

The Attention System of Language

-- a report on work in progress

Leonard Talmy

Department of Linguistics

Center for Cognitive Science

University at Buffalo, State University of New York

Institute of Cognitive and Brain Sciences University of California, Berkeley

1. Introduction

1.1 Basics

1.1.1 goal of this research:

to outline the fundamental attentional system of language

1.1.2 placing attention among other major organizing systems of language

language has a certain number of extensive organizing systems

that structure conceptual content and context (my term for them: schematic systems)

Attention is one of these systems. They include:

configurational structure / perspective point / attention / force dynamics / cognitive state

1.1.3 initial characterization of attention in language

In a speech situation, a hearer may attend to the linguistic expression produced by a speaker, to the conceptual content represented by that expression, and to the context at hand.

But not all of this material appears uniformly in the foreground of the hearer's attention. Rather, various portions or aspects of the expression, content, and context have different degrees of salience. Such differences are only partly due to any intrinsically greater interest of certain elements over others.

More fundamentally, language has an extensive system that assigns different degrees of salience to the parts of an expression or of its reference or of the context.

As for the speech participants, prototypically: the speaker employs this system in formulating an expression; the hearer, largely on the basis of such formulations, allocates her attention in a particular pattern over the material of these domains.

1.2 some background assumptions about attention and consciousness in language

1.2.1 attention and consciousness at core are both the same essential phenomenon

and differ only in relatively more superficial properties such as:

voluntary vs. involuntary / focused vs. unfocused / figure vs. ground (see 1.4 below)

hence, both terms are here used interchangeably, with modifiers if needed

1.2.2 attention/consciousness is found to be a gradient phenomenon in language

-- not, as held by some, to be a discrete all-or-none phenomenon

1.2.3 consequent equivalence of terms:

a. attending to something:

attention on X = consciousness of X = salience of X

b. what is attended to

the object of attention = a content of consciousness = what is salient

my only coined term: an "obtent": whatever is or can be
an object of attention / a content of consciousness

c. gradience

X higher / lower in attention = X more foregrounded / backgrounded in attention
= X more central / peripheral in consciousness = X more / less salient

1.3 parameters of the attention system of language: partial list of the major distinctions

1.3.1 core parameters

- 1) consciousness/attention vs. an obtent (a potential or current object of consciousness/attention)
- 2) conscious vs. unconscious: whether a cognitive phenomenon (an obtent)
currently is or is not in attention/consciousness
- 3) involuntary vs. voluntary: whether an attentional process occurs spontaneously or
gets triggered in an individual involuntarily
vs. the individual consciously and intentionally directs the process

1.3.2 quality and quantity parameters

- 4) selection: which one of several candidate obtents is in or enters attention/consciousness
- 5) strength: the degree of attention on a current obtent
or the degree of an unconscious obtent's tendency to enter attention
- 6) scope
e.g., proportion of one's attention that is on an obtent -- much = focused / little = unfocused

1.3.3 temporal parameters

- 7) duration: the length of an attentional process, from brief to extended
- 8) steady-state vs. changing; and if changing:
- 9) direction of change -- e.g.,
increase / decrease in strength
an obtent entering / leaving attention (= attention extending to / retracting from an obtent)

1.3.4 relative prominence parameter

- 10) the Figure vs. the Ground status of attention and of obtent
this parameter may have no actual role in cognitive processing
but only provide 2 models for how we envisage the interactions
 - a) an obtent as Figure enters, is in, or leaves attention, itself a stationary Ground
 everyday expressions based on this model:
Figure = subject: The new tune was in my attention. / The new tune soon came to my attention.

Figure = object: I put that thought out of my mind.

b) attention as Figure extends to, is connected with, or retracts from an object as Ground or, if pictured as a beam, swings over to, is on, or swings away from an object as Ground everyday expressions based on this model:

Figure = subject: My attention was on the music. / My attention wandered away from the music.

Figure = object: The music attracted my attention. / I turned my attention to the music.

1.4 support from these parameters for coalescing consciousness and attention

some support for the move to treat attention and consciousness as the same phenomenon:

these 2 terms are in partial complementary distribution with respect to certain parameters above which thus represent relatively superficial differences atop their essential sameness

1.4.1 voluntary vs. involuntary

"attention" can be treated as involuntary or voluntary, but "consciousness" only as involuntary

The idea entered my attention / consciousness.

I turned my attention to it. / *I turned my consciousness to it.

1.4.2 scope

"attention" can be focused or unfocused, but "consciousness" only unfocused

The music took up a bit | some | more of my attention / consciousness.

My attention / *consciousness was focused on the music.

1.4.3 Figure vs. Ground

"attention" can be treated as Figure or Ground, but "consciousness" only as Ground:

The music is in my attention / consciousness.

My attention is on the music. / *My consciousness is on the music.

1.5 Methodologies used in this investigation of Attention in Language

1.5.1 these are the same as already standard in the field of linguistics overall:

1) introspection, 2) semantic and syntactic analysis

both in conjunction with analytic thought -- itself introspective in character,

(and including the systematic manipulation of ideas, abstraction, comparison, reasoning, etc.)

