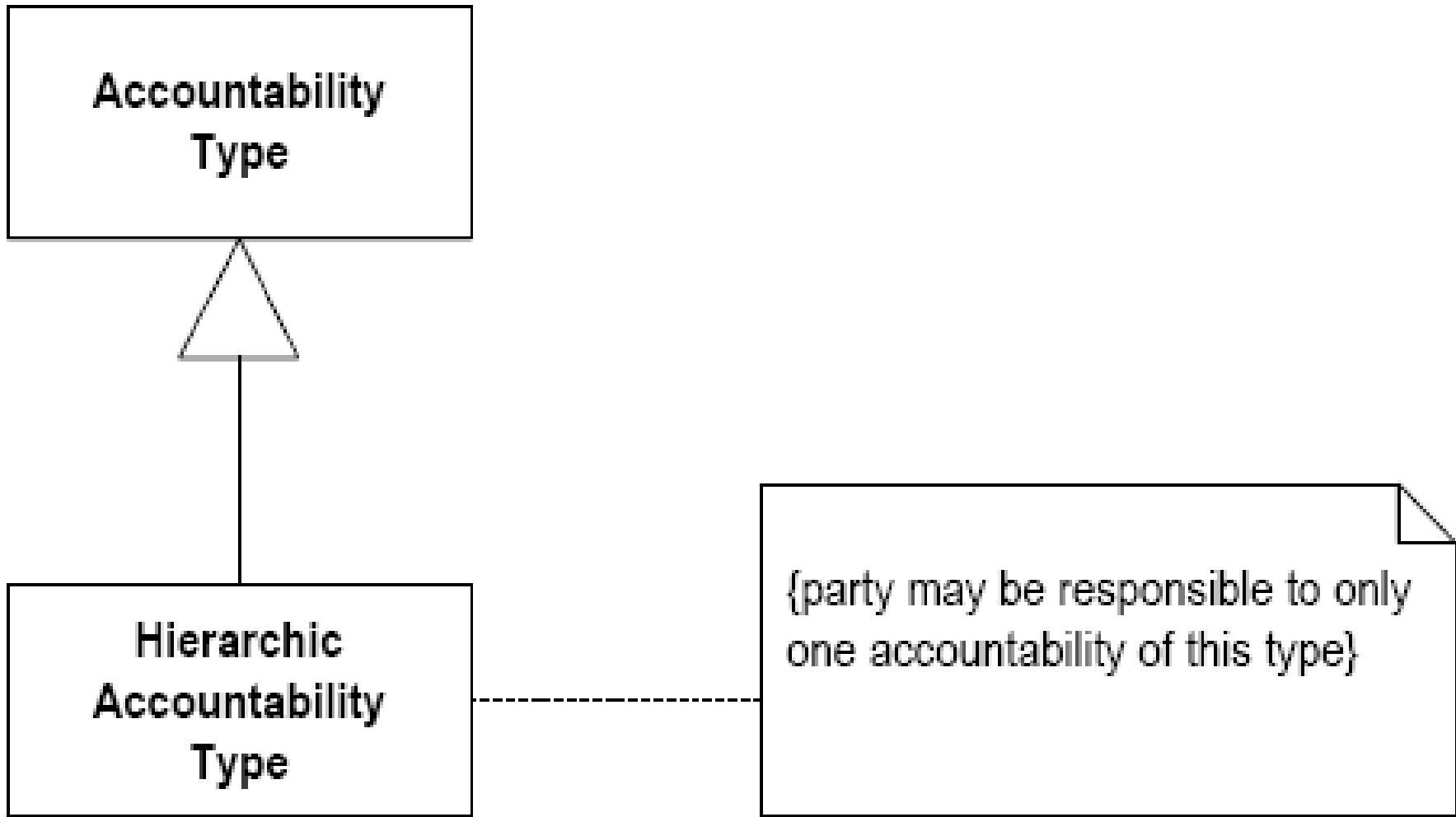
Rules

Accountability

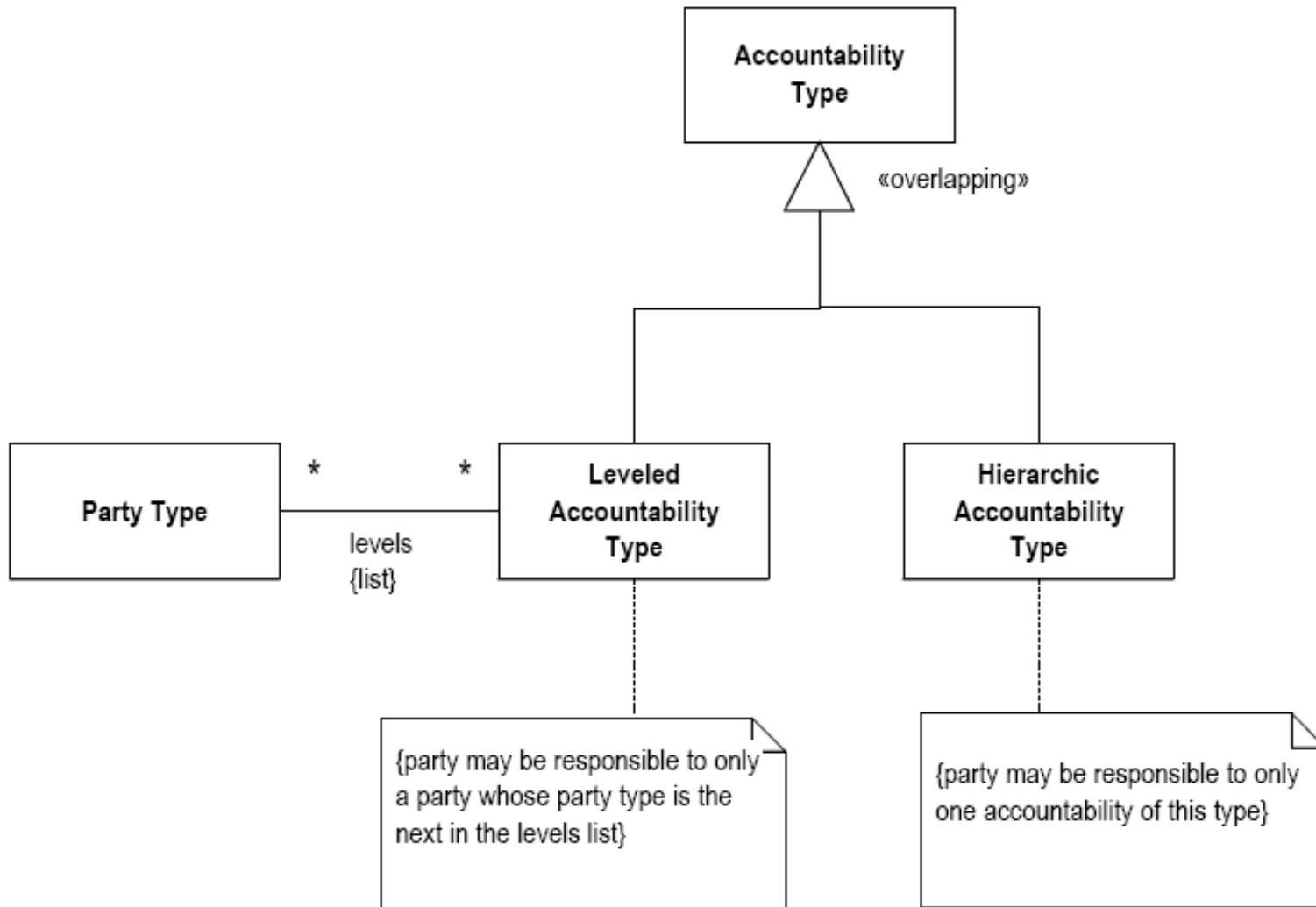# Knowledge and operational levels

Party Type Generalizations

{x: self.Accountability
x.commissioner->allTypes->intersection (x.type.commissioners)->notEmpty
and x.responsible->allTypes->intersection (x.type.responsibles)->notEmpty}
