

How Language Structures Concepts

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1. Language comprises two subsystems: the open-class and the closed-class

1.1 A fundamental formal property (design feature) of language

it has 2 subsystems: the open-class and the closed-class

1.1.1 Open-class or "lexical" (open-class forms = OCs):

any category of linguistic forms that are large in number and easy to augment

in any language, can comprise the roots of: nouns / verbs / adjectives / ? ideophones
as well as collocations ("lexical complexes")

1.1.2 Closed-class or "grammatical" (closed-class forms = CCs):

any category of linguistic forms that are relatively few in number and difficult to augment

in any language, can include:

overt (phonologically substantive):

bound: inflections / derivations / clitics

free: determiners / adpositions / conjunctions / particles / ...

suprasegmental: intonation/stress patterns (if comprising a small closed set)

abstract / implicit:

word order

grammatical categories (e.g., N, V, A, NP, VP)

grammatical relations (e.g., subject, direct object, indirect object)

grammatical complexes:

syntactic structures / grammatical constructions /

phrase structure & immediate constituency / complement structure

1.2 A semantic distinction correlates with this formal distinction

1.2.1 OCs are almost unconstrained as to what they can refer to

1.2.2 CCs are highly constrained, in two ways:

a. as to categories of concepts

number but not color

space, time, causation, but not food, health, work

b. as to member concepts even within acceptable categories

number: singular / dual / trial / plural / paucal

not: even / odd / dozen / numerable

OCs not subject to these constraints, as preceding lexical items attest

1.3 A functional distinction correlates with this semantic distinction

OCs represent conceptual **content** / CCs represent conceptual **structure**

These semantic and functional distinctions appear in two venues:

within any specific portion of discourse, e.g., a sentence

within the lexicon of any language and within language in general

1.4 First venue: OCs / CCs semantic + functional differences in discourse

in any portion of discourse, e.g., a sentence,

semantically: OC meanings are characteristically rich (much meaning of many different categories together);

referentially unconstrained

CC meanings are characteristically spare / schematic; within referential limits

functionally: in the cognitive representation evoked by a portion of discourse

most of the **content** is contributed by the OCs

most of the **structure** is determined by the CCs

1.4.1 Demonstrating OCs / CCs differences in a Single Sentence

(1) A rustler lassoed the steers.

a. the closed-class forms in this sentence:

- (a) -ed 'occurring at a time before that of the present communication'
- (b) the 'speaker infers that addressee can readily identify the specific referent'
- (c) a 'speaker infers that addressee cannot readily identify the specific referent'
- (d) -s 'multiple instantiation of object'
- (e) a ...-∅ 'unitary instantiation of object'
- (f) -er 'performer of the specified action'
- (g) grammatical category "verb" for *lasso*
'eventhood'
- (h) grammatical category "noun" for *rustler / steer*
'objecthood' (for one possibility)
- (i) grammatical relations "subject" / "object" for *rustler / steer*
'agent'/'patient' (among the possibilities)
- (j) active voice
'point-of-view at the agent'
- (k) intonation, word-order, character of auxiliaries
'the speaker "knows" the situation to be true and asserts it to the addressee'

b. the open-class forms in this sentence: each is a complex of concepts including--

- (a) rustle property ownership, illegality, theft, livestock
 particular mode of activity
- (b) lasso a rope configured into a loop and a tail gripped by the hand
 the loop twirled, cast over the neck of an animal, tautend, and drawn
 accompanying cognitive intending, directing, monitoring
- (c) steer object of particular appearance, physical makeup, etc.
 relation to animal kingdom
 castration
 institution of breeding for human consumption

c. Changing one type of form while keeping the other constant

- (2) Will the lassoers rustle a steer?
A machine stamped the envelopes.

