Semantic Roles

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Thematic Roles

 Thematic roles: Underlying semantic commonalities among arguments to different types of events

Natalie drinks tea. $\rightarrow \exists e, x, y \; Drinking(e) \land Drinker(e, \, Natalie) \land DrankThing(e, \, y) \land Tea(y)$ Direct responsibility?

Animate or inanimate?

THEMATIC ROLE	DEFINITION	EXAMPLE
Agent	The volitional causer of an event	The waiter spilled the soup.
Experiencer	The experiencer of an event	John has a headache.
Force	The non-volitional causer of the event	The wind blows debris from the mall into our yards.
Theme	The participant most directly affected by an event	Only after Benjamin Franklin broke the ice
Result	The end product of an event	The city built a regulation-size baseball diamond
Content	The proposition or content of a propositional event	Mona asked, "You met Mary Ann at the supermarket?"
Instrument	An instrument used in an event	He poached catfish, stunning them with a shocking device
Beneficiary	The beneficiary of an event	Whenever Ann Callahan makes hotel reservations for <i>her boss</i>
Source	The origin of the object of a transfer event	I flew in from Boston.
Goal	The destination of an object of a transfer event	I drove to Portland.

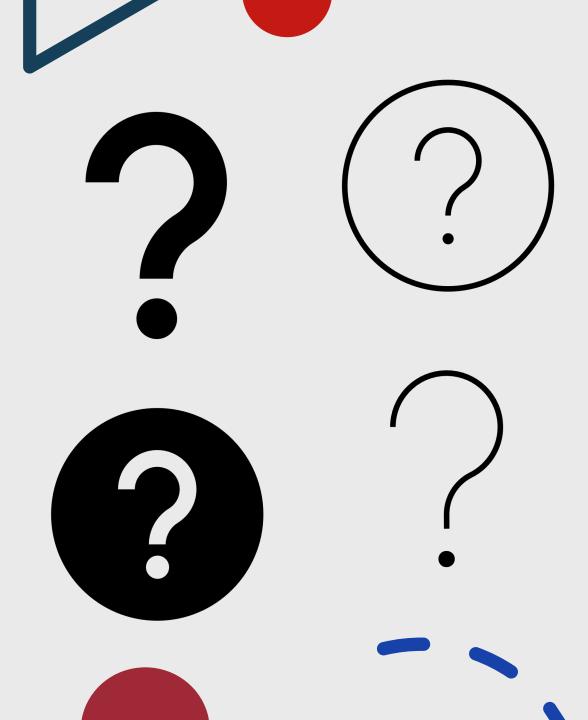
Common Thematic Roles

Diathesis Alternations

- Diathesis Alternations: Alternate acceptable structural realizations for arguments that facilitate generalization over different surface realizations
- Often tend to correspond to different verb classes
 - VerbNet: http://verbs.colorado.edu/verbnet/

Challenges Associated with Semantic Roles

- Difficult to come up with a standard set of roles
- Difficult to define roles in general



How can these challenges be addressed?

- Generalized semantic roles
 - Proto-Agents
 - Proto-Patients
- Semantic roles tailored to specific semantic classes