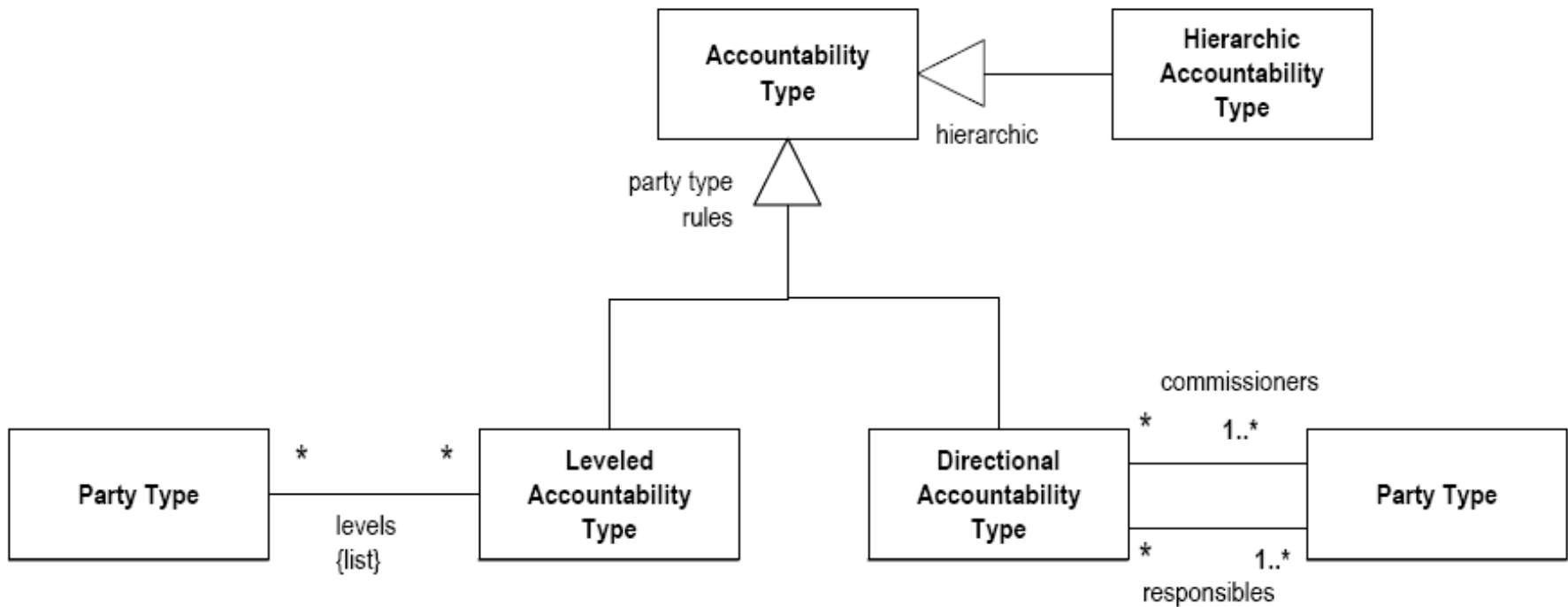
Derivation:
self type and all self
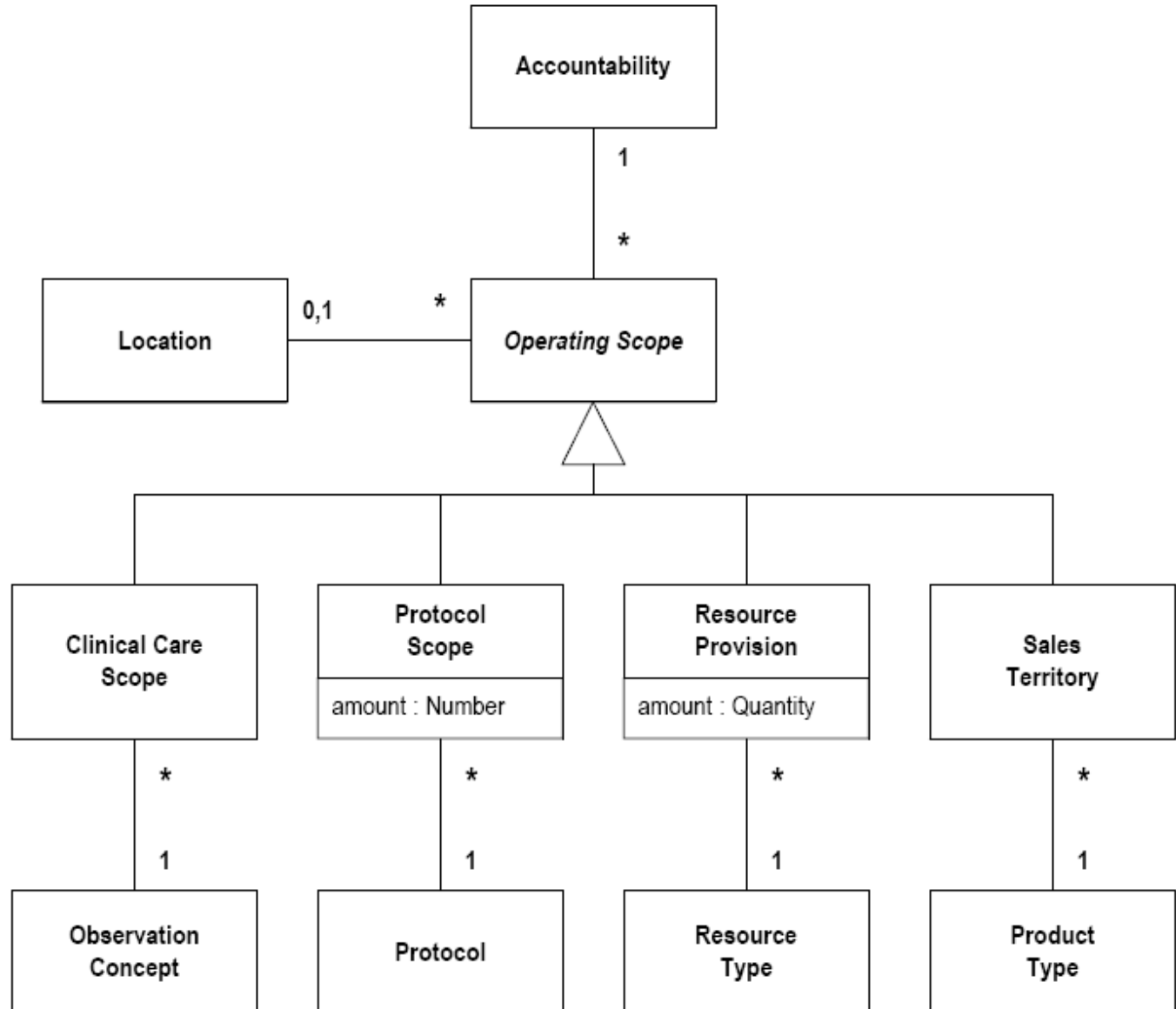type's supertypes

Hierarchic Accountability Type

Leveled Accountability Type

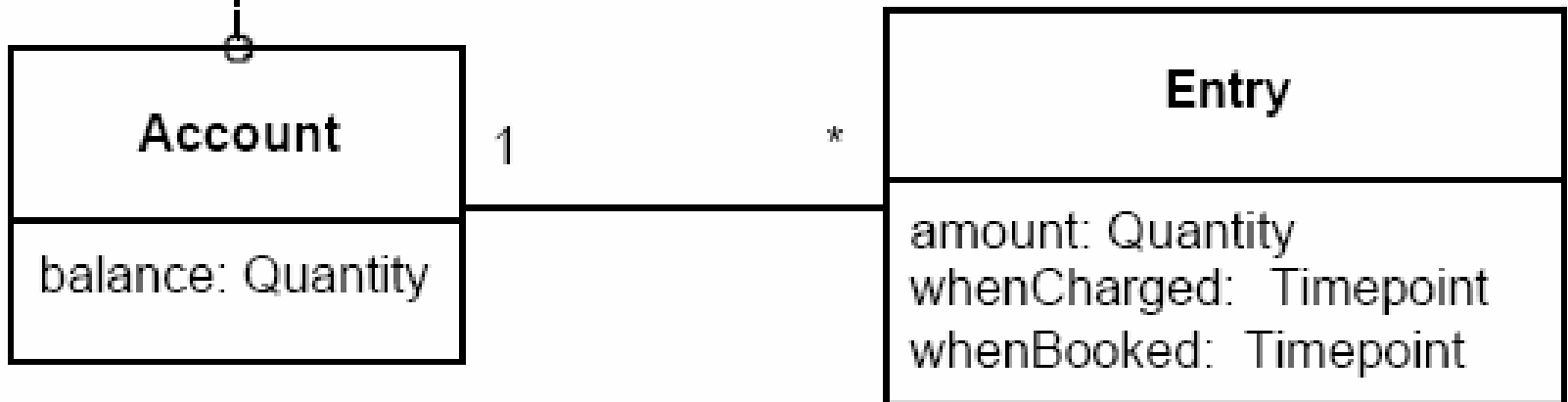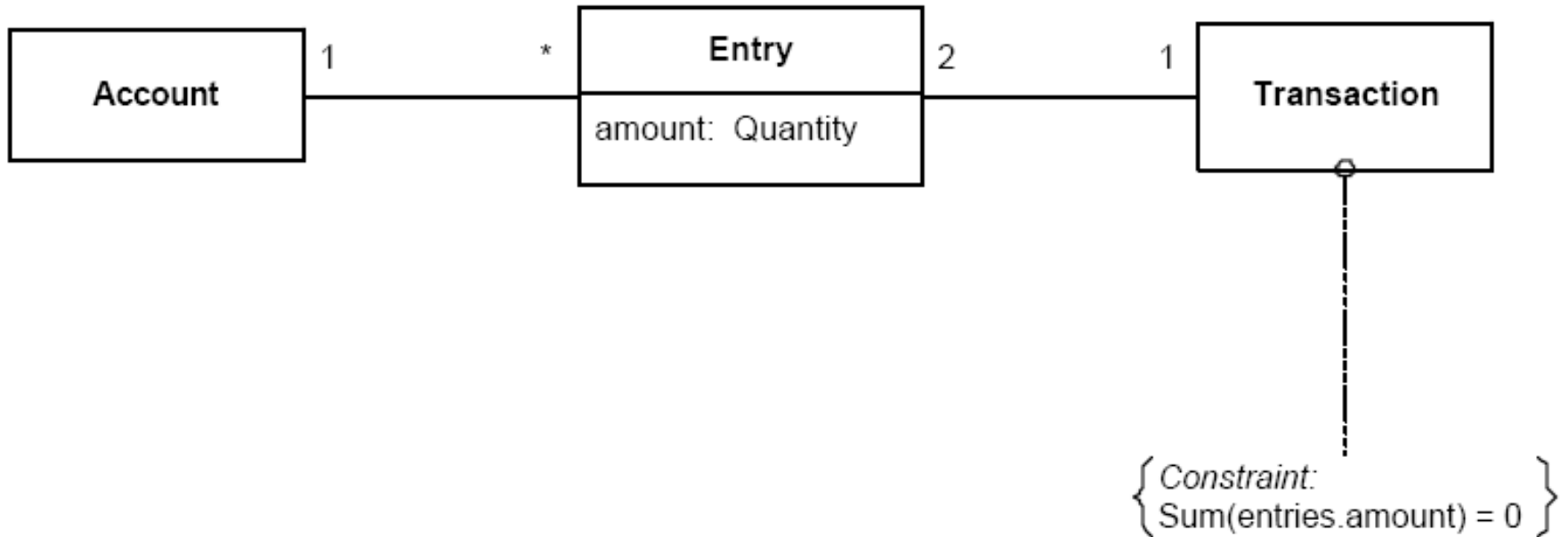# Subtypes of Acountability Types