1.4.2 The same concept functions as content when in an OC / as structure when in a CC

the concepts 'past' and 'future' are experienced as setting structure when expressed by CCs:
 when he arrivED -- when he arriveS / WILL arrive
 but are experienced as contributing additional content when expressed by OCs:
 on his PREVIOUS arrival -- on his UPCOMING arrival

1.4.3 OCs and CCs CAN incorporate each other's characteristic type of concepts, but then assimilate them to their native function

a. OCs CAN incorporate CC-type specifications, but
 in a conflict, the CCs always determine the final structure, as per their function

(3) She's somewhat pregnant.

usual 'all or none' meaning component of *pregnant* may here shift
 to a 'gradient' sense in accommodation to *somewhat*
 but *somewhat* will not shift from 'gradient' to 'all or none'

b. CCs CAN incorporate OC-type specifications,
 but those specifications there become backgrounded / difficult to localize / "structuralized"

(4) a. We marched / rode / sailed / advanced / ... upon them.
 b. We marched / rode / sailed / advanced / ... towards / past them.

an OC-type notion of 'attack' is incorporated in *upon*, but not in *towards* / *past*

as with any concept expressed by a CC, the 'attack' concept:

- (a) is attentionally backgrounded -- unlike when expressed in a verb, as in: We attacked them.
- (b) is difficult for speakers to associate with the word *upon*
- (c) may acquire a structural character as a kind of path notion

1.5 Second venue: OCs / CCs semantic + functional differences in Language / a Language

1.5.1 Within language in general as a system

considering the meanings of OCs and CCs cumulatively across all (possible) languages:

a. semantically:

the semantic freedom of OC meanings entails: they constitute an open-ended conceptual pool

the semantic constraint on CC meanings entails:

there is a relatively closed inventory of conceptual categories and member concepts
 that can ever be expressed by CCs

properties of this inventory:

(a) hierarchical in the extent of occurrence across languages:

universal: e.g., polarity (positive / negative); mode (declarative / interrogative)

widespread: e.g., number

rare: e.g., rate (fast / slow)

absent: e.g., color

(b) fuzzy lower boundary: occasional concepts appear as a CC in perhaps just one language

e.g., English 'at the interior of a vehicle with a walkway and in use': *on* / otherwise: *in*

in a car / on a bus; in a grain car / on a train;

in a helicopter / on an airplane; in a rowboat / on a ship

The kids played in/*on the abandoned bus.

b. functionally:

OCs can potentially represent all of conceptual content

CCs meanings together constitute the fundamental conceptual structuring system of language

c. diachronic implications

consider the OCs *keep -ing* vs. *hate -ing*, both now regular verbs, as in:

I keep skiing. / I hate skiing.

Only the former is likely to grammaticize into a CC

whose meaning is close to the core meaning of the original OC

reason: in the inventory-- temporal structure is high

but affect in general is low, and 'hate' in particular is apparently absent

NB: grammaticization theories are good at accounting for starting-points of change;

but we need the present theory to account for the end-points arrived at

1.5.2 Within any specific language

the inventory is a universally available set of conceptual categories and member concepts

from which each language selects a different subset for representation by its CCs

this subset constitutes that language's particular conceptual structuring system

1.6 Principles governing the inclusion / exclusion of concepts in the universally available CC inventory

no single global principle yet evident determining the included / excluded CC inventory concepts
but several partially extensive principles appear, including topology and other neutralities:

1.6.1 Topological character of -- Euclidean exclusion from -- CCs meanings

a. Magnitude Neutrality

(5) in space: The ant crawled across my palm. / The bus drove across the country.
This speck is smaller than that speck. / This planet is smaller than that planet.
in time: Alexander died with dignity. (my acquaintance last year / the Great B.C.)

b. Shape Neutrality

(6) a. I zig-zagged / circled through the woods.
b. The ship sailed across the sea. [with zig-zag path & shoreline]

c. hence, kinds of concepts present in / absent from CCs:
included: topological / topology-like, relativistic, qualitative, approximative
excluded: Euclidean, absolute, quantified, precisional

d. other cognitive systems are fully sensitive to the factors excluded from CCs.
thus, in the ant across palm / bus across country example, other systems process differences in:
scope of perception / span of attention / constancy of scene / manner of locomotion
but none of this makes it into CCs meanings; these only constitute abstracted schemas

e. Linguistic vs. Mathematical Topology

in: a plane so curved as to define a volume of space

like math: magnitude-neutral: in the thimble / volcano
 shape-neutral: in the well / trench

unlike math:

more abstracted: closure-neutral: in the bowl / ball
 continuity-neutral: in the bell-jar / birdcage
less abstracted: comparable parts of a schema must be of comparable magnitude:
 *I swam across the lake.
 [when path's endpoints are close on shoreline]
 *This glass has water, and that glass has wine.
 [if glasses are 20 and 21 feet away from speaker]

