

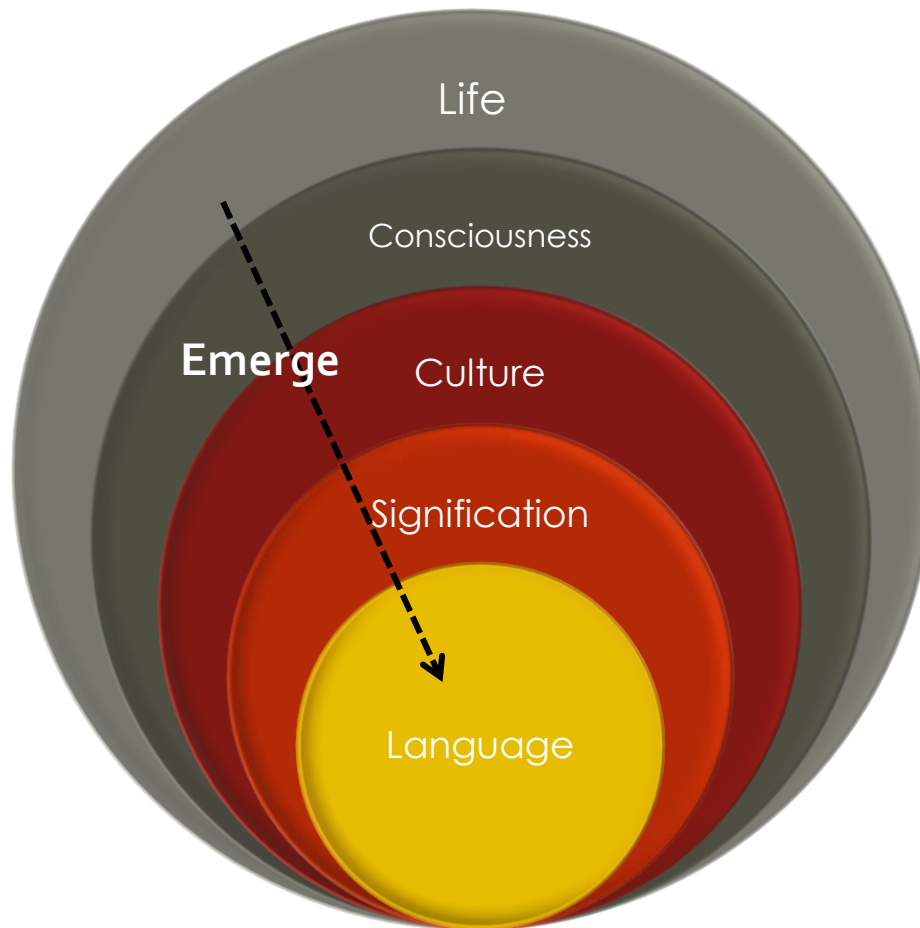
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7. Non-actual motion in experience and language

Lectures in
Cognitive
Semiotics
Roma Tre 2013

The Ladder of Meaning



Relevance for linguistics

- ◉ In which ways does the cognitive-semiotic perspective adopted here **change our understandings of language?**
- ◉ A novel analysis of “**fictive motion**”, with relevance for semantic typology (Lecture 7)
- ◉ A reevaluation of the role of “**sound symbolism**” in language (Lecture 8)

Outline

1. What is non-actual motion (NAM)?
2. Does “mental simulation” explain it?
3. Three complementary motivations for non-actual motion sentences (based on phenomenology)
 - a) Enactive perception (cf. Talmy)
 - b) The temporality of the noetic act (cf. Langacker)
 - c) Imagination (cf. Matlock)
4. An elicitation-based study of NAM-sentences (Swedish, French and Thai)
5. Discussion and conclusions

Blomberg, J. & Zlatev, J. (2013) Actual and non-actual motion: Why experimental semantics needs phenomenology (and vice versa). *Phenomenology and Cognitive Sciences*, 10.1007/s11097-013-9299-x.