Operating Scopes

Accounting

Tracing how money move througout the company
Tacking of earnings and expenditures
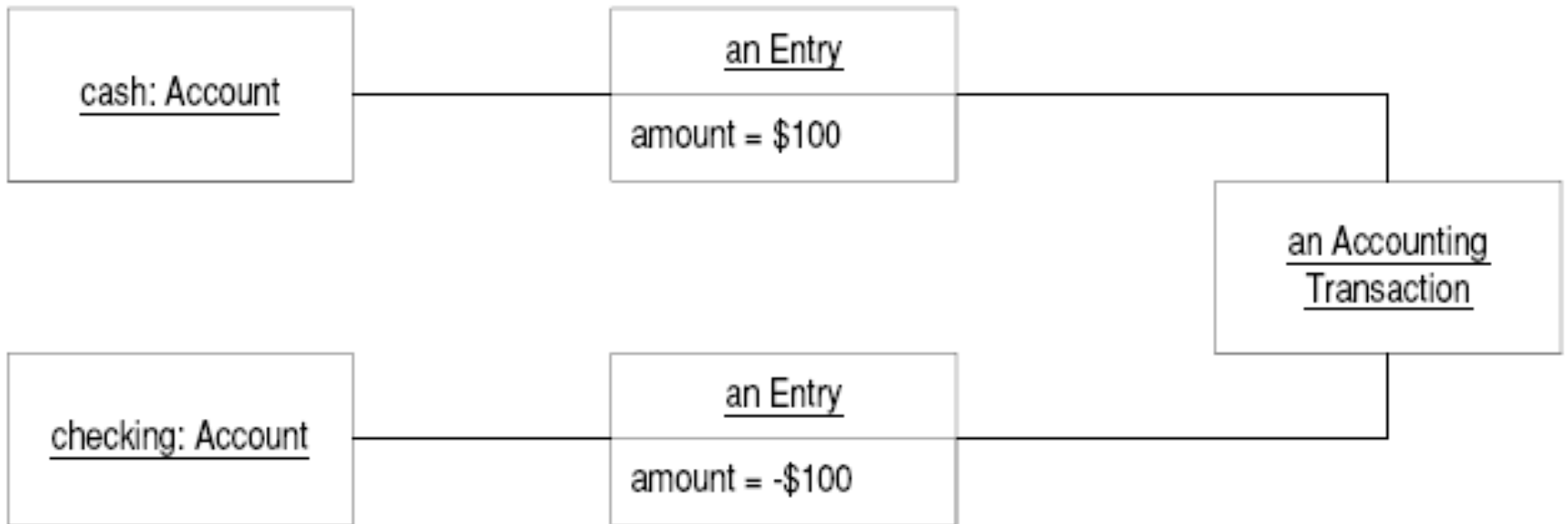Posts of money and goods to record – entries

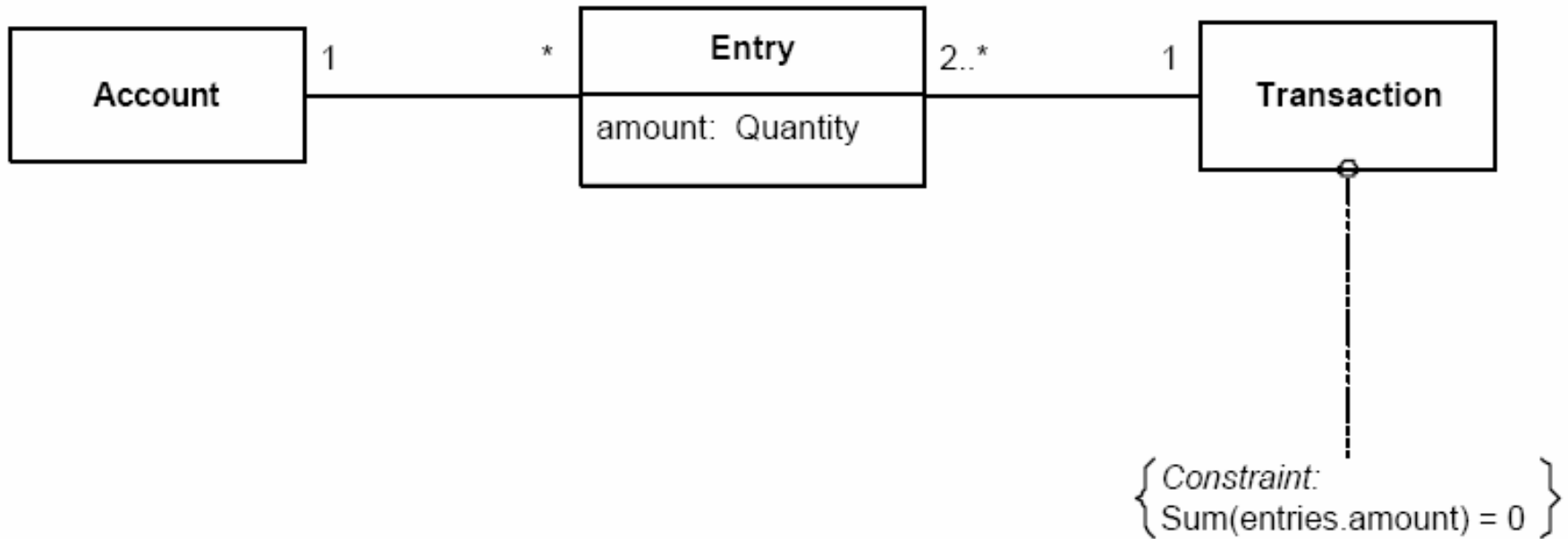# Account

{ Constraint:
balance=sum(entries.amount) }

Account
balance: Quantity

1   *

Entry
amount: Quantity
whenCharged: Timepoint
whenBooked: Timepoint

A Transaction with Two Entries

Account — 1 ... * — Entry (amount: Quantity) — 2 ... 1 — Transaction

Constraint:
Sum(entries.amount) = 0

Instance Example

cash: Account

an Entry

amount = $100
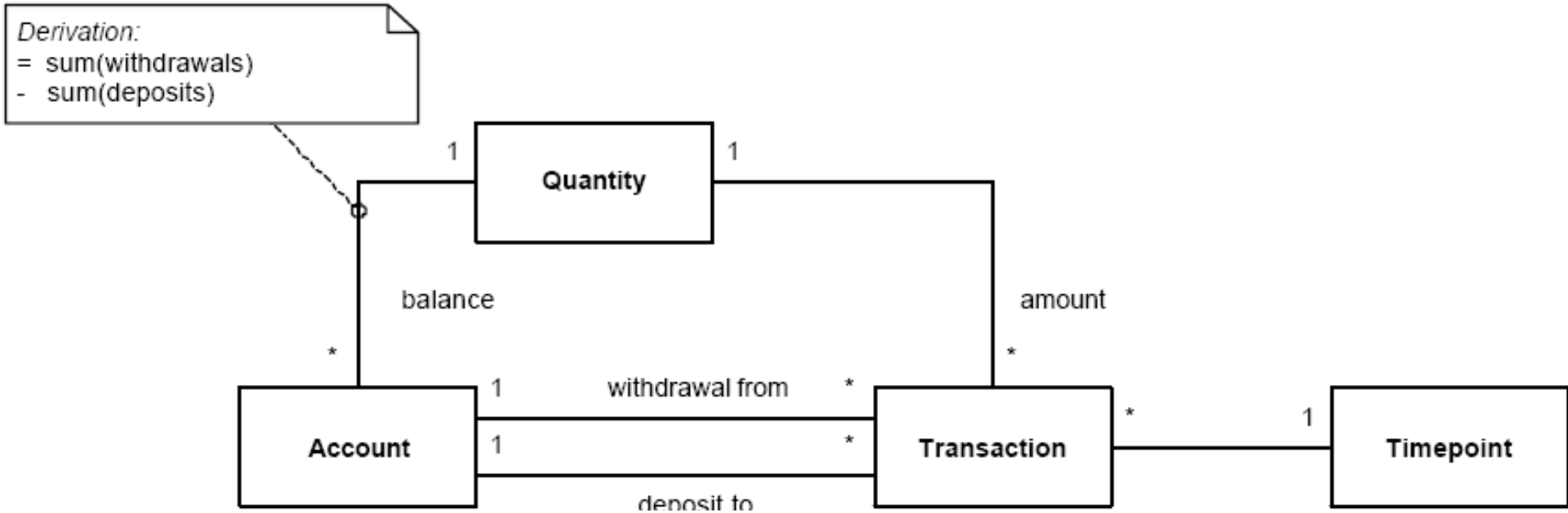
an Accounting Transaction
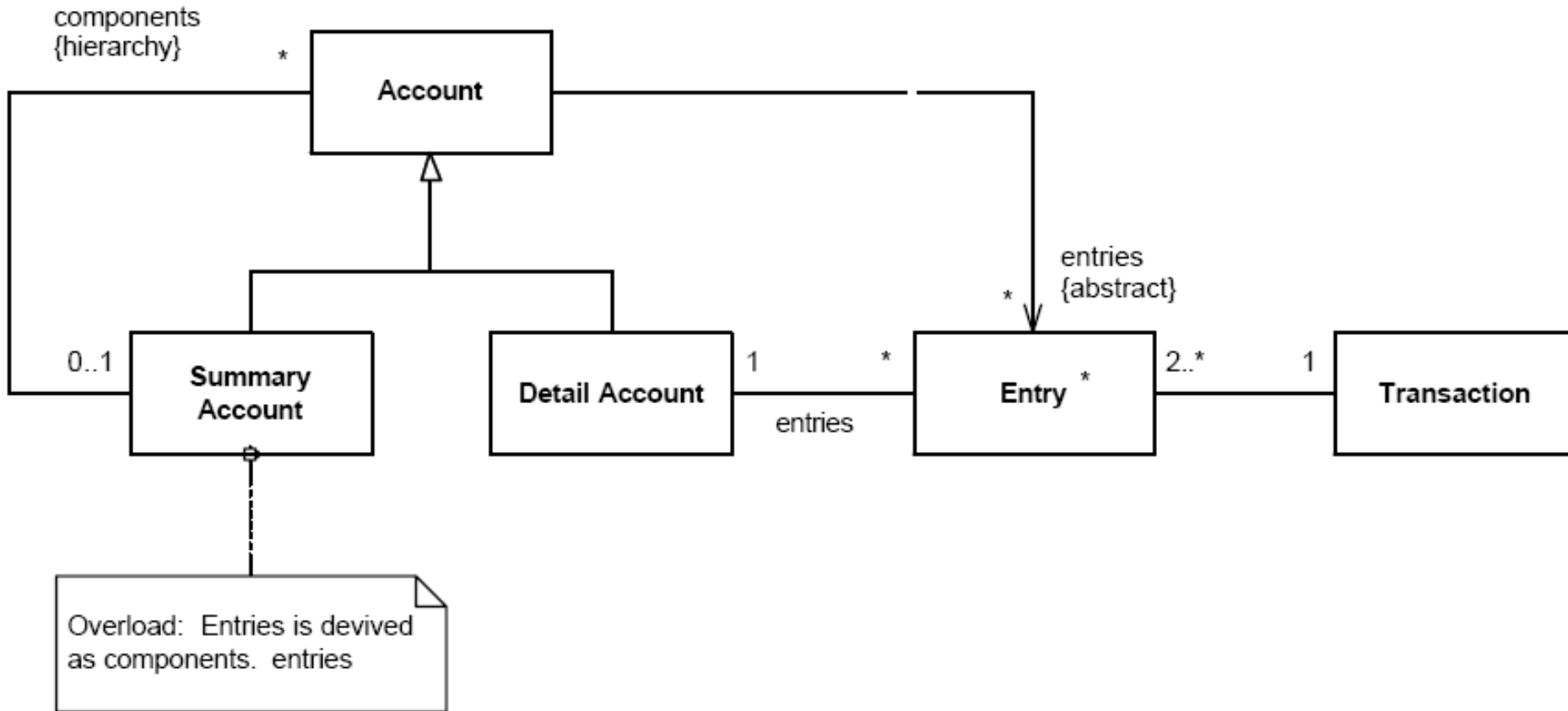
checking: Account