1.5.2 basic structural characteristics of linguistic introspection

a. two levels of consciousness

generally, linguistic introspection = conscious attention directed by a language user to particular aspects of language as manifest in his own cognition.

specifically, certain aspects of language can appear

-- whether through perception of speech, by internal evocation, or spontaneously, in a language user's consciousness = "level-1 consciousness"

a second level of consciousness can also occur in the same individual at the same time that has as its object (part of) the contents of the first level of consciousness

this "level-2 consciousness" can be volitionally evoked

and directed at a selected linguistic target on the first level

if all these components are engaged, this cognitive pattern = introspection

b. accessibility to introspection

has two main components:

1) "readiness":

the numerous distinct aspects of language differ in their readiness to appear in first-level consciousness

2) "amenability":

if present in level-1 consciousness, such aspects of language

differ in their amenability to attention directed at them from level'2 consciousness

an aspect of language is more amenable

if it has greater strength and clarity in level-1 consciousness

and can remain more stably present there while attention is directed at it

it is less amenable if it is fainter, vaguer, or more elusive under such attempted scrutiny

3) the "accessibility" of an aspect of language to introspection

= a cover term for its readiness + its amenability

NB: arguments for the use of linguistic introspection appear in Part 2

2. Linguistic factors that set the object and strength of Attention involuntarily

a. basic properties of these factors

1) voluntariness for hearer and speaker

over 50 linguistic factors at work in the utterances of a speaker
 affect the attention of a hearer involuntarily
 and a few factors (Ga and Gb) affect the attention of the speaker involuntarily
 in the production of utterances
 a speaker can voluntarily control the remaining factors
 some directly, but others typically only indirectly

2) mechanisms and obtents of the factors

Each factor involves a particular linguistic mechanism that increases
 or decreases attention on a certain type of linguistic entity.

The mechanisms fall into some 10 categories.

= the basis for their cataloging below

The entities whose attentional level is being set -- the objects of attention, i.e., obtents --
 are of some dozen types.

b. formulation of the factors

1) greater vs. lesser attention

The factors are all formulated as a contrast between greater and lesser attention

-- more readily agreed on than single rankings along an absolute scale

thus, each factor can be used either to raise or lower attention on something

2) mention of obtent and mechanism

the attentional object whose salience the factor governs (the obtent) is mentioned first
 the mechanism (if present) is mentioned last

3) contrast types

The factors are of 3 main "contrast types":

a polar or "whether" factor:

entity A is more salient in circumstance X than not

a circumstantial or "where" factor:

entity A is more salient in circumstance X than in circumstance Y

an alternant or "which" factor:

entity A is more salient than entity B (when cooccurring in a particular venue)

4) degrees of dividedness

these contrast types can further be of 3 degrees of dividedness:

gradient / dichotomous / hierarchical

a gradient "whether" factor = a scalar or "how much" factor

entity A is more salient in proportion to the amount of circumstance X it is in

c. differences across the factors

The factors differ from each other along some 20 parameters, some already seen; a sample:

- type of mechanism in the factor that causes its attentional effects
- type of object whose salience is governed
- strength of absolute or relative attention
- contrast type and degree of dividedness
- attention for whom? (speaker, hearer, bystander)
- speaker's means for controlling a factor
- the cognitive basis of a mechanism's capacity to govern attention
- the time course of a factor's applicability

d. in the presentation that follows:

- the included factors are selected from a larger set
- the factors are grouped by their type of mechanism,
- and the mechanisms are roughly sequenced by the size of their scope
- asterisks mark the factors to be discussed, generally the less familiar ones

2.1 Factors involving properties of the morpheme (A)

"morpheme" here = any minimal linguistic form with an associated meaning, including: a simplex morpheme / a complex morpheme (collocation or idiom) / a construction (e.g., the English auxiliary-subject inversion meaning 'if')

2.1.1 Formal Properties of the Morpheme (Aa)

* *Factor Aa1: expression in one or another lexical category.*

a dichotomous where factor: a concept represented by a morpheme is more salient when that morpheme is open-class than when it is closed-class; and within those: more when a noun than a verb, / more when phonological than aphonological

(1) open-class (N > V) > closed-class (phonological > aphonological)

(2) A. a. When he *arrived*, ... b. When he *arrives* / *will* arrive, ...
 B. a. On his *previous* arrival, ... b. On his *upcoming* arrival, ...

* *Factor Aa2: degree of morphological autonomy.*

a dichotomous where factor: a concept represented by a morpheme is more salient when that morpheme is free than when it is bound

across closed-class forms-- the concepts 'potential' / 'negative' / 'iteration' / 'Agent backgrounding (passive)'

(3) a. Once triggered, this kind of trap can not be set again.
 b. Once triggered, this kind of trap is unresettable.

across open-class forms:

V: *ship* / *-port*: 'convey bulky objects by vehicle over geographic distances'

(4) a. ship in / out / across / away b. import / export / transport / deport

2.1.2 Componential Properties of the Morpheme (Ab)

* *Factor Ab1: Solo vs. Joint Expression of a Component in a Morpheme*

a dichotomous where factor: a concept in the reference of a morpheme is more salient when it is the whole of that reference than when it is only part of the reference

(5) the concepts 'parent' and 'sister' in: a. one of my parents' sisters b. one of my aunts

(6) the concept 'swallow' in: a. swallow b. eat

* *factor Ab2: the ensemble vs. the individual components of a morpheme's meaning*

a dichotomous which factor: the ensemble of the components of the concept expressed by a morpheme is more salient than the individual components

(7) a. I pried the board off the wall.
b. I pulled the board off the wall.
c. I flipped the board off the wall.
d. I popped the board off the wall.
e. I peeled the masking tape off the wall.

* *Factor Ab3: weighting among the components of a morpheme's meaning*

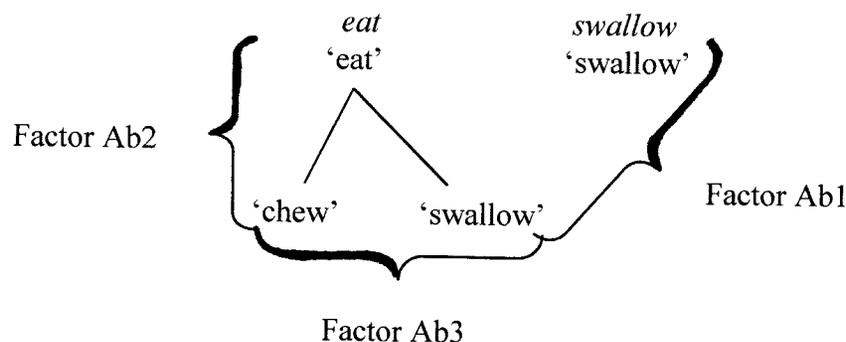
a dichotomous which factor: one component of the concept represented by a morpheme can be more salient than another component as an intrinsic characteristic of the morpheme

(8) *pry*: 'levering' > 'attached' > 'gradual' > 'rigid'

(9) *eat*: 'chew' > 'swallow' You should eat carefully / faster.