1.6.2 Further Neutralities that exclude certain specifics from CC Meanings

a. Bulk Neutrality

(7) The caterpillar crawled up along the filament / flagpole / trunk of the redwood tree.

b. Token Neutrality

proper nouns occur: Shakespeare, Manhattan
no "proper CCs", e.g., "proper prepositions":

(8) a. *Jesus walked Astation the hill named Calvary.
b. *Moses walked Amatzah the Red Sea.

c. Substance Neutrality -- but Phase-of-Matter Sensitivity

English: *through the water / milk / mercury*

but Atsugewi has distinct CCs for:

‘into solid substance’ / ‘into liquid’ / ‘into fire’ / ‘into empty space’

1.6.3 OCs Not Referentially Constrained like CCs

OCs have referential freedom covering both structural abstractions and specificities

magnitude: inch / yard / mile / pint / gallon / hour / month / year

shape: N: circle / square; A: straight; V: ricochet

bulk: A: fat / slender

token: N: Shakespeare / Manhattan

2. Categories of Closed-Class Concepts

individual CC-specified concepts --> conceptual categories --> integrated "schematic systems"

three major schematic systems:

configurational structure / location of perspective point / distribution of attention

(other schematic systems include: force dynamics / cognitive state)

2.1 Properties Characteristic of CC Categories -- typically in a language:

2.1.1 Intra-categorical convertibility

where A and B are 2 concepts in the same category and L1 is a lexical item incorporating A:

some CC1 exists where L1+CC1 expresses B instead of A

--the CC triggers a particular cognitive operation for this conversion

2.1.2 Reverse convertibility

where an L2 incorporates B, some CC2 exists where L2+CC2 expresses A instead of B

2.1.3 Nestability: the output of one operation can be the input to another operation

2.1.4 Space-time homology

parallel conversions and operations occur for spatial referents of NPs and for temporal referents of Vs

2.2 The Category of Domain --cross-cuts subsequent schematic systems

2.2.1 Space and Time

- | | | | |
|-----|----------------------------------|---------------------------------------|-----------------------------------|
| (9) | <i>domain</i>
space:
time: | <i>continuous</i>
mass
activity | <i>discrete</i>
object
acts |
|-----|----------------------------------|---------------------------------------|-----------------------------------|
-
- | | | |
|------|--------------------------------------------------------------|----------------------------------------------------------------------------------|
| (10) | <i>act:</i>
John called me.
I was called by John. | <i>reified as an object:</i>
John gave me a call.
I got a call from John. |
| | <i>activity:</i>
John helped me.
I was helped by John. | <i>reified as mass:</i>
John gave me some help.
I got some help from John. |
-
- | | | |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (11) | <i>Object(s)/mass</i>
a. Hail(stones) came in through the window.
b. Ice is forming over the windshield.
c. I removed the pit from the cherry.
d. He has blood coming from his nose.
e. She ejected spit into the cuspidor.
f. Crowds (A throng) of people went to the fair. | <i>Actionalized as:</i>
It hailed in through the window.
It is icing up over the windshield.
I pitted the cherry.
He is bleeding from his nose.
She spat into the cuspidor.
People thronged to the fair. |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

2.2.2 Other Members of the Domain Category

identificational space--

- (12) a. smoker to passer-by in unfamiliar neighborhood:
 (i) Where can you buy cigarettes around here?
 (ii) Where do they sell cigarettes around here?
- b. potential tobacconist to business consultant for that neighborhood:
 (i) Where can you sell cigarettes around here?
 (ii) Where do they buy cigarettes around here?