an Entry

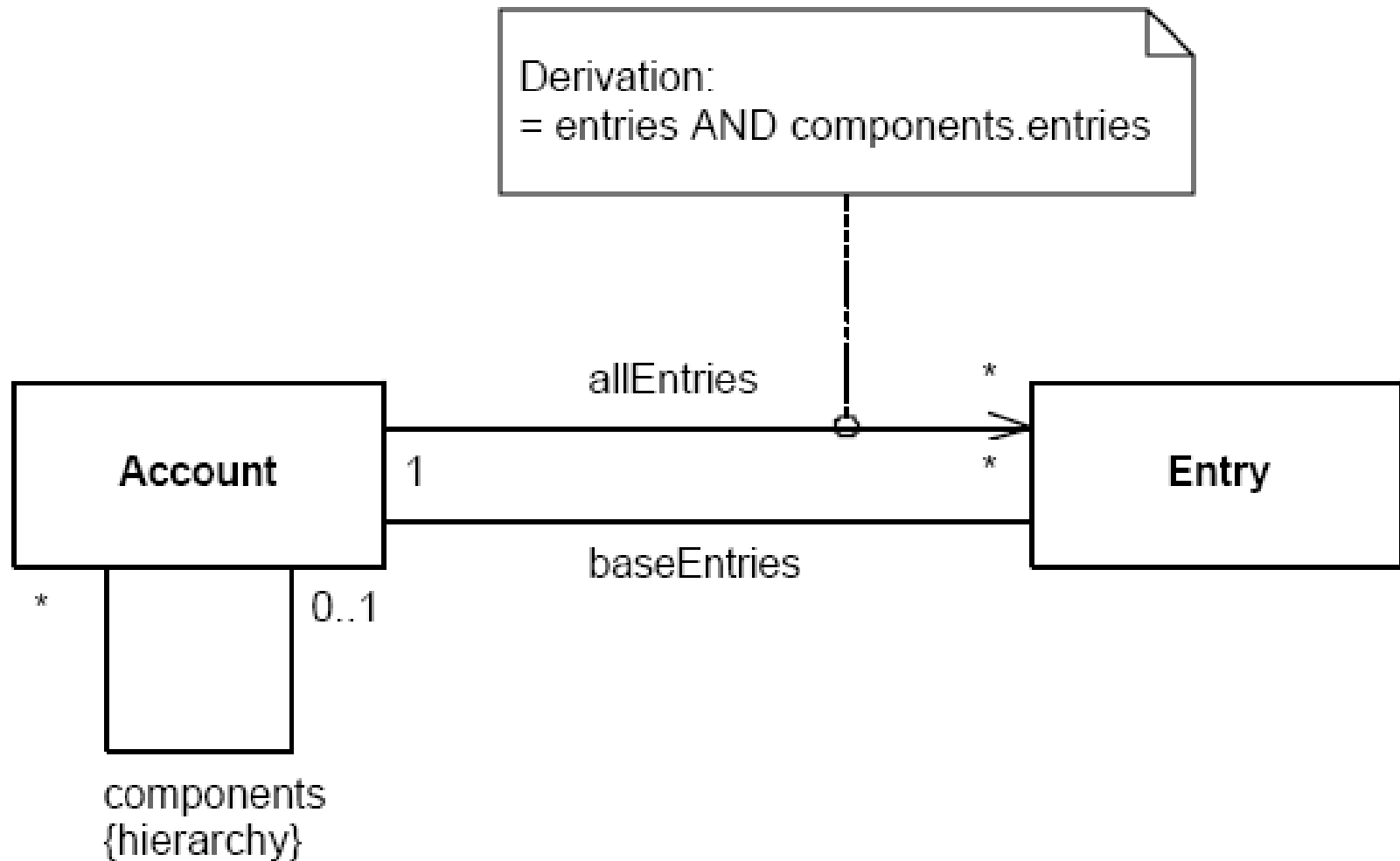amount = -$100

Multiledged Transactions

2-legged transaction without entries

Summary and Detail Accounts
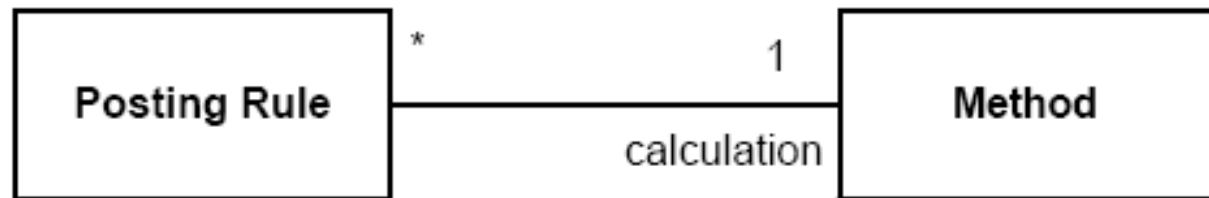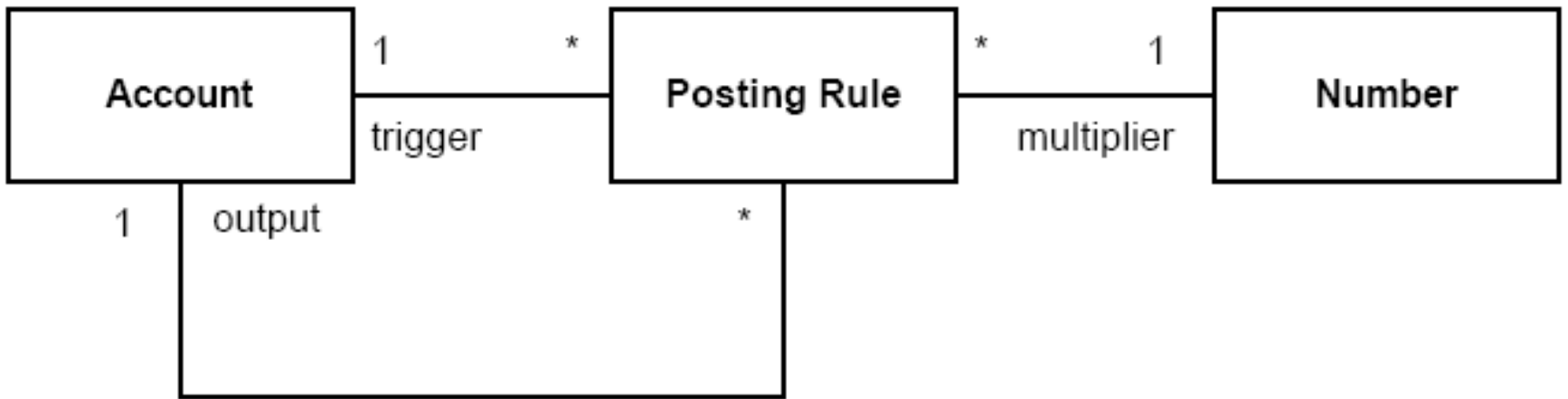
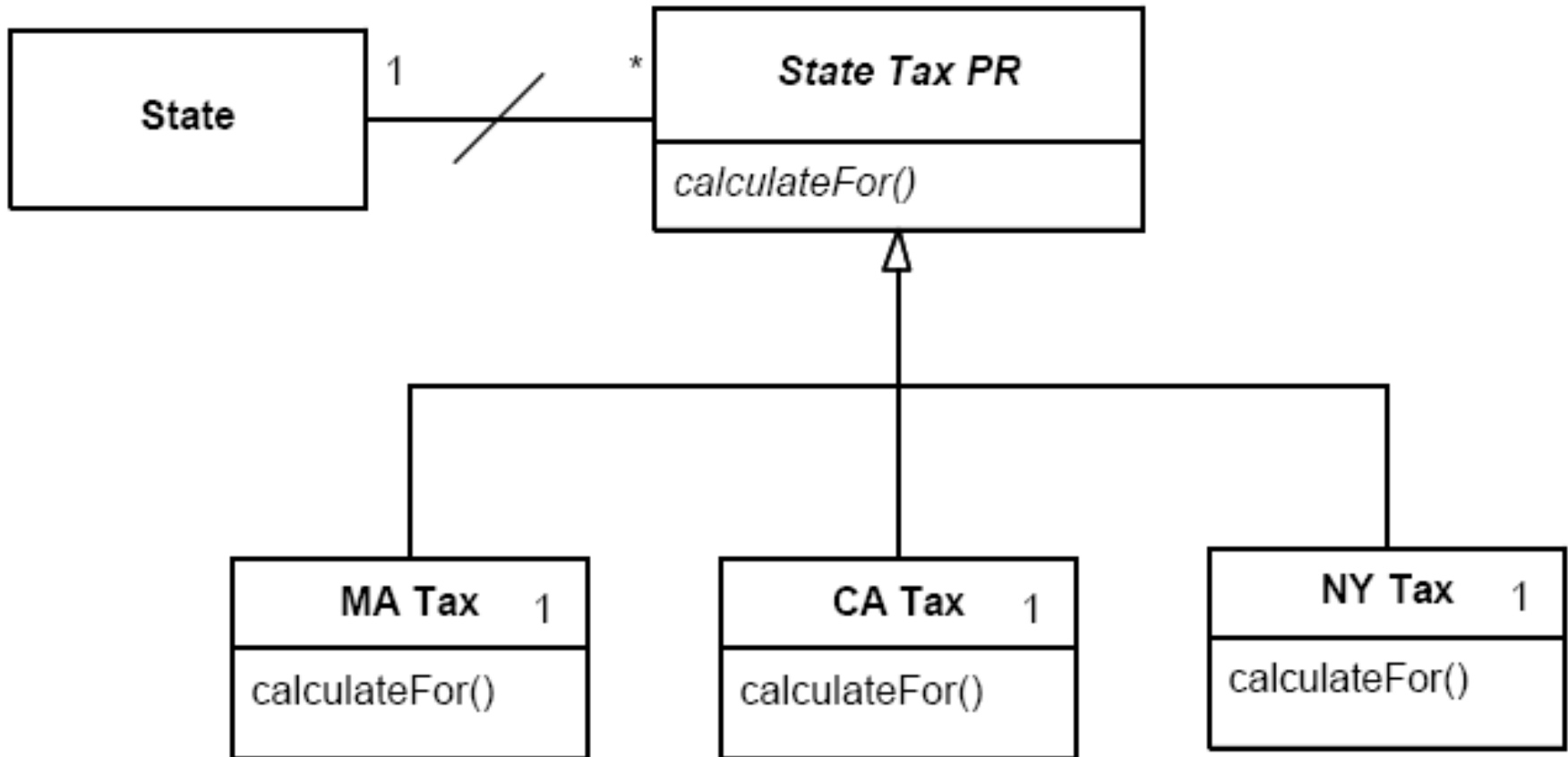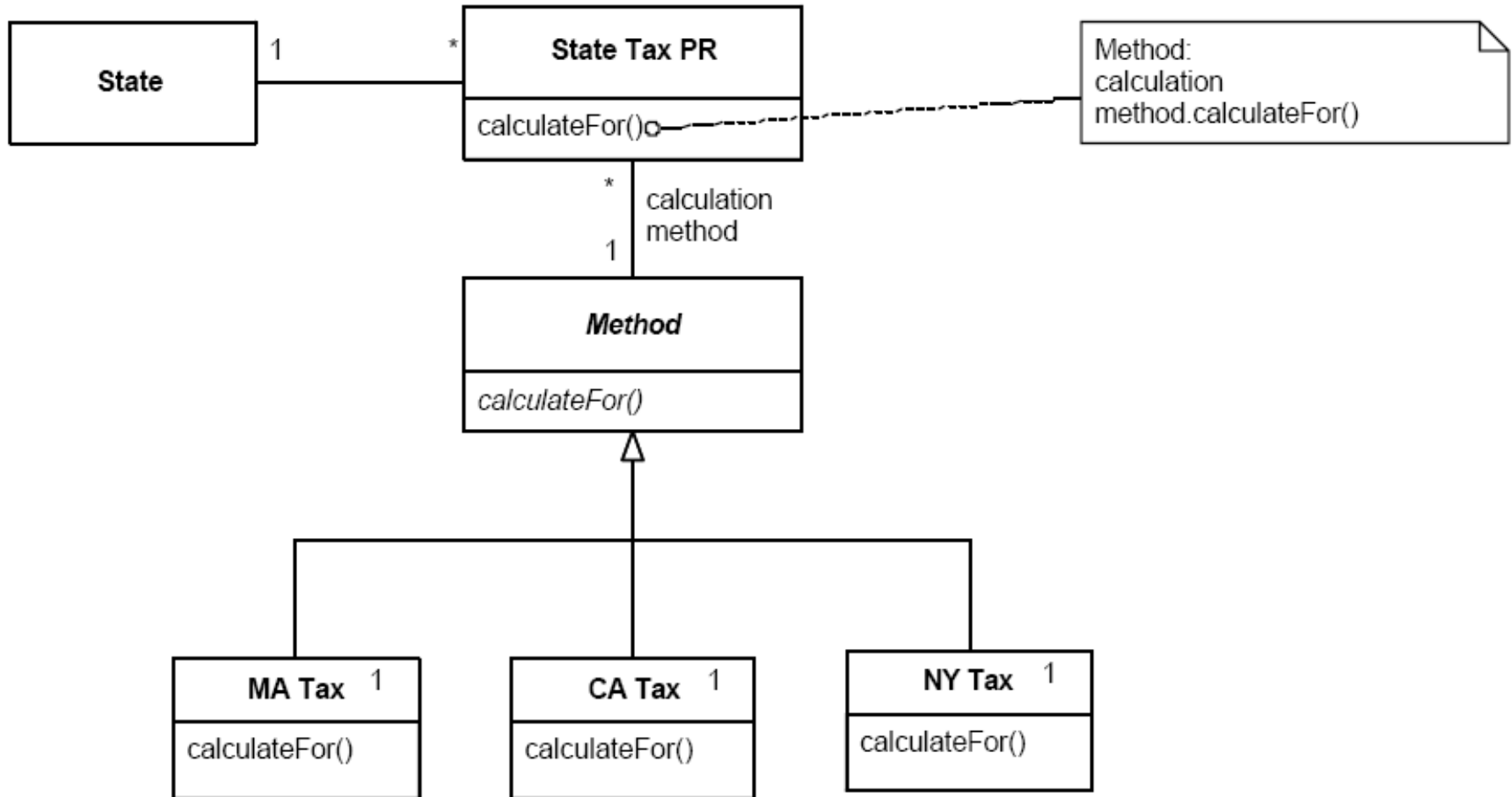# Account hierarchies without separating summary and detail accounts

