

# Aktionsart

- introduction: Kalam, a language with very explicit Aktionsarten
- Aktionsart in English, with excursions to Spanish and Swedish
- the importance of coercion
- Aktionsart shaped by goal-plan-action structure
- study this also from developmental point of view
- Note: the bad quality of these slides is due to a package used for the Kalam examples

# Kalam: a language with Aktionsart almost formalized

Pawley (1987)

- (1) wdn nη-                    *see*  
eye Internal state
- (2) gos nη-                    *think*  
mind Internal state
- (3) wsn nη-                    *dream*  
sleep Internal state
- (4) d nη-                    *feel (by touching)*  
touch Internal state

# Kalam: a language with Aktionsart almost formalized

The verb *d-* (seen translated as 'touch' in (4)), has translations by Pawley for such verbs as *get, hold, handle, grasp, capture, possess, finish*

(5) *d ap bring*  
get come

(6) *am d ap fetch*  
go get come

(7) *B tw dp*  
man axe he-took  
The man took hold of an axe.

# Kalam: a language with Aktionsart almost formalized

For actions themselves, a different verb is used – *g-*. Pawley translates this verb with such glosses as *do, act, make work, create, function* and *cause*. For example, the English VP *build a house* would be translated as:

(8) kotp g-  
house create

while 'feeling hungry' also uses the same verb.

(9) yp ywan gp  
me hunger it-acts  
I feel hungry

# Kalam: a language with Aktionsart almost formalized

*pk*- functions as a general verb for when objects are changed  
(as opposed to *d*-):

(10) kmn pk  
game kill  
kill game

(11) mon pk  
firewood break  
cut firewood

# Aktionsart – conceptual categories of event types

- Stative vs. Non-stative
- States -Conceived of as not changing over time, as well as extended in time and permanent.

- (12) a. John is tall.  
b. Mary knows the answer.  
c. It is 8:00 p.m.  
d. # John is being tall.

Generally only compatible with simple present, but notice extended use of progressive and subtle meaning differences:

- (13) a. The statue stands in the square.  
b.. The statue is standing in the square.

Structural vs. Phenomenal distinction – Goldsmith and Woisetschlager (1979)

# Temporary vs. permanent states

As seen with the English progressive marking in (13), states are not always permanent. Other languages also mark these differences (but not always for the same concepts).

- Spanish – *ser* vs. *estar*

- (14) a. Soy enfermo (I am a sickly person)  
b. Estoy enfermo (if I have a cold)

Also note:

- (15) a. Bush es el presidente más estúpido que hemos tenido.  
b. \*Bush está el presidente...

# Typological considerations

- But in Kobon we have

(16) Nipe kaunsol (mid-öp)  
3s councillor be-perf3s  
He is the councillor

(17) Nipe bi majö (\*mid-öp)  
3s man mature \*be-perf3s  
He is a mature man

Languages may split the lexical aspectual categories slightly differently.

# Processes – activities and accomplishments

- Involve change and are extended in time. In present tense need to be used in the progressive (unless habitual)

- (18) a. John ran a mile in under four minutes.  
b. Sheila wrote three letters in an hour.  
c. #John ran a mile for six minutes.  
d. #Sheila ate an apple for ten minutes.

- (19) a. John ran for twenty minutes.  
b. Sheila ate apples for two days straight.  
c. #John ran in twenty minutes.  
d. #Sheila ate apples in two days.

## Preliminary characterization

- Activities: Atelic i.e. have no natural endpoint or goal (e.g. *I'm running in the park*) Compatible with a durative adverbial (e.g. *for*) that profiles the amount of time the activity takes.
- Accomplishments: Telic i.e. have a natural endpoint or goal (e.g. *I'm running a mile*) Compatible with a container adverbial (e.g. *in*) that profiles the amount of time taken to reach the desired goal.
- But cross-linguistically care needs to be taken: Swedish

# Typological considerations

Dahl (1981)

Some languages are more systematic than English in distinguishing indicators of actual and potential terminal points. Thus Swedish use different prepositions...

(20) Jeg reser till Frankrike *på* två månader.  
I('m) going to France for two months.

(21) Jeg reste i Frankrike *i* två månader.  
I traveled in France for two months.

it is even possible to construct a sentence that contains both kinds of terminal point indicators...

(22) Han har suttit inne *på* två år *i* sex veckor.  
He('s) been sitting inside for two years for six weeks.  
'He's been serving a two-year sentence for six weeks.'