(10) a. They slowly passed the goblet of wine around the banquet table.
b. The goblet of wine slowly passed around the banquet table.
c. The goblet of wine slowly went around the banquet table.

* *Relating Factors Ab1 through Ab3*



Factor Ab4: Degree of Category Membership

a dichotomous which factor: the prototype within the concept expressed by a morpheme is more salient than the rest of the concept

(11) *bird*: a. 'robin' > 'ostrich' b. 'robin' > all bird types

2.1.3 frame properties of the morpheme (Ac)

* *Factor Ac1: a plenary frame: a morpheme's direct reference vs. supplementary concepts*

a. a dichotomous which factor: the set of concepts directly expressed by a morpheme is more salient than concepts only associated with that direct reference

b. a whether factor: the concepts associated with the set of concepts directly expressed by a morpheme are more salient when that morpheme occurs in speech than when it does not

A. the associated concepts are *incidental* to the direct reference

in that they could be dropped, replaced by alternative concepts, or uninstantiated

(12) east vs. north, as in: I kept flying east / north.

direct (foregrounded): compass orientation

associated (backgrounded): path indefinitely extendable vs. only as far as polar terminus
incidental of the associated concepts:

-- they are absent for local geographic use / missing before concept of global earth

-- based on geographic conventions that could have been otherwise, e.g.,
great circle path toward north pole starting in western hemisphere
continues as "north" in eastern hemisphere

B the associated concepts are *coentailed* with the direct reference

reference to any component of the coentailed set foregrounds that component
and raises the rest of the set into the "midground" of attention

coentailed set = Fillmore's "frame" / Langacker's "base"

foregrounding of a component = Fillmore's "highlighting" / Langacker's "profiling"

a. the associated concepts must be copresent with the direct referent

both in time and in space (in a certain arrangement with it there)

e.g., Langacker's "hypotenuse" which would otherwise only be a "line segment"

b. the associated concepts must be copresent with the direct referent only in time

e.g., Husserl's "wife" coentails a concurrent husband, would otherwise be a "widow"

c. the associated concepts can be separated from the direct referent in both time and space

e.g., Fillmore's "buy" in a commercial scene

(13) I bought her old banjo from her over the phone --

she'll mail it to me next week, and I'll send her a check for it after it arrives.

- C. the associated concepts are *presupposed* by the direct reference, itself not entailed by them
 e.g., "heaven" (in its use at least in the general U.S. Christian context)
- (14) a. A human being has an intangible essence -- her/his "spirit" --
 that comprises the sum of his/her identity.
- b. This spirit continues on after / despite the person's physical death.
 and has no further physical embodiment
- c. There exists a single sentient entity -- "God" -- whose intentions
 determine everything in the universe.
- d. God has established certain ideal principles in accordance with which
 he wants people to conduct their thoughts, feelings, and behavior.
- e. After a person's death, God punishes the spirit of the person who has not followed
 these principles and rewards the spirit of the person who has followed them.
- f. The reward consists of being granted all good and worthy experiences
- g. Though ubiquitous, God can be imagined as localized and as located above in / beyond the sky.

'heaven': a generally luminous space near or surrounding God
 -- when imagined as located above in the sky --
 in which the spirits of dead people who followed God's precepts permanently abide,
 receiving good and worthy experiences as their reward

Factor Ac2: a contrast frame: the occurrent reference vs. competing concepts

- a. a dichotomous which factor: when it is a member of a category, the concept
 expressed by a morpheme is more salient than the other concepts in its category
- b. a whether factor: the other concepts in the same category as
 the concept represented by a morpheme are more salient
 when that morpheme occurs in speech than when it does not

green evokes the category of 'color' and such other members as 'red' and 'blue'
tepid evokes the structured category of 'temperature'
 and such ranked member concepts as 'cool' / 'cold' below it and 'warm' / 'hot' above it

Factor Ac3: a collocation frame: the occurrent morpheme by itself vs. with other morphemes

- a. a dichotomous which factor: the phrase a morpheme is appearing in is more salient
 than the (other) conventional phrases that morpheme occurs in
- b. a whether factor: the (other) conventional phrases that a current morpheme
 also occurs in are more salient when that morpheme occurs in speech than when it does not

= "intertextual activation"

(15) Where are we going and why am I in this handbasket? (bumper strip)

handbasket here evokes its occurrence in the conventional collocation:
 "going to hell in a handbasket"

2.1.4 Polysemic Properties of the Morpheme (Ad)

Factor Ad1: size of the polysemous range of a morpheme

a gradient where factor: a particular sense in the polysemous range of a morpheme is more salient in proportion to the smallness of that range

e.g., the sense ‘vertically aligned with and further from earth’s center than’ is one among fewer other senses in *above* than in *over*

(16) a. There is a light above/over the chair. b. There is a poster above/over the hole in the wall.