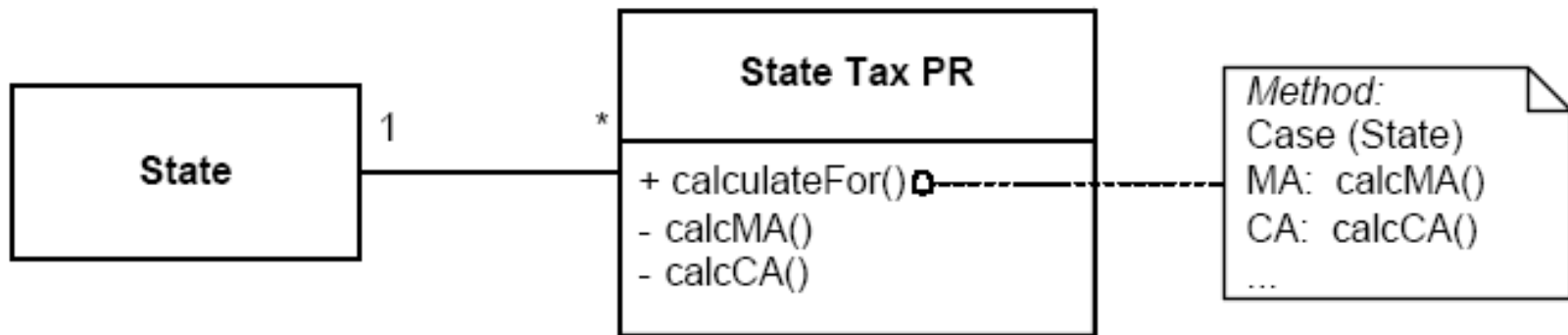# Posting Rules Multiplied by a Factor or a method to calculate an entry
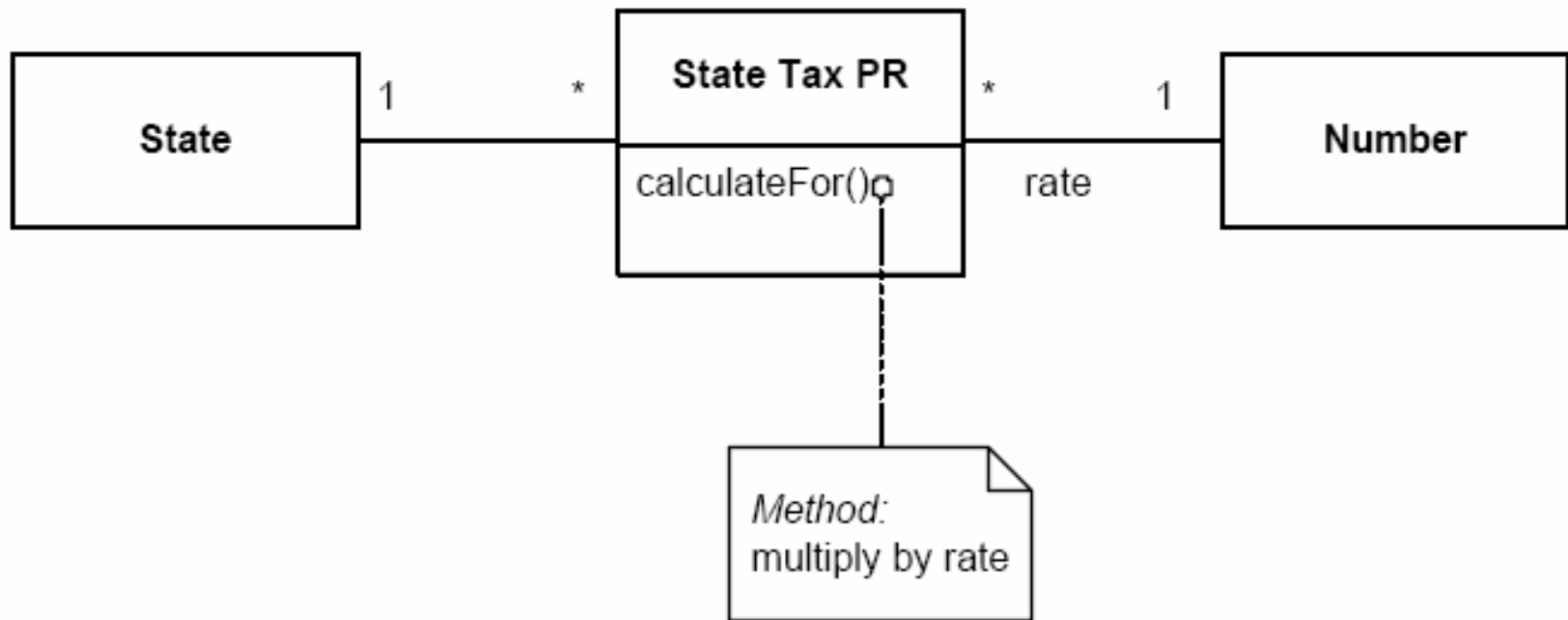
Individual Instance Methods with Singletons