3. 1st Schematic System: Configurational Structure

3.1 The Category: Plexity

plexity: state of a quantity's articulation into equivalent elements

uniplex / multiplex

= for space: singular / plural

for time: semelfactive (punctual) / iterative

3.1.1 Multiplexing

the CC-triggered cognitive operation of "multiplexing":

an originally solo referent copied onto various points of space or time

- (14)
- | | | |
|--------------|-----------------|----------------------------|
| | <i>matter</i> | <i>action</i> |
| a. uniplex | A bird flew in. | He sighed (<i>once</i>). |
| b. multiplex | Birds flew in. | He <i>kept</i> sighing. |

3.1.2 Unit-Excerpting

the inverse CC-triggered cognitive operation of "unit-excerpting":

placing into the foreground of attention a single unit taken from a multiplexity

- (15)
- | | | |
|---------------------|-----------------------------------------------------------|------------------------------------------------------------------------|
| | <i>matter</i> | |
| | <i>action</i> | |
| a. <i>multiplex</i> | Furniture overturned in the earthquake. | She breathed with full concentration. |
| b. <i>uniplex</i> | A <i>piece of</i> furniture overturned in the earthquake. | She <i>took a breath</i> / breathed <i>in</i> with full concentration. |

a. grammatical Complexes for Unit-Excerpting

$$(a) \left[\begin{array}{c} N_{\text{unit}} \text{ of} + [\text{---}]_{N_{\text{mpx}}} \\ \left. \vphantom{N_{\text{unit}} \text{ of} + [\text{---}]_{N_{\text{mpx}}}} \right\} N_{\text{upx}} \end{array} \right]$$

e.g., *furniture*: *a piece of furniture*

$$(b) \left[\begin{array}{c} V_{\text{dummy}} + [[\text{---}]_{V_{\text{mpx}}} + \text{DERIV}]_{N_{\text{upx}}} \\ \left. \vphantom{V_{\text{dummy}} + [[\text{---}]_{V_{\text{mpx}}} + \text{DERIV}]_{N_{\text{upx}}}} \right\} V_{\text{upx}} \end{array} \right]$$

e.g., *breathe*: *take a breath*

b. grammatical Simplexes for Unit-Excerpting

(16) Yiddish for NPs representing matter in space

zamd ‘sand’: zemdl ‘grain of sand’
 groz ‘grass’: grezl ‘blade of grass’
 shney ‘snow’: shneyele ‘snowflake’

Russian for Vs representing action in time

čix-at’ ‘to sneeze a multiplex number of times’
 --> čix-nu-t’, ‘to sneeze once’.

3.2 The Category: State of Boundedness

unbounded: conceived as continuing on indefinitely
 without necessary intrinsic boundaries / finiteness
 bounded: conceived as individuated unit entity

OCs incorporating one of these:

unbounded: *water* / to *sleep*; bounded: *a sea* / to *dress*

syntactic test: bounded if can occur with *in* + ‘temporal extent’

(17)

matter

action

- a. *unbounded* *We flew over water in 1 hour.
 *She slept in 8 hours.
- b. *bounded* We flew over a sea in 1 hour.
 She dressed in 8 minutes.

3.2.1 Bounding

CC-triggered cognitive operation of "bounding" / "portion-excerpting"

- (18) We flew over some water / over a body of water in 1 hour.
 She slept from 2 a.m. to 3 a.m. / for one hour. / for a while. / some.

3.2.2 Debounding

inverse CC-triggered cognitive operation of "debounding"

a. for NP-represented matter in space

several subtypes-- conceptual extension beyond outer boundary by:

- (a) effacement of boundary and extension outward by the addition of like material:
 shrub --> shrubbery / panel --> paneling
 There is shrubbery along the front of the house. / There is paneling along the front wall.
- (b) contiguous multiplexing with perhaps only partial conceptual effacement of boundaries
 tear --> tears (*tearery / *tearage 'lachrymal fluid')
 Tears flowed through that channel in Hades.
- (c) contiguous multiplexing along 1 or 2 dimensions with original entity remaining physically intact
 pencil --> NP_{measure} of pencil
 There are probably miles of pencil in that stationery store. (1-D alignment)
 There are probably 10 acres of movie screen in that old film studio. (2-D alignment)
- (d) effacement of boundary and distribution of the interior with physical deformation of original entity
 cat_{count} --> cat_{mass} There is cat all over the driveway.

b. for V-represented action in time

curiously underrepresented by CCs

- (19) As punishment through eternity, the demon had to
 ?keep dressing / ?dress and dress / ?dress on and on / dress without end / dress without a stop.