* *Factor Ad2: weighting among the senses of a polysemous morpheme*

a hierarchical which factor: some senses in the polysemous range of a morpheme can be more salient than others, and others more than further ones in a hierarchy due to an intrinsic weighting in the morpheme

(17) a. soil ‘particulate material that plants grow in’
 ‘land, country’ (my native soil)
 ‘farmland (vs. urban setting) (I live on the soil)
 b. dirt ‘grime’
 ‘particulate material that plants grow in’
 c. earth ‘this planet’
 ‘the surface land mass’, (It settled to earth)
 ‘particulate material that plants grow in’

(18) a. I need to put more soil / dirt / earth in the planter.
 b. The soil / ?dirt / ?earth is slowly changing color.

2.2 Factors involving Morphology and Syntax (B)

preceding section: morphemes (simplex or complex) considered one at a time.
 Here: relations across 2 or more morphemes / constructions

2.2.1 Constructional Properties (Ba)

Factor Ba1: Positioning at Certain Sentence Locations vs. Other Locations

a hierarchical where factor: the concept expressed by a constituent is more salient when that constituent is in certain sentence positions than when in others, in a hierarchy (language-dependent)

(19) a. I can’t stand this kind of music right now.
 b. Right now I can’t stand this kind of music.
 c. This kind of music I can’t stand right now.

Factor Ba2: Expression in One or Another Grammatical Relation.

a hierarchical where factor: the concept expressed by a nominal is more salient when the nominal is subject than object, and more salient when object than oblique.

- (20) a. The landlord rented the apartment to the tenant.
b. The tenant rented the apartment from the landlord.

Factor Ba3: expression in one or another dependency relation

a dichotomous where factor: the concept expressed by a nominal is more salient when the nominal is the head constituent of a construction than when in the dependent constituent

- (21) a. The pyramid of bricks came crashing down
b. The bricks in the pyramid came crashing down.

2.2.2 Compositional Properties (Bb)

Factor Bb1: The Composition vs. its Components

a dichotomous which factor: the meaning of the whole of a composition is more salient than the meanings of the linguistic constituents that make it up

meaning of a word > meanings of its component morphemes

- (22) The uneventfulness / calm in our household that morning
was in stark contrast with the commotion of the night before.

meaning of a sentence > meanings of its component words

- (23) Everyone there gathers in the yard to start the school day.

2.3 Factors involving Forms that Affect Attention Outside Themselves (C)

other sections: the mechanisms set attention for an entity coextensive with the mechanisms
here: the mechanisms set attention for an entity outside themselves

2.3.1 specific linguistic forms with an attentional effect outside themselves (Ca)

Factor Ca1: a form affecting attention on an outside referent

a whether factor: the concept expressed by a constituent is more salient when a morpheme intrinsically stipulating greater attention on it is in construction with the constituent than when one is not

the Tamil particle *-ee*

- (24) avan kaaley-iley-ee va-nt-aan
he morning-LOC-EMPH come-PAST-MASC
"He came in the **morning** (and not at some other time of day)."

Factor Ca2: a form affecting attention on part of an outside referent

a whether factor: a specific part of the concept expressed by a constituent is more salient when a morpheme intrinsically singling it out and stipulating greater attention on it is present in the sentence and in construction with the constituent than when one is not

from the extended reference of the verb phrase *drink my morning orange juice*

be -ing singles out and foregrounds: its ongoing steady progression through time

up does so for: the point at the temporal end of the VP referent,

(25) a. I was drinking my morning orange juice while I sat petting the cat.

b. I drank up my morning orange juice while I sat petting the cat.

Factor Ca3: a form affecting attention on a concomitant of an outside referent

a whether factor: an attribute of a constituent (other than its referent) is more salient when a morpheme intrinsically stipulating greater attention on it is in construction with the constituent than when one is not

(26) morpheme's phonological shape and its shape-meaning linkage: *be called* / GMn *heissen*

This gadget is called a pie segmenter. (vs. Please hand me that pie segmenter.)

(27) exact wording (specific morphemes in their particular sequence): *quote*

So she said to him, *quote*: You need to take a bath.

(vs. So she said to him that he needed to take a bath.)

(28) style of delivery and affective state inferrable from that style: *be like*

So then I'm like: Wow, I don't believe this!

factor Ca4: a form affecting attention on an outside entity or phenomenon

a whether factor: a feature of the current context is more salient when a morpheme intrinsically stipulating greater attention in conjunction with a device for indicating the feature is present than when one is not

A: function: to single out one feature from an array of others copresent in space

a. device: temporal proximity of the feature's occurrence to the moment of speaking, combined with its intrinsic perceptual salience relative to the remainder of the field.

(29) That's a cruise ship / a fog horn / diesel fuel / the east wind.

<said by speaker to hearer as both stand on pier with vessels sailing by>

b. device: bodily movement of the speaker (e.g., pointing finger, eye fixation)

(30) a. object: That's my horse. b. activity: That's a gallop.

c. region: My horse was over there. d. direction: My horse went thataway.

B. function: identifying one instantiation from among alternative possibilities

c. device: bodily movement of the speaker

- (31) a. path contour: The fish swam like this. <tracing path through air with finger>
 b. object's shape: The fish was shaped like this. <tracing outline through air with fingers or holding hands so as to form the outline>
 c. object's size: The fish was yay big. <holding two hands a certain distance apart>
 d. pattern of activity: You row a boat like this. <squatting and moving back and arms to and fro>

C. function: specifying the current deictic center

d. device: location of speaker's body in space / utterance in time (for coarse-grained localizations)

- (32) a. Pull your wagon over here. b. There are plenty of restaurants around here.
 <without bodily movements>

- (33) a. The telephone is available now. b. I was sick, but I'm fine now.

e. device: certain vocal dynamics (for fine-grained localization in time)

- (34) a. You can save my life if you push the green button ... riiiiight ... NOW!
 (adapted from Fillmore 1997a)
 b. The time is exactly ... 3 ... o'CLOCK!