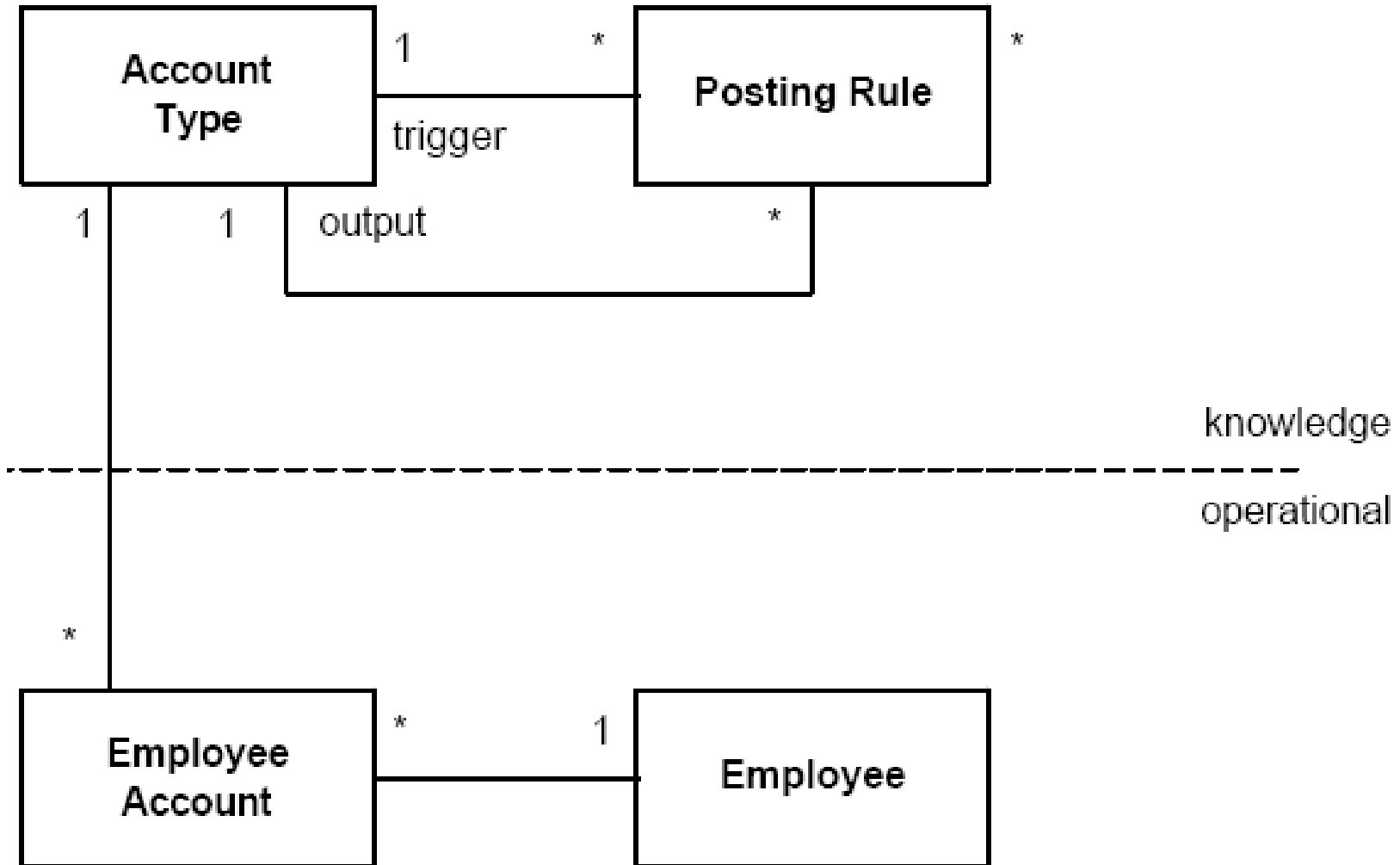# Implementation with Strategy Pattern
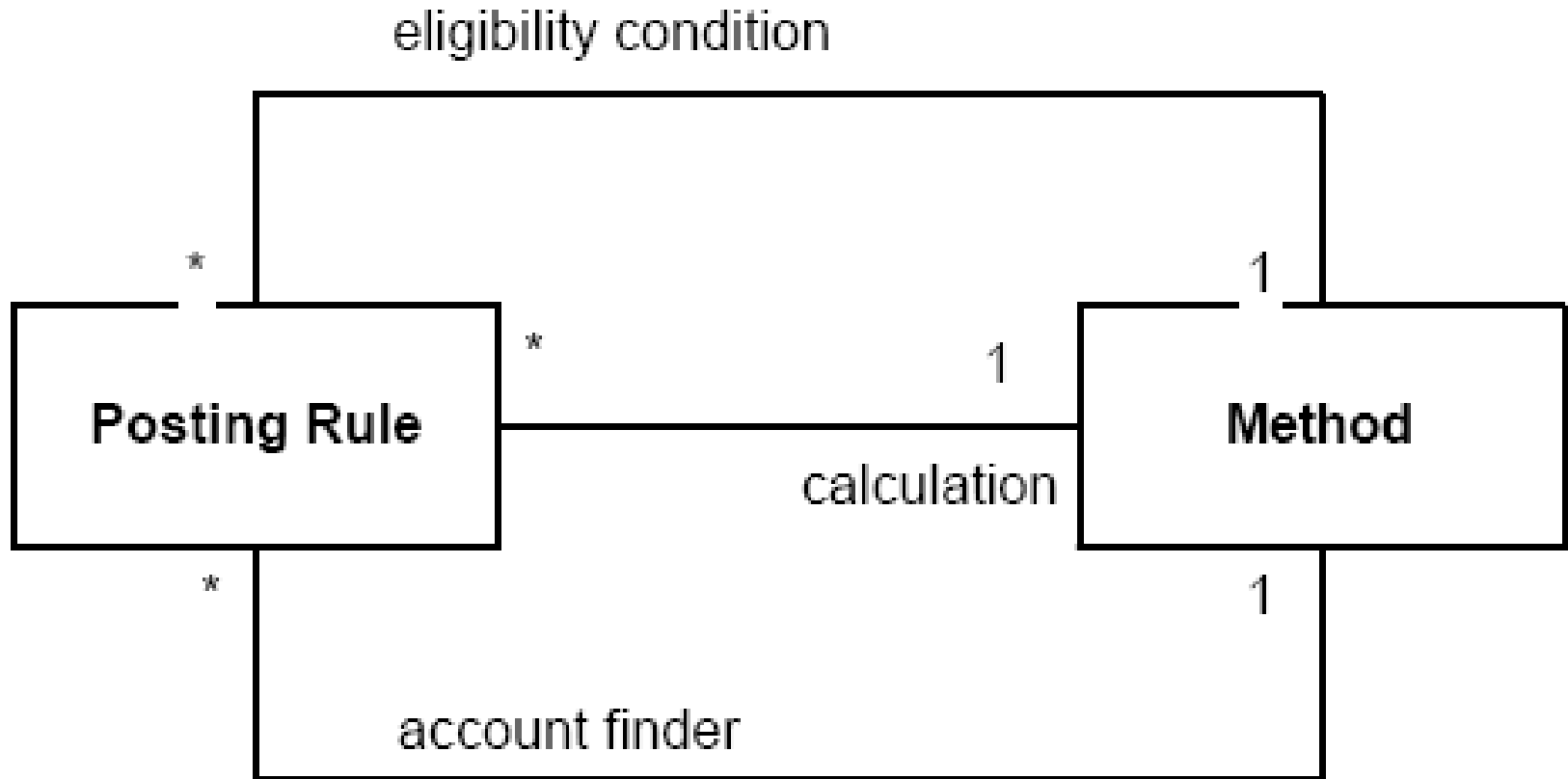
Implementation with Internal Case Statement
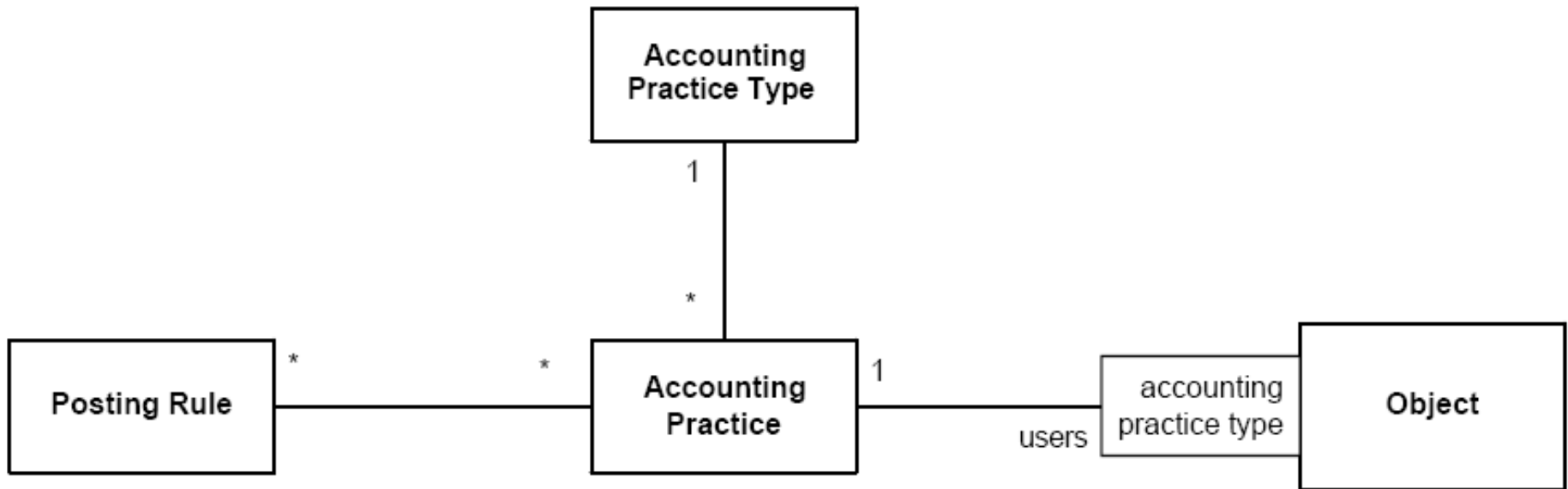
Implementation with Parametrized Method