1. What is non-actual motion?

Evidence from language

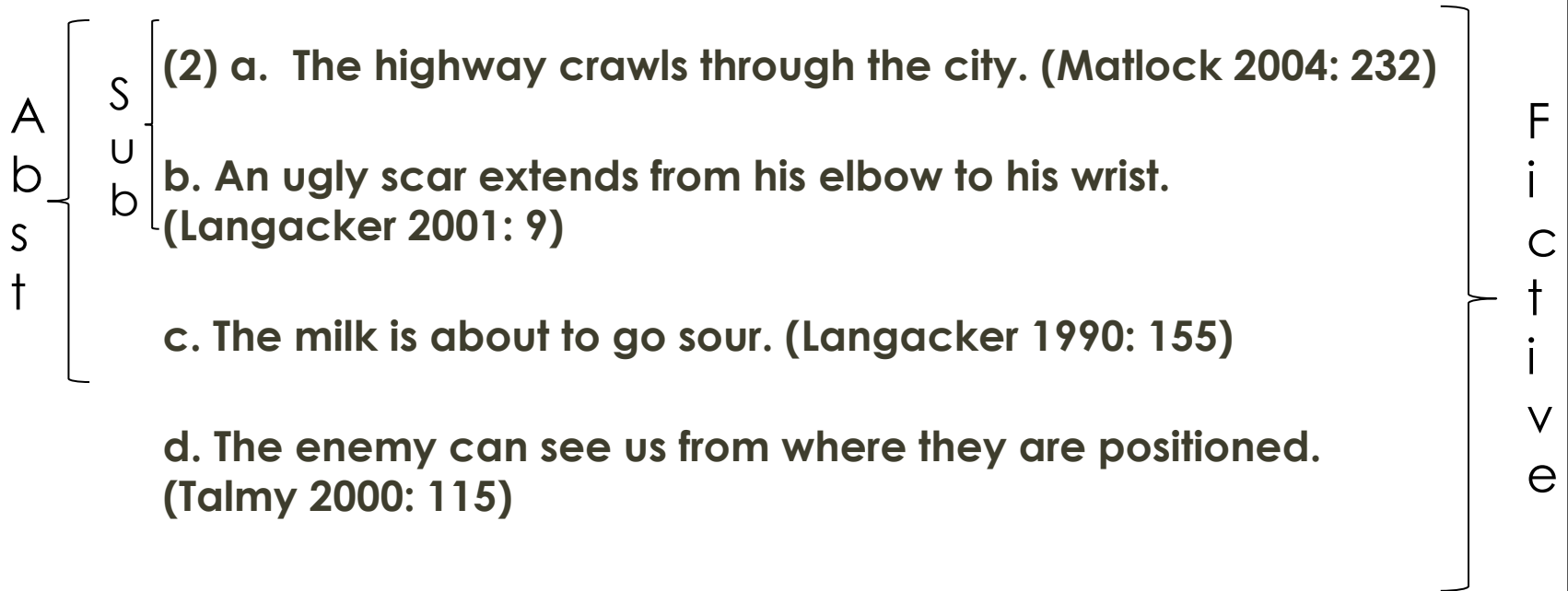
- (1) a. The mountain range goes from Canada to Mexico.
b. The mountain range goes from Mexico to Canada.

- **virtual motion** (Talmy 1983)
- **fictive motion** (Talmy 2000; Matlock 2004)
- **subjective motion** (Langacker 1987; Matsumoto 1996; Brandt 2009)
- **implied motion** (Barsalou 2009)
- **abstract motion** (Matlock 2010)

Are these terms synonymous?

No, different though related

I. Sentences



No, different though related

“The highway crawls through the city.” (Matlock 2004: 232)

