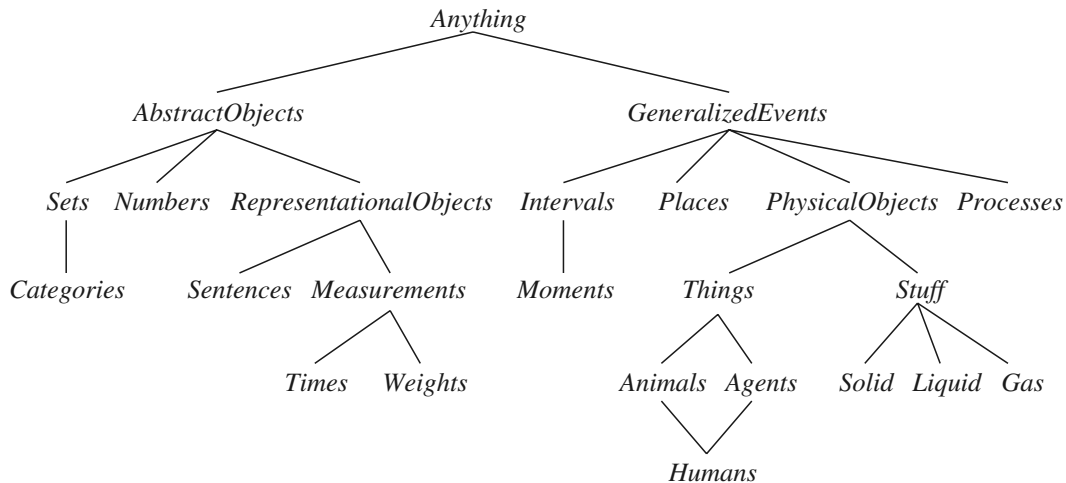


Artificial Intelligence

Knowledge Representation

Christopher Simpkins

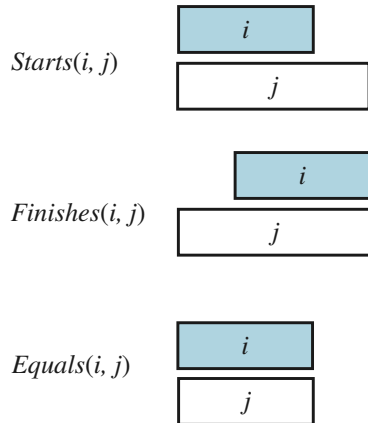
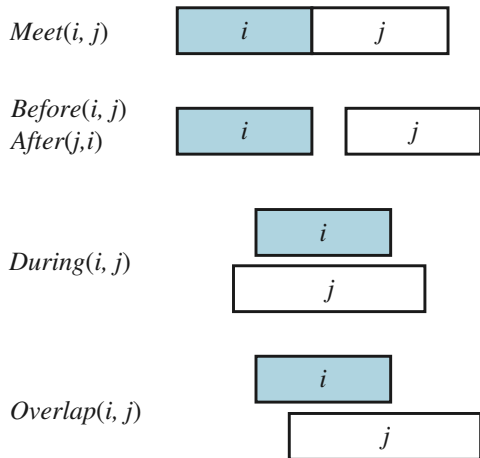
Ontological Engineering