3.3 The Category: State of Dividedness

= state of a quantity's internal segmentation:

composite / internally discrete vs. internally continuous

perhaps no simplex CCs directly specify either category notion, or operations:

the operation of "discretizing" cf. Water --> Particles of water (filled the vessel.)

the operation of "melding": cf. Leaves --> A mass of leaves (lay on the ground.)

spontaneous melding: a plural form --> a singular form referring to a multiplexity

trees --> timber / leaves --> foliage / pieces of furniture --> furniture

cline from most discrete to most melded:

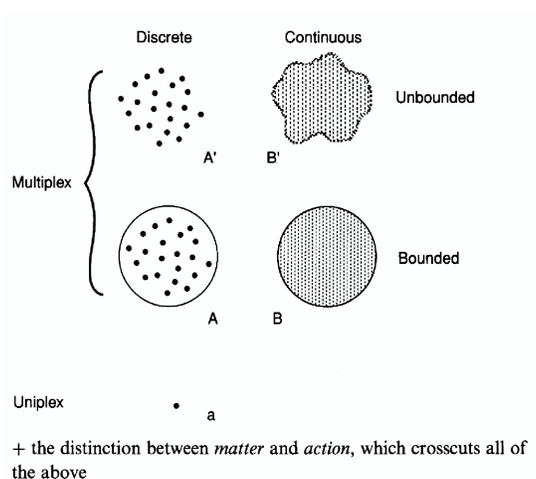
- matter in space:
- this tree and that tree and that tree (are mature.)
 - those trees (are mature.)
 - those cattle (are mature)
 - that timber (is mature)
 - That wine (is mature).

action in time:

- The shaman stepped once, stepped again, and stepped once more across the coals.
- The shaman took steps across the coals.
- The shaman stepped across the coals.
- The shaman walked across the coals.
- The shaman slid across the patch of ice.

3.4 The Disposition of a Quantity: An Intersection of Categories

intersection of: plexity / state of boundedness / state of dividedness



3.4.1 Lexical Forms Incorporating each Intersection of 3 Categories

- | | | | |
|-----|--------------------|-----|---------------------|
| A': | timber/furniture | B': | water |
| | (to) breathe | | (to) sleep |
| A: | (a) grove/family | B: | (a) sea/panel |
| | (to) molt | | (to) empty |
| | (The bird molted.) | | (The tank emptied.) |
| a: | (a) tree/bird | | |
| | (to) sigh | | |

3.4.2 Conversions from One Intersection Type to Another (Sometimes Nested)

$A' \rightarrow A$	a stand of timber breathe for a while	$B' \rightarrow B$	a body of / some water sleep for a while
$A' \rightarrow a$	a piece of fur take a breath / breathe in		----
$A \rightarrow a$	a member of a family ?molt a single feather		----
$A \rightarrow A'$	members of a family ($A \rightarrow a \rightarrow A'$) molt and molt	$B \rightarrow B'$	paneling empty and empty
$a \rightarrow A'$	trees keep sighing		----
$a \rightarrow A$	a stand of trees ($a \rightarrow A' \rightarrow A$) sigh for a while		----

3.5 Nesting

= embedded structure, or output of one operation as input to another

(20) in time:

- The beacon flashed (as I glanced over). -- uniplex event
- The beacon kept flashing. -- multiplexed
- The beacon flashed 5 times in a row. -- bounded
- The beacon kept flashing 5 times at a stretch. -- the new uniplexity is multiplexed
- The beacon flashed 5 times at a stretch for 3 hours. -- re-bounded

(21) in space:

- I saw a duck. [..in the valley.]
- I saw ducks. "
- I saw a group of 5 ducks. "
- I saw groups of 5 ducks each. "
- I saw 3 acres of groups of 5 ducks each. "

the structural complexes that are represented:

- a. !
- b. ...!!!!!!...
- c. [!!!!!]
- d. ... [!!!!!] - [!!!!!] ...
- e. [[!!!!!] - [!!!!!] ... [!!!!!] - [!!!!!]]