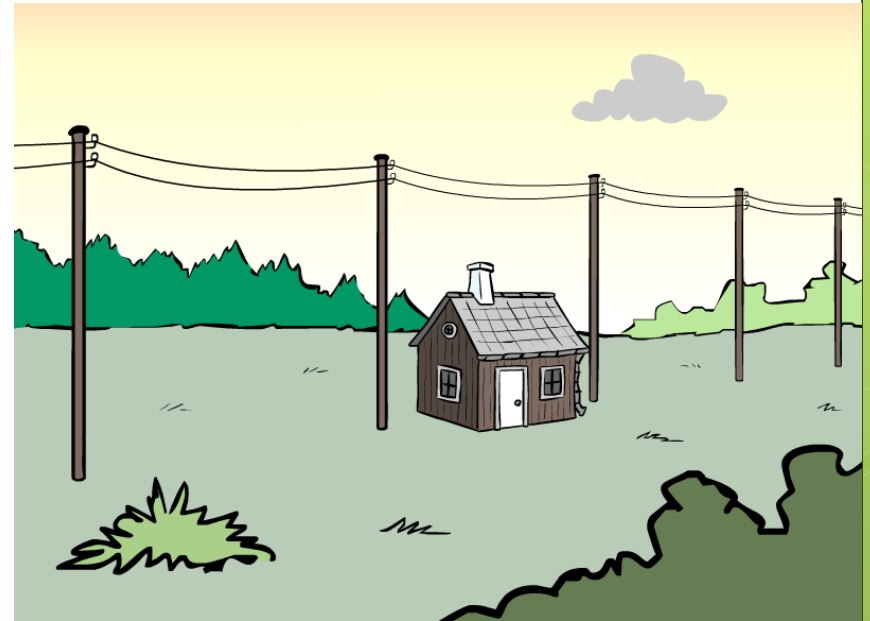
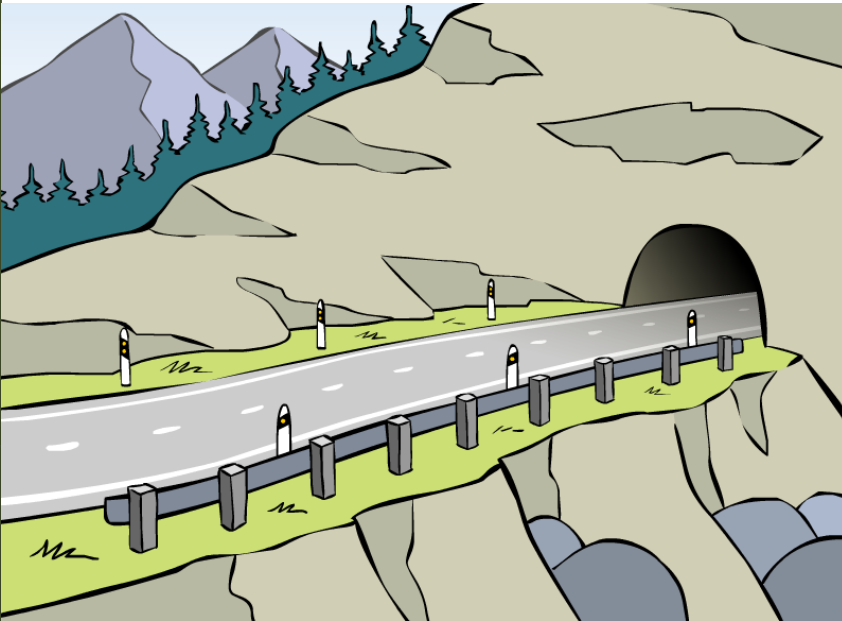
II. Experiences

1. the subject's imagined self-motion through the desert along a highway;
2. the subject's imagined motion of some external object, such as a car, along a highway;
3. the motion of something animate such as a snake, which resembles a highway
4. the viewpoint of someone who is (merely) visually “scanning” a highway

Actual vs. non-actual motion experiences

- *Actual motion* - from an observer's perspective:
“the experience of continuous change in the relative position of an object against a background”
(Zlatev, Blomberg & David 2010: 394)
- *Non-actual motion*: **Dynamic qualities of consciousness (perception, imagination) related to situations lacking actual motion**
(Blomberg & Zlatev 2013)

Non-actual motion (NAM) sentences vs. experiences



- 1) **NAM-sentences:** Descriptions of such pictures/situations with a motion verb
- 2) **NAM-experiences:** processes of consciousness that motivate such use

NAM-sentences are common....