# Perspective

Both the distinction between stative and dynamic as well as the separation of dynamic into telic and atelic is often a matter of perspective and speaker's communicative goal.

- English and Spanish must put *rain* in the progressive (hence activity) – *It is raining, ésta lloviendo*, while the opposite is true for Icelandic.
- Similarly, *I'm seeing you there under the table* is marked for English, but perfectly acceptable in Portuguese.
- Recall also the formulation of *I am hungry* in Kalam using the default activity verb *g-*.

# Perspective

- But there are limits: Comrie (1981) notes that the entire lexical aspect classification would fall apart if verbs such as *die*, *hit* and *kill* were marked default stative by a language. (None exists apparently).
- Telic vs. Atelic also a matter of perspective. A ship sailing on a certain trajectory may be said to be either *sailing toward the north pole* (activity) or *sailing to the north pole* (accomplishment). Also note that *reading a book* is compatible with either durative or container adverbials.

# Achievements and points

Achievements: Events that are conceived of as instantaneous (imagine a quantum leap). Often (with 'gradual' achievements) there is an underlying (run-up) activity that causes a change of state. Their pointlike nature tends to require them to be described in the past tense or narrative present.

- (23) a. John shattered the window.  
b. ‡ John shatters/is shattering the window.  
c. The canals froze.  
d. Mary found her keys.  
e. \*Mary is finding her keys.  
f. John reached the top.

# Achievements and points

Points: Similar to achievements in being conceived as instantaneous, but without the underlying run-up activity that characterises gradual achievements

- (24) a. Bill coughed.  
b. The light flashed.  
c. Bill is coughing.  
d. The light is flashing.

(24-c) and (d) have an iterative interpretation. Compare with the gradual achievements *John is reaching the top* or *The canals are freezing*.

# Perspective again

- Again conceptualisation and perspective is important and 'trumps' reality.
- A single cough or a window being shattered *do* take a bit of time (imagine a slow-motion film), yet language treats them as instantaneous.
- Comrie on an extended single cough: "For as long as we are in real time, it is unlikely that anyone would want to refer to the duration or successive phases that make up this situation."
- Both Russian and Hungarian have classes of verbs that can only be viewed as punctual or durative. Both the Russian for 'cough' *kašljanut* and 'flash' *blesnut* only appear in the perfective aspect.

# Event structure

In Kalam, to say the mono-clausal accomplishment *I am building a house for you* requires three separate clauses:

(25) kotp gy, np ñnp  
house having-built-SS you intending-to-give-SS  
gspyn  
I-am-doing  
I am building a house for you

Note separate clauses for finished house (in future) and building in progress.

Moens and Steedman (1988)

# Coercion

- *gradable relations*: state  $\longrightarrow$  accomplishment (gradual achievement?)

(26) a. Sylvia resembles her mother.

b. Sylvia is resembling her mother more and more everyday.

- *dispositions*: state  $\longrightarrow$  activity

(27) a. Jeff is a jerk.

b. Jeff is being a jerk, again.

- *run-up achievements*: e.g. *John is reaching the top*. This must be said in the middle of a process that normally leads to the pointlike transition. The present progressive denotes the run-up process to the achievement normally denoted by the past tense.

# Coercion

- *inceptive states* Again a run-up process is denoted, but this time the one leading to the state – especially with verbs of cognition and perception):

(28) a. I went around the bend and suddenly saw the mountain lion.

b. I suddenly understood what was happening.

- Also, container adverbials can affect states, activities and points in interesting ways.

(29) a. In two years, she was president of the company.

b. The horse was galloping in two minutes.

c. The light flashed in a few seconds.

# Typological considerations

- *Ingressive Aspect*: Profiles the beginning or the entering into of an event – *begin, start, commence, etc.*

(30) a. Lilian started studying for exams last week.

b. Lillian started to study, but decided to go to a movie instead.

- Similarly for Palau (Micronesia):

(31) a. A Droteo a *melekingu* er a demal a toki el kirel a chebechiielir

Doteo is about to talk to Toki's father about their marriage.

b. A Droteo a *melekinga* er a demal a toki el kirel a chebechiielir

Doteo has started talking to Toki's father about their marriage.

# Typological considerations

- Inchoative aspect – profiles the transition to the beginning of a state (e.g. *He became president in 1992*)

In Palau the verb for ‘go’ *mo* is used.

(32) a. Ak mo me saab er a klukuk.

I’m going to study tomorrow.

b. A Toki a smecher.

Toki is sick.

c. A Toki a mlo smecher.