4. 2nd Schematic System: Location of Perspective Point

4.1 The Category: Perspectival Distance

perspectival distances: distal / mid-range / proximal

"degree of extension" of viewed object: point / bounded extent / unbounded extent

4.1.1 Operations

adopting alternative perspectival distance

can alter object's conceived degree of extension

triggered cognitive operations: reduction / magnification

a. on an Event

mid-range perspective point -- bounded extent (basic):

(22) She climbed up the fire-ladder in 5 minutes.

distal perspective point -- point

(23) Moving along on the training course,
she climbed the fire-ladder at exactly midday.

proximal perspective point -- unbounded extent

(24) She kept climbing higher and higher up the fire-ladder as we watched.

b. on an Object

(25) *point* The box is 20 feet away from the wall.
I read the book 20 years ago.

bounded extent The box is 2 feet across.
I read the book in 2 hours.

4.2 The Categories: Perspectival Motility and Mode

perspectival motility: perspective point is stationary / moving

perspectival mode = correlation of
 motility + distance + [from 3rd schematic system] scope of attention

two types:

- a. synoptic mode: the adoption of—
 a stationary distal perspective point with global scope of attention
- b. sequential mode: the adoption of—
 a moving proximal perspective point with local scope of attention

4.2.1 Operations

sequentializing: synoptic --> sequential mode

synopticizing: sequential --> synoptic mode = inverse operation

a. Sequentializing

(26) There are some houses in the valley.

There is a house every now and then through the valley.

(27) All the soldiers in the circle differed greatly from each other.

Each soldier around the circle differed greatly from the last / next.

frequent bias towards sequential mode:

(28) The wells' depths form a gradient

that correlates with their locations on the road.

The wells get deeper the further down the road they are.

b. Synopticizing

(29) I took an aspirin time after time during / in the course of the last hour.

I have taken a number of aspirins in the last hour.

4.3 The Category: Direction of Viewing

direction of viewing = correlation of:

location of perspective point + [from 3rd schematic system] focal attention
 + sequential mode

applies to complex of two events, with perspective point located at one of the events

directions of viewing: direct / retrospective / prospective

viewing sequence relative to event sequence:

same direction: "co-sequential"

opposite direction: "anti-sequential"

4.3.1 Co-Sequential Mode of Viewing

(30) a. direct \implies prospective

I shopped at the store before I went home.

b. retrospective \implies direct

After I shopped at the store, I went home.

c. $\text{direct}_A \implies \text{direct}_B$

I shopped at the store, and then I went home.

4.3.2 Anti-Sequential Mode of Viewing

(31) a. prospective \implies direct

Before I went home, I shopped at the store.

b. direct \implies retrospective

I went home after I shopped at the store.

c. $\text{direct}_B \implies \text{direct}_A$

I went home, but first I shopped at the store.

4.3.3 Smooth Viewing Sequencing over Single Continuous Event

co-sequential:

(32) This festival dates from 1635 A.D.

anti-sequential:

(33) This festival dates back to 1635 A.D.

4.4 nesting

(34) At the punchbowl, Jack was about to meet his first wife-to-be.

5. 3rd Schematic System: Distribution of Attention

three factors in how attention is distributed over a referent scene:

strength of attention [from faint to intense]

particular pattern in which attentions of different strengths are arranged

mapping of the parts of an attentional pattern onto the parts of the referent scene

5.1 Patterns of Attention

5.1.1 Level of Attention

the same referent attended to at:

a more integral / general level vs. a more compositional / particular level

a. Level of Exemplarity

higher: full-complement vs. lower: exemplar

(35)