2.3.2 context with an attentional effect outside itself (Cb)

factor Cb1: context affecting attention on part of an outside referent

a dichotomous which factor: a part of the extended reference of a morpheme that is more relevant to the context of the morpheme than other parts is more salient than those other parts

Fillmore's frame semantics:

- (35) I wrote-- a. with a quill. b. in Russian. c. about daffodils.

Bierwisch:

- (36) a. The university collapsed in the earthquake.
 b. He got his Ph.D. from that university.

Langacker's active zones:

- (37) The dog bit the cat.

** factor Cb2: context affecting attention on one of the senses of an outside morpheme*

a dichotomous which factor: a sense of a polysemous or homophonous morpheme that is more relevant to the context of the morpheme than other senses is more salient than those other senses

- (38) *check*, V: a. 'ascertain' b. 'write a checkmark beside'
 c. 'inscribe with a checkerboard pattern' d. 'deposit for safekeeping' e. 'stop'
market, N: a. 'outdoor area of vendors selling food'
 b. 'store for selling food' c. 'institution for financial exchange'

figure, N: a. 'shape' b. 'diagram' c. 'personage' d. 'number'
stock, N: a. 'soup base' b. 'stored supply' c. 'rifle part' d. 'line of descendants',
 e. 'farm animals' f. 'fragrant flowered plant species' g. 'financial instrument'
down, A: a. 'closer to earth's center' b. 'reduced' c. 'recorded' d. 'glum'

(39) I checked the market figures -- my stock is down.

likeliest sense selections: check: (a); market: (c); figure: (d); stock: (g); down: (b)

alternative: I manage a food store (*market*, b). Each day, the home office prepares diagrammatic sketches (*figures*, b) of the store showing various updated factors, including its current inventory (*stock*, b). I place a checkmark (*check*, b) on each sketch to show I've reviewed it, making sure that the current inventory has been recorded (*down*, c).

leakage of an otherwise masked sense: Don't put your butt in that ashtray.

2.4 Phonological Factors (D)

includes phonological properties of a morpheme, abstracted away from the first section

2.4.1 intrinsic phonological properties of a constituent (Da)

Factor Da1: constituent length.

a gradient where factor: the concept expressed by a morpheme is more salient
 in proportion to the phonological length of the morpheme

(40) They promised they would contact me. Nevertheless / But they never called back.

factor Da2: shape similarity to other morphemes in the lexicon

a whether factor: a morpheme in one's lexicon and the concept it expresses are more salient
 when that morpheme is similar in phonological shape to a morpheme now in use than when it is not

(41) a. Nyquil (a sleep medication): night / tranquil
 b. motivation for stress shift?: urAnus --> Uranus / harAss --> hArass

2.4.2 extrinsic phonological properties on a constituent (Db)

Factor Db1: degree of stress on a constituent.

a whether factor: the concept expressed by a constituent is more / less salient
 where the stress on the constituent is above / below the unmarked amount than where it is not

(42) My parents are also going to PARIS,
 (in addition to other European capitols) / (in addition to / not just Rome and Vienna).

Factor Db2: length change in a constituent

a whether factor: the concept expressed by a morpheme is more salient when the length of a segment in the morpheme is increased from the unmarked length than when it is not

Kutenai lengthens the first vowel of a word with an intrinsically short vowel to put the word in focus (Matthew Dryer, personal communication).

2.4.3 intrinsic phonological properties over an expression (Dc)

* *factor Dc1: shape similarity over an expression*

a whether factor: the phonological shapes of forms in an expression (and the forms bearing them) are more salient when those shapes contain a similarity recurring over the expression than when they do not

- (43) a. It's no jest: I talked to a chap who feared he'd gag on a coke and die.
 b. It's no joke: I spoke to a bloke who feared he'd choke on a coke and croak.

2.4.4 extrinsic phonological properties over an expression (Dd)

factor Dd1: stress similarity over an expression

a whether factor: the stress patterns on the forms in an expression (and the forms bearing them) are more salient when those patterns have a similarity recurring across the expression than when they do not

(44)

original from the movie *The Court Jester*:

- a. The pellet with the poison's in the flagon with the dragon,
 the chalice from the palace has the brew that is true.

with rhyme removed:

- b. The capsule with the poison's in the tankard with the dragon,
 the goblet from the palace has the brew that is safe

with rhythm removed:

- c. The poison capsule's in the tankard with the dragon on it,
 the goblet coming from the palace has the safe brew.

Factor Dd2: other vocal dynamic patterns over an expression

(pitch, volume, rate, timbre, clarity, unit separation, etc.)

a gradient where factor: e.g., the concept expressed by an utterance is more salient in proportion to the amount by which the volume of the utterance is above the norm

- (45) Don't ... forget ... to lock ... the door ... when you leave.

Factor Dd3: unmarked stress pattern over an expression

a hierarchical where factor: the concept expressed by a constituent in an expression is more salient when the constituent receives greater stress due to the unmarked stress pattern over the expression than when it receives less stress

English unmarked stress pattern over sentence: heaviest stress on last open-class constituent

(46)

- a. The auto mechanic pounded on the taxi driver's fender with a rubber mallet.
- b. The auto mechanic pounded on the taxi driver's fender with a mallet of rubber.
- c. The auto mechanic pounded with a rubber mallet on the taxi driver's fender.
- d. The auto mechanic pounded with a rubber mallet on the fender of the taxi driver.

unmarked stress pattern for Germanic stratum in English:
open-class morphemes stressed, closed-class morphemes unstressed

(47) *Ân ûnfriendly joggêr wâs running pâst thê churchês.*

2.4.5 phonological properties with different access to consciousness (De)

factor De1: phoneme vs. allophone / first vs. nth phoneme

a hierarchical which factor: certain aspects of phonology are more salient than others perhaps in a hierarchy, perhaps universally

a person generally has more access to words with, say, /r/ as the first phoneme than ones with /r/ as the third phoneme or to the phoneme /t/ than to the allophones of /t/

2.5 Factors involving Properties of Concepts (E)

other sections: the mechanisms set attention for an entity regardless of its conceptual content
here: the mechanisms set attention for an entity because of its conceptual content

Factor E1: referential divergence from norms

a gradient where factor: a concept is more salient in proportion to its divergence from norms

- (48) a. He hopped / walked to the store. -- unusual > ordinary
b. She screamed / shouted to him. -- affectively intense > affectively mild
c. He drowned / died. -- specific > general

Factor E2: Direct reference to attention in the Addressee

a dichotomous where factor: an entity is more / less salient where there are explicit directions to the hearer to attend more / less to that entity than without such directions

(49) a. Pay attention to the movie! / You should note their sincerity.

b. Nevermind what I said! / Disregard their appearance.