Toki got sick.

# Implications for encoding of lexical meaning

Croft(1998)

"The observations in this section lead us to two conclusions. The first is that the semantic representation of an event denoted by a verb must be complex, involving not only what we normally think of as "what the verb means" but also the event leading up to it (the run-up process or preceding state) and the event leading out of it (resulting state or, in the case of cyclic achievements, the return to the original state). Hence we must be able to specify what part of the event is actually described in the sentence and what part is in the background"

# The psycholinguistic turn: event structure

Zacks and Tversky (and Iyer) (2001)

Ways and levels of referring to (and organizing) objects and events:

Taxonomy: Kind-of relationship e.g. Frisbee-golf is an (atypical) kind of golf, which is in turn a kind of sport.

- 3 levels of abstraction – subordinate, basic and superordinate
- Promotes reasoning about intrinsic properties. If a “coelacanth” is a member of “fish” there is an inference that it has gills.
- In domain of events, *basic-level* events are psychologically privileged – Morris and Murphy (1990)

# Event structure

Partonomy: Relationship between parts and sub-parts (a drive-shaft is part of an engine, which is part of a car)

- For objects it promotes reasoning from physical structure to function and cause (e.g. from legs infer standing) as well as giving rise to distinct perceptual features (via salient physical parts)
- Similarly for events, people tend to divide activity at “locations of maximal perceptual change”
- In domain of events, *scenes* are taken as the psychologically ‘privileged’ partonomic level. Scenes are hierarchically gathered into scripts. For example the *script* of dining in a restaurant includes scenes of “entering”, “ordering”, “eating”, etc.
- The subordinate level would be the subevents of the scenes (e.g. “eating” broken down on a narrower temporal level)

# Event part structure and time

- Smallest psychologically reified events defined in terms of simple physical changes on the order of a few seconds (e.g. the raising of a hand, grasping of a hand)
- From 10 to 30 seconds they may be defined in terms of a simple *intentional act* e.g. a handshake.
- From a few minutes to a hours they are characterized by *plots* – goals and plans of participants or socially conventional activities (the handshake may be part of a treaty signing)
- On longer time scales events are characterized thematically (treaty signing as part of a peace process)

“In general, it seems that as the time scale increases, events become less physically characterized and more defined by the *goals, plans, intentions and traits* of their participants.”  
(emph. added)

# Goals and intentions

- Goals can be hierarchically organized into subgoals, generating a partonomic structure. Recall Trabasso and Stein. Compare with scenes of a script in the event partonomy.
- Goal nature of event schemata/scripts allows for the prediction of future activity and inference of missing information (albeit as default). Ex. Someone enters a bank wearing a mask and carrying a gun. What goals are inferred?
- Numerous experiments show that young children (even infants) can successfully identify goals and intentions of others. This may play a role in children's acquisition of event schemata (and language).
- Moens and Steedman (1988) Cognitive representation of goals and preparatory processes key to explaining temporal reference. Many cases of temporal reference can be seen as contingency relations between antecedents and goals.

# Goals and intentions in infants

For example, 18 month-olds can distinguish between manner and goal in human activity. When shown adults attempting to achieve a goal unsuccessfully, infants will produce only the successful action, not the failure. When shown an inanimate object in action, children copy the action directly. (Meltzoff, 1995).

“The most important legacy of the evolutionary forces shaping humans’ cognitive architecture is probably a general mechanism or set of mechanisms for inferring and reasoning about causes and goals.”

Note: Many relevant goals and plans are likely to be cultural – hence the move to general mechanism(s) (see also Tomasello (1999, 2003)

# Event segmentation

- Abelson (1981) Evidence from comprehension and memory of narratives support psychological reality of scripts.
- Bower, Black and Turner (1979) “People falsely recognised action statements that were omitted from a story but were implied by a script.” Any relation to some aspects of coercion?
- Lichtenstein and Brewer (1980) Experiments on memory of videotaped activity show evidence of a hierarchical pattern of recall. “Memory for actions that are relevant to the event schema is better than memory for schema-related actions.” Memory of ‘false’ actions may also be recalled if they are implied by the schema.
- Anderson and Conway (1993) Autobiographical memory also influenced by hierarchical patterning. “Once a give episode has been activated in memory, its subparts are more available.

# Implications for perception: hierarchical bias hypothesis

- Hypothesis: People will be spontaneously disposed to actively encode ongoing activity in terms of a hierarchical part structure.
- Newtson (1973) conducted experiments that seemed to cast doubt on the hypothesis (conflicting research and interpretations).
- Z, T and I redid the experiments (modified) and in addition to simple segmentation added linguistic description (to what extent are linguistic representation of events tied to perceptual representations?)