- a. Oysters have siphons / a siphon.
An oyster has siphons / a siphon.
- b. All oysters have siphons / a siphon.
Every oyster has siphons / a siphon.
- c. All the members raised their hand(s).
Each member raised his hand(s).
- d. Many members raised their hand(s).
Many a member raised his hand(s).
- e. Some members here and there raised their hand(s).
A member here and there raised his hand(s).
- f. Members one after another raised their hand(s).
One member after another raised his hand(s).
- g. Hardly any members raised their hand(s).
Hardly a member raised his hand(s).
- h. No members raised their hand(s).
No member (Not a member) raised his hand(s).
- i. She held a gun in both hands.
She held a gun in either hand.
- j. English: some friends of mine
Italian: qualche amico mio

b. Level of Baseline within a Hierarchy

higher: level of the Whole = the framing level

mid: level of the mid-scope Part

lower: level of Featural content

- (36) a. The boy has freckles on his face.
 b. The boy's face has freckles on it.
 c. There are freckles on the boy's face.

5.1.2 Window of Attention

"event-frame": elements conceived as together constituting single whole event

e.g.: so-conceived entirety of a path / a causal chain / commercial exchangee

but usually not: day of week, geographic locale, ambient temperature,
 health of participants

"window" of attention covers that portion of event-frame that is explicitly expressed
 remainder is "gapped"

a. Path Windowing

initial / medial / final windowing or gapping

The crate in the cargo bay of the aircraft fell--

window over whole: out of the plane through the air into the ocean.

medial gapping: out of the plane into the ocean.

initial gapping: through the air into the ocean.

final gapping: out of the plane through the air.

initial windowing: out of the plane.

medial windowing: through the air.

final windowing: into the ocean.

b. Causal-Chain Windowing

extensive medial gapping:

(37) I broke the window.

includes only: agent + final event of causal chain

omits: agent's body-part motions / launch of projectile /
hurling of projectile through air / impact of projectile

"cognitive splicing": seeming seamless cognitive fusion

between initial and final portions of chain

--parallels one's conscious experience of agency

next-most windowed portion of causal-chain:

penultimate event, as in English *by*-clause

(38) I broke the window by--

*picking up a rock.

*throwing a rock.

*propelling a rock through the air.

*throwing a rock towards it.

hitting it with a rock.

obligatory use of penultimate event: (a) Atsugewi instrumental prefixes

(b) English causal verb + satellite construction:

I burned the house down. / *I kindled/lit the house down.

5.1.3. Center of Attention

center-surround pattern; when applied to attention = focus + periphery

partly analogous to visual perception

A. Figure / Ground roles in space and time

Figure: a moving / conceptually movable object whose site / path / orientation is conceived as a variable whose particular value is the relevant issue

Ground: a reference object (within a reference frame) with respect to which the Figure's site / path / orientation is characterized

(39) a. The bike is near the house. \neq b. The house is near the bike.

(40) a. He exploded after he pushed the button.

\neq b. He touched the button before he exploded.

B. unidirectional Figure-Ground relations in time

In a temporal sequence with causality, subordinate conjunctions can ONLY represent the following:
 the earlier / causal event functions as the Ground in the subordinate clause
 the later / resulting event functions as the Figure in the main clause

We stayed home because it was raining.

*It rained **to the occasioning of the event that** we stayed home.

We went out although it was raining.

*It rained **in in ineffective counteracting of the event that** we went out.

We'll stay home if she comes.

*She may come **as a potential event occasioning the event that** we will stay home.

I broke the window by leaning against it.

*I leaned against the window **to** breaking it.

5.2 nesting

- (41) a. The woman bought a vase.
 b. The woman was sold a vase.

6. Functions of the Closed-Class Subsystem in Language

overarching function of closed-class structuring: conceptual coherence

over space -- within a referent scene (= original observation):

provides framework / scaffolding over which content is splayed

allows simultaneous cognizing of disparate material as structured Gestalt

without CCs: just agglomeration of elements not assembled for

integrated conceptual complex

through time -- in discourse:

to be avoided: welter of unconnected notions in succession

CCs allow: cognitive continuity through flux: Gestalt summated over time

e.g.: *yes, but / moreover / nevertheless / besides / instead / also*

CCs: direct illocutionary flow / specify logical tissue /

limn out rhetorical framework

References

Note: all these works are accessible on my website:

<http://linguistics.buffalo.edu/people/faculty/talmy/talmyweb/index.html>

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