2.6 Factors involving Relations among Subsystems of Language

general attentional bias: (intended) content over form

2.6.1 Comparison of language subsystems (Fa)

Factor Fa1: Salience hierarchy of language subsystems

a hierarchical which factor: some subsystems of language may tend to be more salient than others in a hierarchy

perhaps: speech context (interlocutors, surroundings) > general topic of current discourse
 > meanings of particular phrases/words > vocal dynamics (speed, loudness, pitch, timbre, etc.)
 > phonology > syntactic rules/patterns

Factor Fa2: Reference vs. its representation

a dichotomous which factor: the concept expressed by a linguistic form is more salient than the phonological shape of that form

(50) on hearing *sick*: more hearer attention on semantic content 'sick'
 than on phonetic shape [s] -[I]-[k]

(51) more attention on same general reference of these 3 sentences than on their different wordings
 a. My sister called and said she was very sick this morning.
 b. My sister called this morning to tell me that she was feeling really sick.
 c. Judy said she was very ill when she called today.

Factor Fa3: Reference vs. syntactic structure

a dichotomous which factor: the conceptual content represented by a linguistic expression is more salient than the syntactic rules governing or patterns present in the expression

(52) a. Whose dog bit our cat? b. Whose dog did our cat bite?

2.6.2 Discrepancy between language subsystems (Fb)

Factor Fb1: Idiomatic vs. compositional meaning

a dichotomous which factor: the concept represented by an expression being used as an idiom is more salient than any concept represented compositionally by that expression

(53) a. I turned the offer down. b. I turned the propellor blade down.

Factor Fb2: Figurative vs. literal meaning

a dichotomous which factor: in a trope, the nonliteral concept that the hearer is to derive

is more salient in a "background trope" and less salient in a "foreground trope" than the literally represented concept and its conflict with the derived concept

a "foreground trope" -- e.g., sarcasm or humor -- requires hearer attention on the fact of its being a trope for its very existence as a trope

(54) Here comes Mr. Sure-footed!

a metaphor can range from being a foreground trope to a background trope:

(55) A: How is your brother doing with his term project? B:

- a. unlexicalized foreground metaphor / high processing effort for hearer
He's lurching along in it. / He's striding along in it.
- b. partially lexicalized midground metaphor / middle processing effort for hearer
He's skating through it. / He's staggering through it.
- c. lexicalized background metaphor / low processing effort for hearer
He's sailing through it. / He's racing through it. / He's slogging through it.

Factor Fb3: Actual vs. "ideal" representation and reference

a dichotomous which factor: the speaker's inferrably intended reference and its presumed well-formed representation is more salient than the actual representation and its literal reference.

the referent incorrect for the physical context (constructed examples):

specific (56) a. How can you stand there and tell me you have no time?!

<said to someone sitting>

b. Here, hand this to the baby.

<passing spoon of applesauce to spouse to feed to baby>

two correct referents interchanged into incorrect locations (overheard example):

(57) Students believe that every solution has a problem.

poorly constructed referent (example heard on radio):

(58) Haven't those negotiations [pause] sort of passed by events, [pause]

-- aren't they outdated?

(inferrable target: Haven't those negotiations been overtaken by events?)

deviations from well-formed expression like incomplete constructions, pauses, inclusion of "uh" / "oh", restarts, interruptions by other speakers, overlaps with other speakers.

(59) adapted transcription by Charles Goodwin of 3 couples discussing prior day's car racing event

Phyllis: Mike says there was a big fight down there last night, / Curt: Oh really? / (0.5)

Phyl: With Keegan and, what. Paul [de Wa::ld?

Mike: [Paul de Wald. Guy out of, =
 Curt: =De Wald yeah I [know him.
 Mike: [Tiffen.=
 Mike: =Do you know him?
 Curt: Uh huh I know who he _i:s_, / (1.8)
 Mike: Evidently Keegan must have bumped him in the, / (0.6)
 Gary: (Wasn't) it la:st week something like that h[appened too?
 Mike: [Ohno:, thi[s:
 Gary: [Somebody
 _bump_ed somebody else and [they spun around the tra[ck
 Mike: [I don't kno:w. [Oh that was / uh a week be[fore last in the late ().
 Phyl: [He wasn really fueling) end then they go down and
 they throw their helmets off an then th(h)ey [l:ook at each other.
 Mike: [But, / Mike: This=
 Curt: =Ye::ah ((laughter)) / Phyl: ((laughter)) / [
 Mike: This:: uh::: / Gary: (They know),

Factor Fb4: degree of divergence by the actual from the "ideal" representation and reference
 a gradient where factor: beyond a grace amount, the infelicity of an expression as well as
 its form (and meaning) are more salient in proportion to the deviation of the expression
 from the inferrably intended reference and its well-formed representation

(60) excerpted transcription from Sachs, Schegloff, and Jefferson (1974)

... But I: I wouldn' uh I wouldn': I won - I say I wouldn' uh
 ((pause)) I don' know of anybody - that - 'cause anybody that I really
 didn't *di:g* I wouldn't have the *time*, uh: a:n: to waste I
 would say, unh if I didn' ()