(3) *The road goes into the forest* (Eng)


(4) *Väg-en går in i skog-en* (Sw)
road-DEF go.PRES in(PRT) in(PREP) forest-DEF

(5) *Pať-yat na-vliza v gora-ta* (Bulg)
road-DEF IMPF-enter in forest-DEF

(6) *Thanoñ khaŋw pay nay phaa* (Thai)
road enter go in forest

... but subject to linguistic constraints!

- (7) Sono haiuee wa heeya
 the highway Top plain
 no mannaka o **{tooru/iku/too-te-iku}**
 GEN center ACC cross/go/go-through
 'The highway {crosses/goes in/goes through} the centre of the plain.'
- (8) Sono densen wa heeya
 the wire top plain
 no mannaka o **{tooru/*iku/??too-te-iku}**
 GEN center ACC {cross/go/go-through}
 'The wire {crosses/goes in/goes through} the centre of the plain.'



2. Why are NAM- sentences used?

Is “mental simulation” an
adequate explanation?

“Mental (neural) simulation”

- “the re-enactment of perceptual, motor and introspective states acquired during experience with the world, body and mind”
(Barsalou 2008: 618)
- “mental processes are supported by the same processes that are used for physical interactions, that is, for perception and action”
(Pescher & Zwaan 2005: 1)



Does this explain NAM-sentences?

- “the conceptualizer (speaker or listener) takes a perspective in the scene and mentally simulates ‘movement’ or ‘visual scanning’ along the figure”. (Matlock 2004b: 1390)
- “The overall results suggest that in understanding an FM [fictive motion]-sentence, people **re-activate and simulate aspects of the protagonist’s motion**, including speed, distance, and the terrain across which the movement occurred. In doing so, they construct **a dynamic representation that mirrors the actual motion of the protagonist.**” (Richardson & Matlock 2007: 238)

Problem 1: conflation

- ***What* is being “simulated”?**

- 1) One's own imaginary self-motion?
- 2) The motion of some external imaginary entity along the path?
- 3) The path itself “as-if” moving?
- 4) The observer's visual attention along the path?

Problem 2: “simulation semantics” blurs the difference

- “[T]he meanings of words and of their grammatical configurations are precisely the contributions those linguistic elements make to the construction of mental simulations” (Bergen 2008: 278)

- (9) a. The man goes through the forest.
 b. The road goes through the forest.

- (10) a. I am driving over the bridge.
 b. I am looking at the car moving over the bridge.
 c. I am scanning the length of the bridge.

Problem 3: philosophical (in)coherence

- Does “mental simulation” occur on the “personal” level of imagination, or on the “sub-personal” of unconscious brain processes?
- A **convenient** ambiguity allowing a common reply to critiques: ***we do not have direct access, i.e. we are not consciously aware of the simulation processes that are going on in our brains*** (cf. Gallese & Lakoff 2005, Barsalou 2009)
- But: can **experiential differences** be accounted for by hypothetical (isomorphic) differences in processes that are **fully invisible to experience**?



3. Three different kinds of experiences/ motivations

Phenomenology and
cognitive semantics

Phenomenology

Static phenomenology:

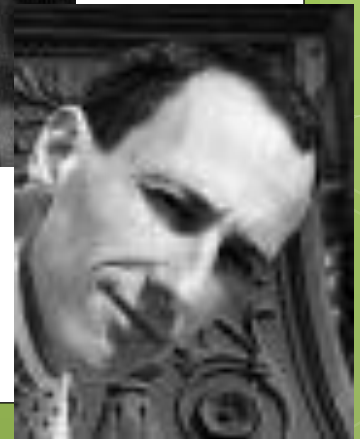
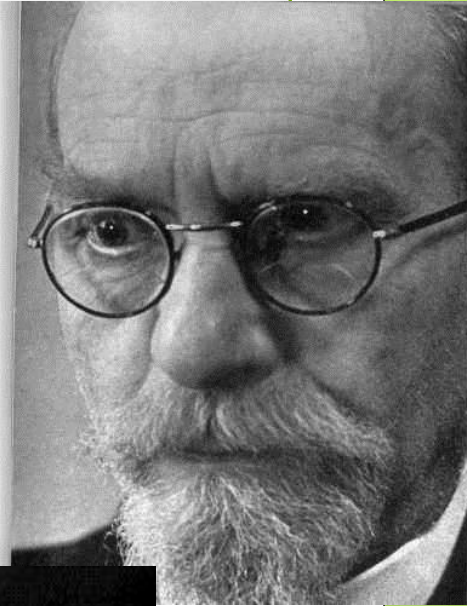
- phenomenological reduction, epoché
- noetic/noematic correlation
- presentation vs. re-presentation
- picture-consciousness