Posting Rules for Many Accounts
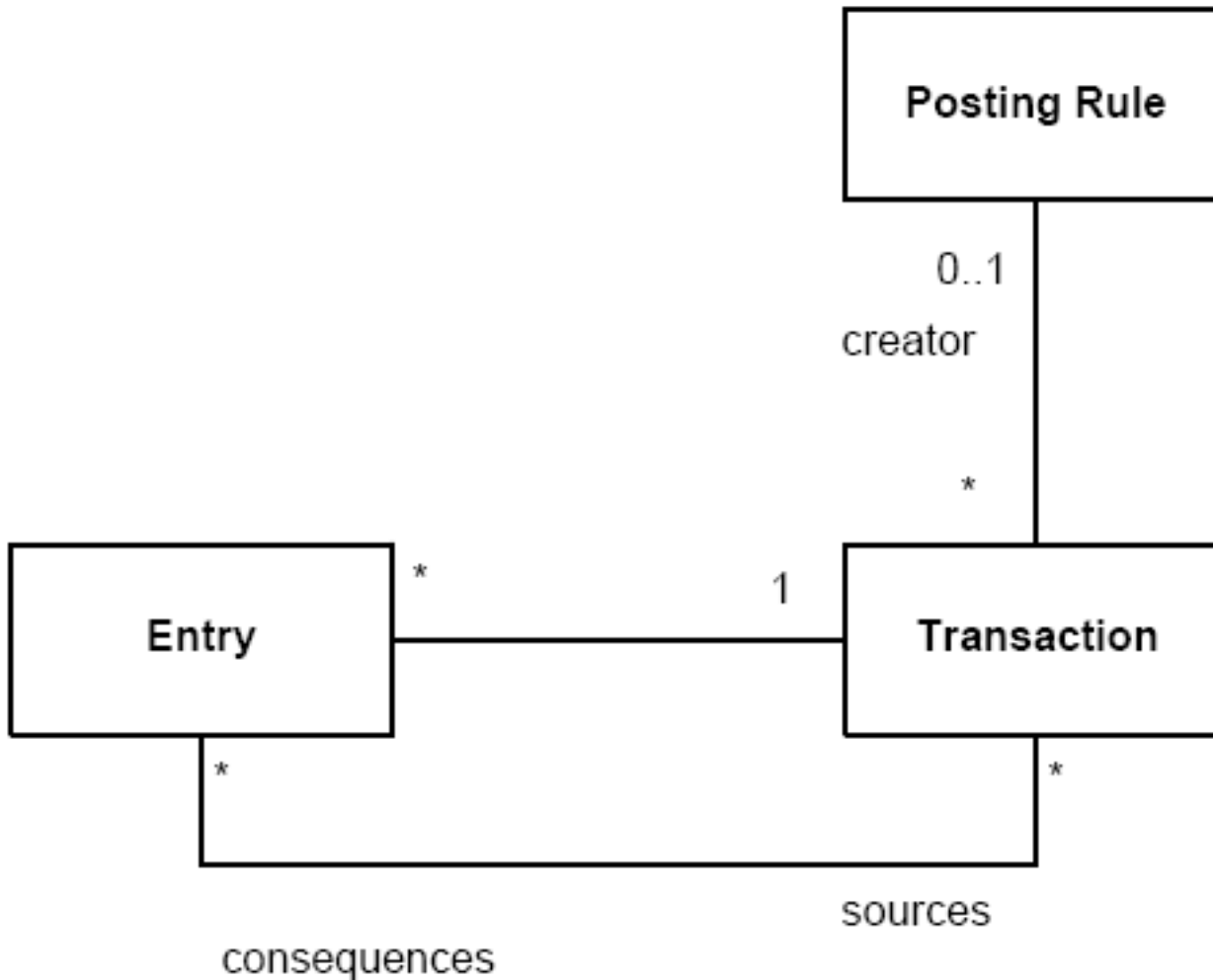
Account finder and Eligibility Conditions

Acount Groups: Accounting Practices
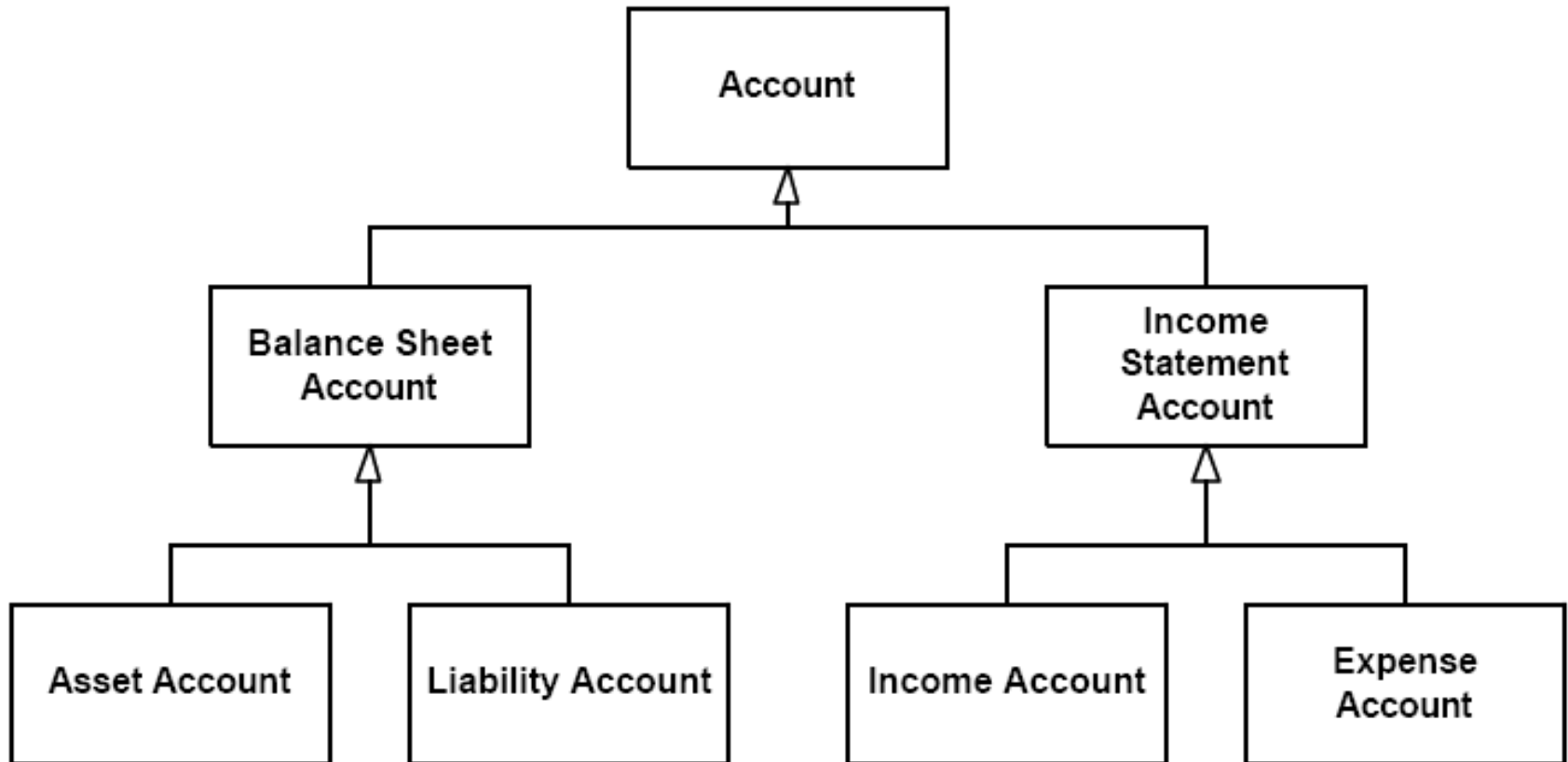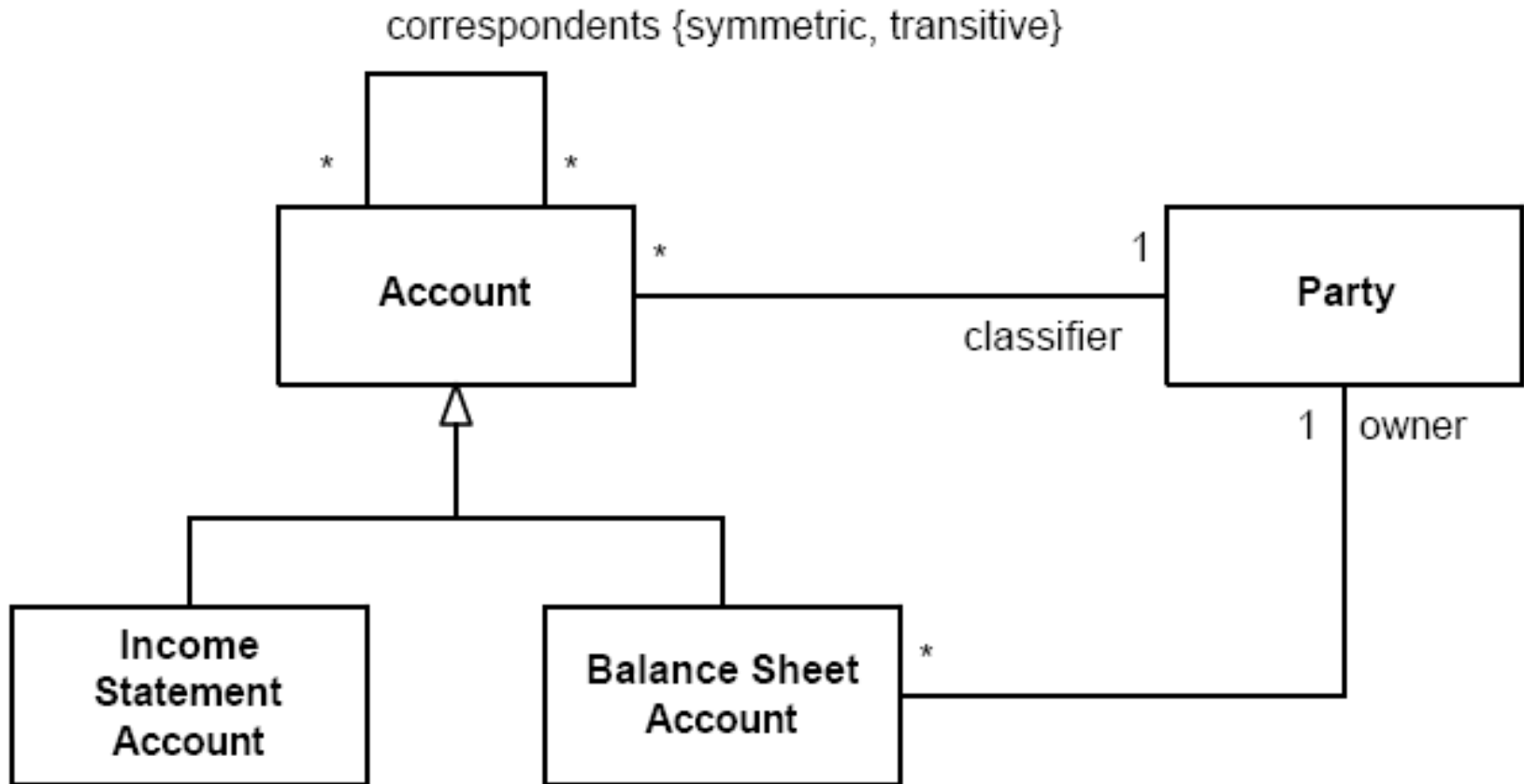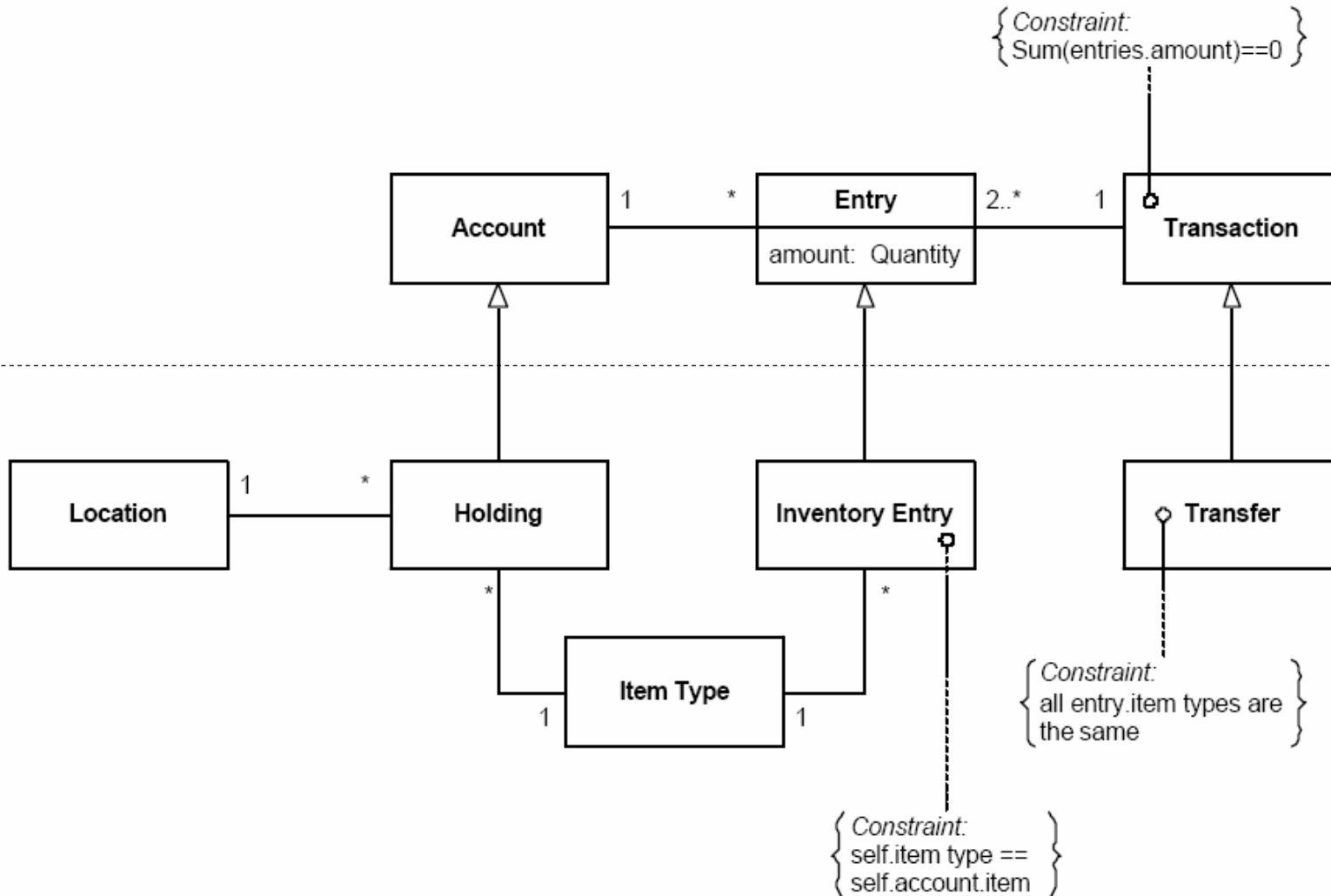
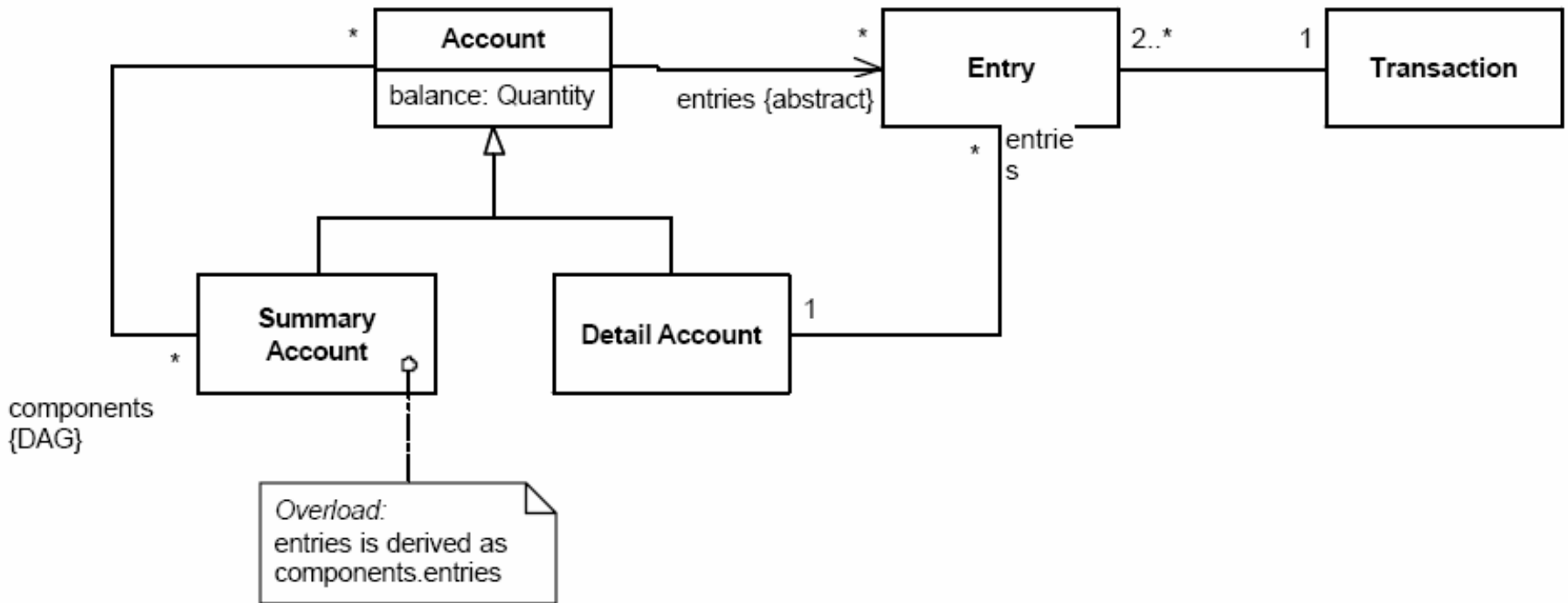# Sources for Transactions