2.7 factors involving the occurrence of representation (G)

covers: attentional effects on the speaker (availability / colloquiality / obligatoriness of representation)
 and on the hearer (inclusion / density of representation)

2.7.1 speaker attention due to availability of representation in the lexicon (Ga)

* *Factor Ga1: existence of representation in a lexicon*

a which factor: a concept expressed by a morpheme that occurs in a lexicon is more salient
 to a speaker than a concept without such representation

(61) English: a warm glow of pleasure from innocent pride in the accomplishment
 toward whom one has parental-type feelings
 Yiddish: nakhes

Factor Ga2: privilegedness of a representation in a lexicon

a gradient where factor: a concept represented by a morpheme is more salient to a speaker in proportion to the weighted privilege of occurrence of that morpheme (relative to a particular register) in the lexicon of a language

the concept represented by *industriousness / industry* in English and by *Fleiss* in German may tend to occur to the mind of an English speaker less than to that of a German speaker because the English morphemes have lower privilege of occurrence than the German morpheme

Factor Ga3: extent of representation in a lexicon

a gradient where factor: a conceptual category and its member concepts are more salient to a speaker in proportion to the size of the set of morphemes in the lexicon that represent the category and to the number of member concepts they distinguish

e.g., the category of ‘color’ and particular color concepts may come more readily to the mind of a speaker of a language with a large class of basic and nonbasic color terms in its lexicon than where the language has a small class

2.7.2 speaker attention due to includability of representation in an utterance (Gb)

factor Gb1: obligatoriness of inclusion

a dichotomous where factor: a category within (the conception of) a situation is more salient to a speaker when its representation is obligatory than when it is not

most Atsugewi verb roots require a prefix -- one out of a set of some two dozen -- that specifies the event that caused the main action indicated by the verb root
e.g., -y’at’ ‘squash a bug’ must be preceded by one of:
uh- ‘by swinging a linear object onto it’ / cu- ‘by poking a linear object into it’ /
ra- ‘by scraping a linear object’s end across it’ ma- ‘by acting on it with one’s foot’, etc.

Factor Gb2: weighted optionality of inclusion

a dichotomous which factor: a conception represented by a morpheme or morpheme class that, as an option, is easier to include in a sentence is more salient to a speaker than one more difficult to include

- (62) a. The man ran to the storeroom.
b. The man ran way back down into the storeroom.
c. The man ran a long distance downwards in return to the inside of the storeroom.

2.7.3 hearer attention due to inclusion of representation in discourse (Gc)

* *Factor Gc1: presence vs. absence of Explicit representation.*

a whether factor: a concept is more salient when explicit representation of it is present than when not

- (63) a. The pen kept rolling off the uneven table.
b. Could you please close the window?

* *Factor Gc2: The occurrent reference instead of alternatives*

a whether factor: a concept within a set of alternatives one of which needs expression is more salient when it is selected for overt representation than when it is not

- (64) a. The pen kept rolling off the uneven table.
b. I kept putting the pen back on the uneven table.
(65) a. Could you please close the window? b. It's a bit chilly in here.

Factor Gc3: concealment vs. open availability of unrepresented concepts

a dichotomous where factor: nonexplicit conceptual content sensed by a hearer as being hidden by a speaker is more salient than the same content when felt as openly available

some concepts depend on hiddenness for their very character:
terms for the stimuli: menace / eeriness / mystery
terms for the experiences: foreboding / disquiet / wonder

2.8 factors involving temporal progression (H)

2.8.1 recency of representation (Ha)

factor Ha1: current vs. prior forms

a dichotomous which factor: the forms currently being uttered by a speaker are more salient to the hearer than previously uttered forms

in this excerpt from Santa Barbara corpus "a book about death": when the speaker came to the part about the shark, the hearer's attention may have been more on that than, say, on the earlier "standard line" concept

I used to have this sort of standard line that there were two things I got out of my marriage. One was a name that was easy to spell, and one was a child. That really got me grounded. But the fact of the matter is that the marriage itself -- I mean as hellish as it was -- it's like it pulled me under, like a giant octopus, or a giant shark. And it pulled me all the way under. And then, there I was, it was like the silent scream, and then, I found that I was on my own two feet again.

factor Ha2: recency of last reference or occurrence

a gradient where factor: a phenomenon is more salient in proportion to the recency of its last reference or occurrence

situation: You visit my office. A man enters, says a few words to me, and leaves.
if only moments later, I to you: He's the director of our lab.

if much later, I to you: That man who came in and spoke to me was the director of our lab.

if similar event is within scope of "lookback" envelope,

the concept of 'additionality' must be included

to waiter: diner 1: I'll have the blue plate special and a lemonade.

diner 2: I'll *also* have the blue plate special and a lemonade.

to same waiter later: diner 2: I'll have the blue plate special and a lemonade *again*.

2.8.2 quantity of representation (Hb)

Factor Hb1: Density of reference

a gradient where factor: a concept is more salient in proportion to the density of representation of it (of reference to it)

e.g., a stretch of discourse containing 20 references to dogs and only one to cats (need not be 20 recurrences of same lexical item; could be 20 references to same category)

Factor Hb2: repetition

a gradient whether factor: a concept is more salient in proportion to the degree to which its representation is repeated

(66) I just can't understand why... I just can't understand why...

2.9 factors involving properties of the speech context (I)

2.9.1 the production of speech (Ia)

factor Ia1: presence vs. absence of speech

a dichotomous which factor: speech and its content are more salient than silence

Factor Ia2: a speaking vs. a silent participant

a dichotomous which factor: a participant producing speech is more salient than one who is not

3. attentional effects involving two or more factors

3.1 Attentional Effects resulting from Combining Factors

Although able to act alone, the basic factors also regularly combine

and interact in systematic patterns --

whether in a single constituent, over a sentence, or through a discourse --

to produce further attentional effects.