# Implications for perception: hierarchical bias hypothesis

Experiments consist in showing subjects (Stanford students) videos of 4 different single-actor intentional activities. Two were ranked as 'familiar' (doing dishes, making a bed), and two as 'unfamiliar' (assembling a saxophone, fertilising house-plants). Subjects were then asked to watch each video and mark off segments of each activity into either the *smallest* or *largest* natural units. With each marking, (some) subjects also gave a brief verbal description of the segment.

Results: There was an alignment effect between the locations of unit boundaries under the two coding conditions (in contrast to predictions made by a null model – i.e. no effects of hierarchical segmentation). Moreover, when also linguistically coded, the alignment effect was more pronounced.

# Implications for perception: hierarchical bias hypothesis

Examples:

The coarse-unit boundary for *starts watering plant* aligns with fine-unit boundaries of *picks up pot...and waters, waters other side, puts plant back, etc.*

For *making the bed* activity, the coarse-grained *putting on the sheet* aligns with the fine-grained *opening a drawer, taking sheets out, unfolding the sheet, putting on top end, putting on bottom end, etc.*

Linguistically, descriptions at both levels of description tended to refer to accomplishments or achievements rather than physically bounded 'primitive' event descriptions. Instead, functions, goals and causes were more prominent.

# Implications for perception: hierarchical bias hypothesis

However, coarse unit descriptions referred to objects more precisely than actions, while the reverse was true for fine grained descriptions. *Object/Action* account of event structure perception.

Suggestion that "using language, and perhaps language itself, biases away from raw perceptual statements and toward causal and intentional ones."

Slight familiarity differences in regard to event segmentation; however, further experiments (including saxophone players) showed no marked difference. Possibility that the 'unfamiliar' activity was actually too familiar. Also, the taxonomic hierarchy may come into play here – putting a saxophone together is an instance of putting something together.

# Implications for perception: hierarchical bias hypothesis

Final Experiment: Show subjects same videos and then have them write down a description in terms of fine or coarse coding conditions (i.e. tests on hierarchical influence on short term recall of perceived events).

Results: Segmentation more or less the same as on-line experiments. Linguistic descriptions used more specific verb and object terms in coarse description task (the opposite occurred in the on-line task).

Conclusion: The segmentation structure of the activity at encoding plays an important role in memory.

# Open questions

- Experiments only involved common, goal oriented activities with one actor and a set of objects. What about *activities* (in the *Aktionsart* sense? What happens with multiple actors? What happens with activities involving inanimate 'agents', such as a rock rolling off a cliff or a volcano erupting?
- Why do goal relationships tend to align with physical feature changes? What role for causality?
- These experiments involved Stanford undergraduates. How well would these results transfer cross-culturally and cross-linguistically?

# Typological considerations

Kalam: With many intentional activities, event must be described in segmented fashion.

Kalam speakers rely on a schematic event sequence to describe complex events. For example, in reporting intentional actions, the schema is as follows:

- 1: Movement to Scene of First Action
- 2: Action (it.)
- 3: Movement from Scene of 2 to Present or Final Scene
- 4: Action(s) at Present or Final Scene(can be iterated)

(33) am/ mon pk/ d ap/ ay-  
go wood strike get come put  
gather firewood

# Typological considerations

In Tidore (van Staden, 2001) speakers will automatically add an inceptive event even if it is not shown. When asked to describe (on-line) a video-clip of a man chopping wood, the description is:

- (34) Nau=ge    oro    peda    tola    luto  
boy=there fetch machete chop firewood  
The boy fetches machete and chops firewood.

Van Staden and Narasimhan (2002): Languages differ rather strikingly in granularity level descriptions of events (nevertheless, as seen in Kalam, the evidence for segmentation in linguistic encoding is rather striking).

# Typological considerations

There seem to be different strategies languages can use in describing events.

- finer-grained segmentation as in many Austro-Asian languages.
- Metonymic strategy (as in English) where one scene of the event is taken to stand for the whole. Ex. *load boxes* can be seen as shorthand for *pick up boxes, put them on the truck, keep doing so until truck is full*.
- Of course, as seen from the experiments, the more fine grained level is accessible and can be produced when required.
- Later we will see how both the gathering-up in the metonymic strategy as well as *Aktionsart* and coercion can be treated formally.