Speech Acts

▼ The Speech Act Theory

Explains how language is used to achieve goals or intentions and treats communication as an action (How to do Things with Words, John Langshaw Austin, 1962). Actions can change the state of an environment and an agent is going to perform actions to try and achieve it's goal. A similar thing can be done with speech, since what it's said can have an effect on the world. Therefore, we need to treat communication as if it were an action. We identify performative verbs corresponding to different types of speech act, these being Request (an action of somebody), Inform (somebody of the truth) and Promise (when you commit yourself to something). ultimately, utterances are like physical action, and change the state of the world.

▼ Types of Speech Act

John Searle, in his work "Speech Acts: an Essay in the Philosophy of Language" (1969) identified 3 types of speech acts:

- Representative: the speaker informs the hearer of the truth
- Directive: the speaker attempts to get the hearer to do something
- Commissive: commits the speaker to something (essentially like a promise)
- Expressive: the speaker expresses a mental state
- Declaration: declares a new state. Exactly the same as a physical action (declaring war puts your country at war)

▼ Representing Speech Acts

Cohen and Perrault proposed in 1979 that we can represent speech act in STRIPS style with pre and post conditions.

There are two types of conditions: **can-do** and **want**. If "A can-do P", it means A is capable of performing P. If "A want P", it means A wants/desires to do P.

▼ Example

Request is a speech act where the speaker is making the hearer aware of their desire. This starts with the speaker believing the hearer can do the action alpha. The next precondition is that the speaker believes that the hearer believes they can do the action. Additionally, the speaker has to be confident enough they want to request this action. The effect of this is that the hearer thinks the speaker wants such action. It's important to remark this is not enough to get the hearer to perform the action. For that, they have to want to do it (since they're an agent and as such selfish).

Request(S, H, α)		
Preconditions	Cando.pr	(*S BELIEVE* (*H CANDO* α)) $\wedge$ (*S BELIEVE* (*H BELIEVE* (*H CANDO* α)))
	Want.pr	(*S BELIEVE* (*S WANT requestInstance*))
Effect		(*H BELIEVE* (*S BELIEVE* (*S WANT* α)))

Another example would be "cause to want", where A2 makes A1 believe they want something, making A1 to want it as well.

CauseToWant(A_1, A_2, α)		
Preconditions	Cando.pr	$\times$
	Want.pr	(A_1 *BELIEVE* (A_2 *BELIEVE* (A_2 *WANT* α)))
Effect		(A_1 *BELIEVE* (A_1 *WANT* α))