3.1.1 Gradation in strength of Attention through Factor Combination

Factors can be incrementally added / removed -- or factor values shifted --
to produce a gradation in the degree of attention directed to a target entity.
here, the attentionally adjusted entity: ‘agency’

- (67) a. The diners slowly passed the goblet around the banquet table.
b. They slowly passed the goblet around the banquet table. [by factor Aa1]
c. The goblet was slowly passed around the banquet table by them. [by factors Ba1/Ba2]
c. The goblet was slowly passed around the banquet table. [by factor Gc1]
d. The goblet slowly passed around the banquet table. [by factors Ab3/Gc1]
e. The goblet slowly went around the banquet table. [by factor Gc1]

3.1.2 Reinforcement of an attentional pattern through Factor Convergence

Several factors can converge on the same target to reinforce a particular level of salience,
making it especially high or especially low.

The grammar of a language is often so organized as to facilitate certain convergences.

example 1: as in sentence (a) of the preceding series

English regularly reinforces agency foregrounding through this convergence of factors:
explicit representation (Gd1) by an open-class nominal (Aa1) in initial sentence position (Ba1)
as grammatical subject (Ba2) of a verb lexicalized to apply to an Agent subject (Ab2)

example 2: *person* (as in: person who jogs) is more salient than *-er* (as in: jogger)

- open-class vs. closed-class (factor Aa1)
- morphologically autonomous vs. bound (factor Aa2)
- of greater vs. lesser phonological length (factor Da1)
- more vs. less strongly stressed (factor Dc4)

3.1.3 Attentional Resultants of Factor Conflict

A. override: one factor supersedes another
the two factors were in conflict,
assigning different degrees of strength to the same obtent

- (68) a. I went to Key West last month by plane. b. I flew to Key West last month.

the concept ‘aircraft’ is foregrounded in *plane* in (a), backgrounded in *flew* in(b)

- through the convergence of 4 factors:
- in a noun vs. in a verb (factor Aa1)
- as the whole vs. only part of the morpheme’s reference (factor ab1)
- in prominent sentence-final position vs. in second position (factor Ba1)
- strongly stressed vs. moderately stressed Dc4

(b) can be heard as mainly conveying the journey per se, with air transit as incidental information

(69) I FLEW to Key West last month.

here, the further application of extra heavy stress (factor Db1) to the verb
undoes the backgrounding of the 4 convergent factors,
forcing the foregrounding of the 'aircraft' concept.

B. competition: one factor vies with another for limited capacity of attention
-- that is to be directed at two different objects

e.g., if a speaker had just uttered an ill-formed sentence, but goes on to a new sentence

factor Ha1: calls on hearer to allocate enough attention to speaker's currently uttered forms
for them to be processed in working memory

factor F3: calls on hearer to allocate enough attention to the discrepancy
to puzzle out what the speaker might have intended to say.

hearer may not have enough attentional capacity to act on both factors adequately at same time.

3.2 groups of factors under broader attentional principles

the factors above were set up partly on the basis of
the type of mechanism they use to trigger attention
but several such factors can arise from a more general principle
principle 1: significance = salience
what is communicatively more significant (ideationally / emotively)
is proportionally more salient than what is less significant

factors falling under this principle:

Factor Aa1: a concept represented by a morpheme is more salient

when that morpheme is open-class than when it is closed-class

factor Db1: open-class morphemes are more salient than closed-class morphemes

due to their stressed vs. unstressed pattern in some languages

Factor Fa2: the concept expressed by a linguistic form is more salient

than the phonological shape of that form

factor Fb2: any trope (metaphor, sarcasm, etc.) understood as present

in an expression is more salient than any literal interpretation of the expression

Factor Fb3: the speaker's inferably intended reference and its presumed well-formed representation

is more salient than the actual representation and its literal reference.

factor not included above: the overall conceptual complex a hearer forms

from both the explicit and implicit in a discourse is more salient

than the explicit reference alone

4. comparison of attention across languages / language modalities / cognitive systems

4.1 across languages

- a. factor Ca1, a form affecting attention on an outside constituent, e.g., a topic marker, is operative in some languages, e.g., Tamil, and not in others, e.g., English
 - at least, in the form of simplex morphemes to mark topic
- b. factor Db1, degree of stress on a constituent, functions extensively in some languages, e.g., English, but only modestly in others, e.g., French

4.2 across modalities

- a. American Sign Language (ASL) has a certain 'disregard' gesture with no obvious counterpart in spoken languages
 - as in signing: "We moved the wall progressively further out"
 - vs. "We moved the wall from a closer location to a further location"
- b. sustained midground attention on X in parallel with foregrounded attention on Y

English has this e.g., for doubt intonation:

Are you really sure you want to go through with this crazy plan?

<with sustained high pitch from "really" on>

ASL, but not English, has it for topic:

LUNCH FREE, DINNER PAY (Paul Dudis)

<with LUNCH and DINNER sign held in place during FREE and PAY>

4.3 across cognitive systems

- a. common across language and perception:
 - greater magnitude along a parameter attracts greater attention to the entity manifesting it
 - e.g., in language: stronger stress on a linguistic constituent
 - in visual perception: large size or bright color of a viewed object
- b. much in language, little in perception
 - one entity (devoted to) directing attention to a neighboring entity
 - e.g., in language: topic / focus markers
 - in visual perception: perhaps only cases like noting what someone is looking at
- c. much in perception, little in language
 - abruptness of change in a parameter attracts attention to the entity manifesting it
 - e.g., in visual perception: sudden movement
 - in language: perhaps only in vocal dynamics, e.g., sudden rise in loudness

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