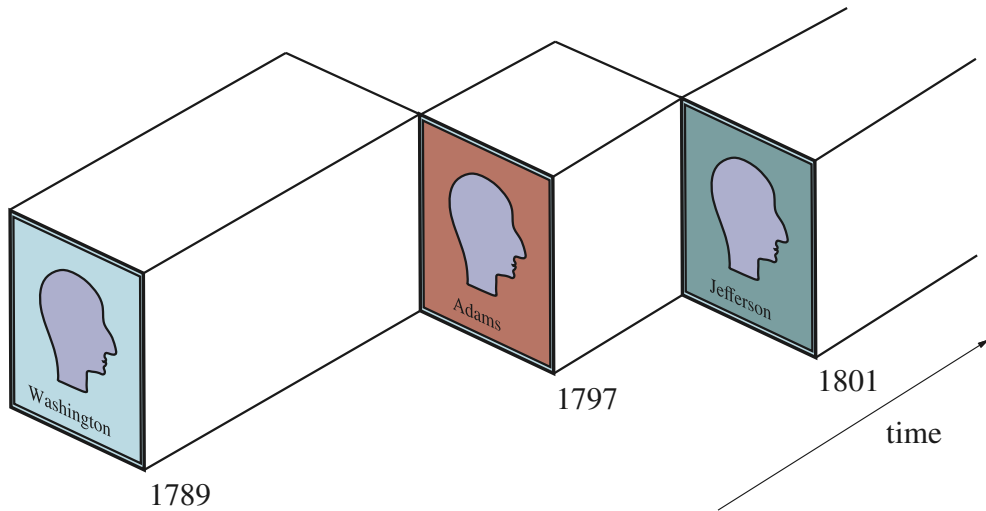
Categories and Objects

Foo

Events



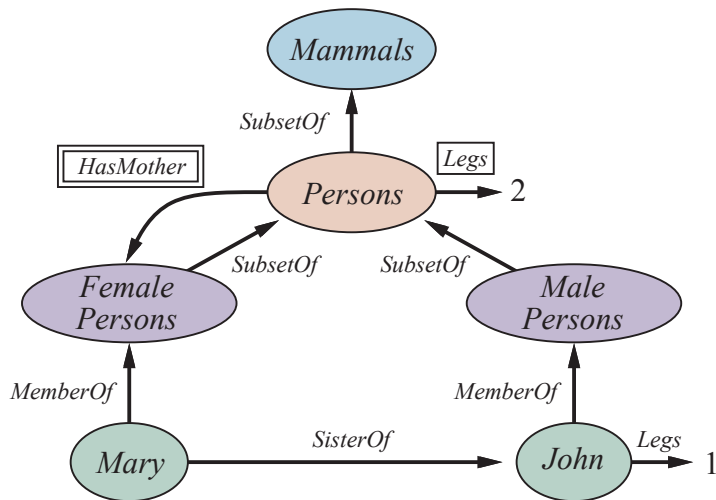
Fluents



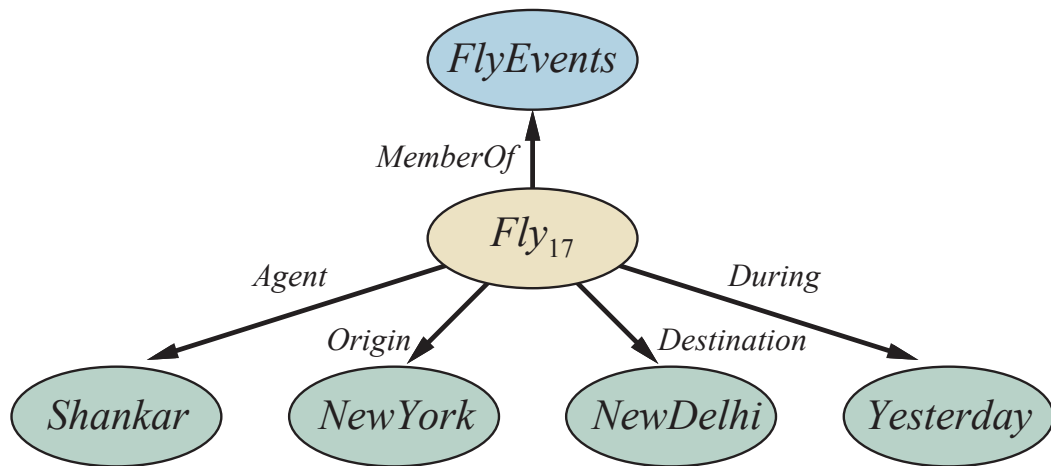
Mental Objects and Modal Logic

Foo

Reasoning Systems for Categories



Reasoning Systems for Categories



Description Logics

Concept \rightarrow **Thing** | *ConceptName*

| **And**(*Concept*,...)

| **All**(*RoleName*, *Concept*)

| **AtLeast**(*Integer*, *RoleName*)

| **AtMost**(*Integer*, *RoleName*)

| **Fills**(*RoleName*, *IndividualName*,...)

| **SameAs**(*Path*, *Path*)

| **OneOf**(*IndividualName*,...)

Path \rightarrow [*RoleName*,...]

ConceptName \rightarrow *Adult* | *Female* | *Male* | ...

RoleName \rightarrow *Spouse* | *Daughter* | *Son* | ...

Reasoning with Default Information

Truth maintenance systems