Balance Sheet and Income Statement

Corresponding Accounts

Supporting Inventories

Multiple Summary Accounts

Derived Accounts

Note: Overload:
entries = all e:entries for which
account filter.isIncluded (e) == true

Account ◁—— Derived Account ——— * 1 ——— Account Filter
isIncluded()

Account 1 —— * Entry ◁—— Expense Entry * 1 —— Expense Category
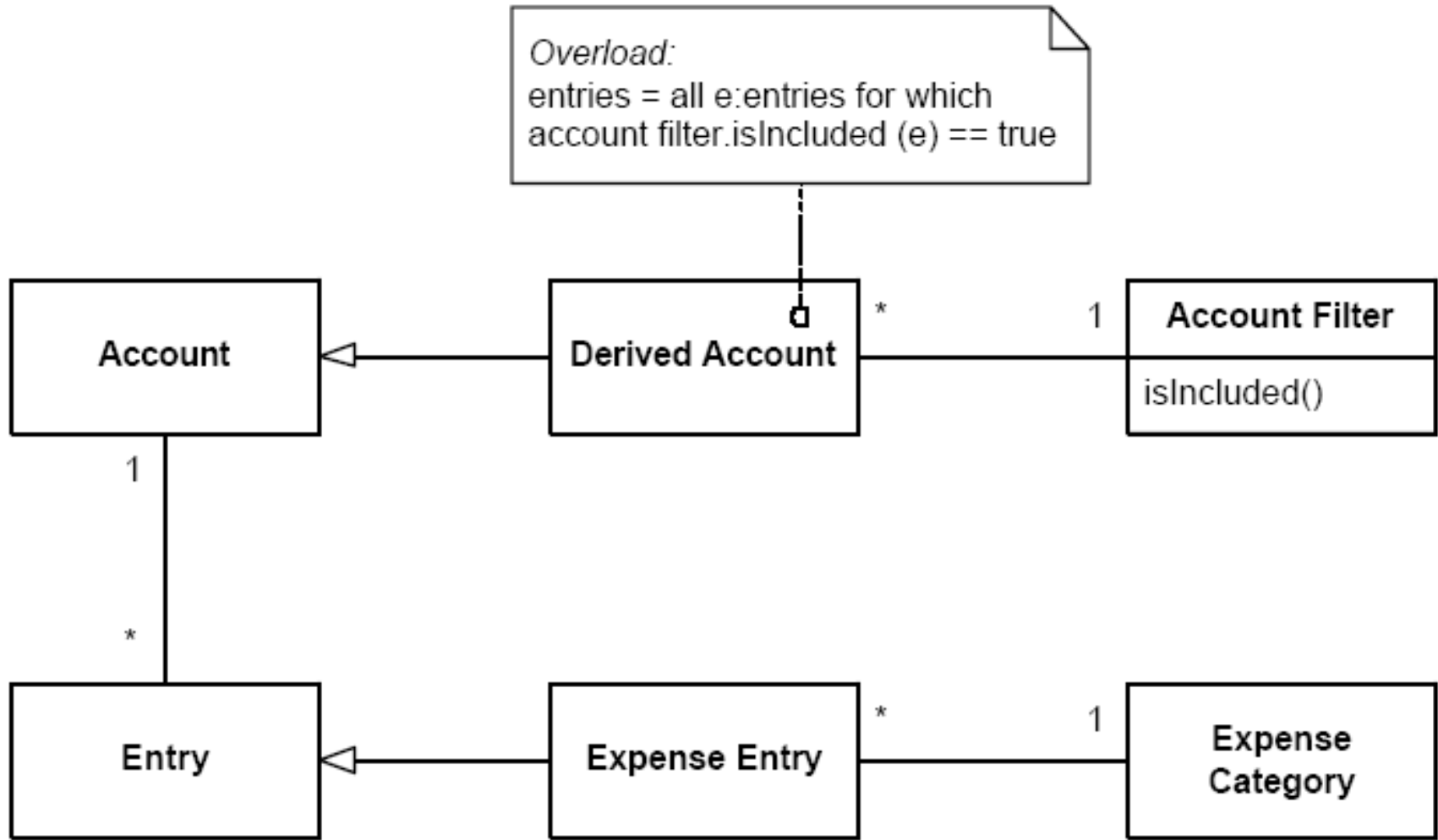
Expenses to Abandon Accounting Model