Genetic phenomenology:

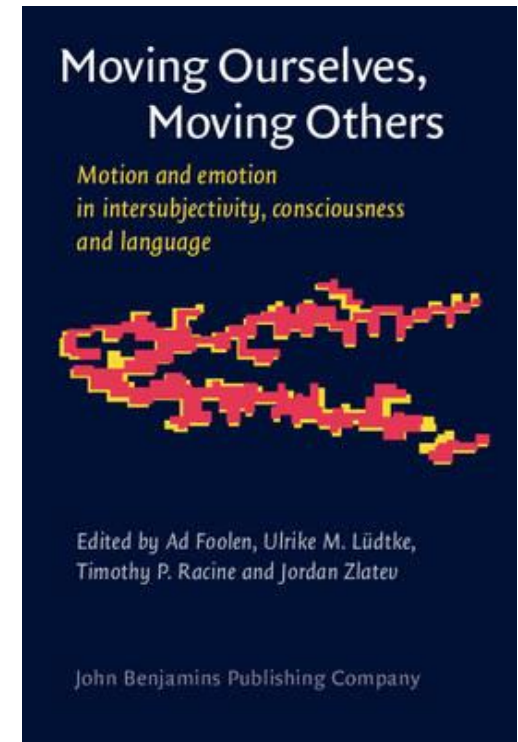
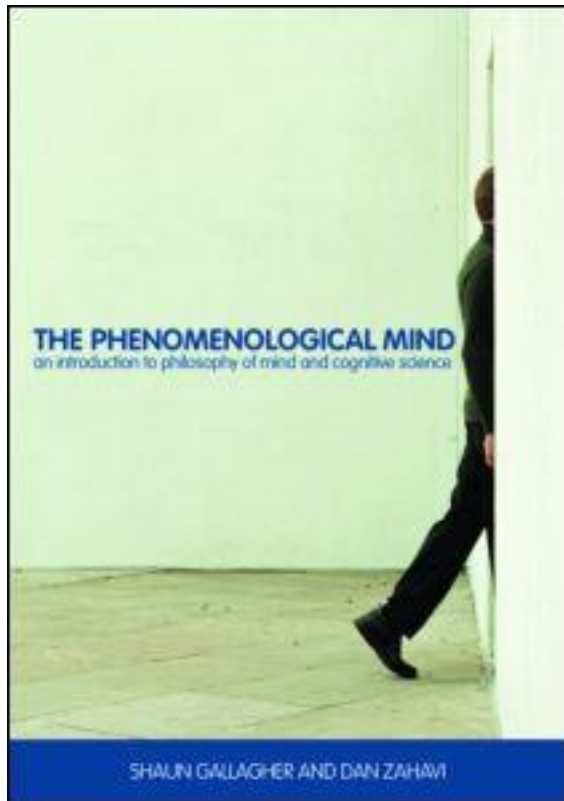
- the living/lived body
- time-consciousness
- passive synthesis

Generative phenomenology:

- The primacy of the lifeworld (*Lebenswelt*)
- Intersubjectivity
- “Sedimentation” and tradition



Examples of “mutual enlightenment”



The (implicit) phenomenology of cognitive semantics

- **Talmy** (2000): “cognitive bias towards **dynamism**” in language, perception and conceptualization
- **Langacker** (1999): “**mental scanning**” - the role of the subjective perspective
- **Matlock** (2004: 1390): “The conceptualizer (speaker or listener) takes a perspective in the scene and **mentally simulates** ‘movement’ or ‘visual scanning’ along the figure.”
- The proposals of Talmy, Langacker and Matlock correspond to **three conceptually and experientially distinct motivations**, profiling different dynamic aspects of intentionality (Blomberg & Zlatev 2013)

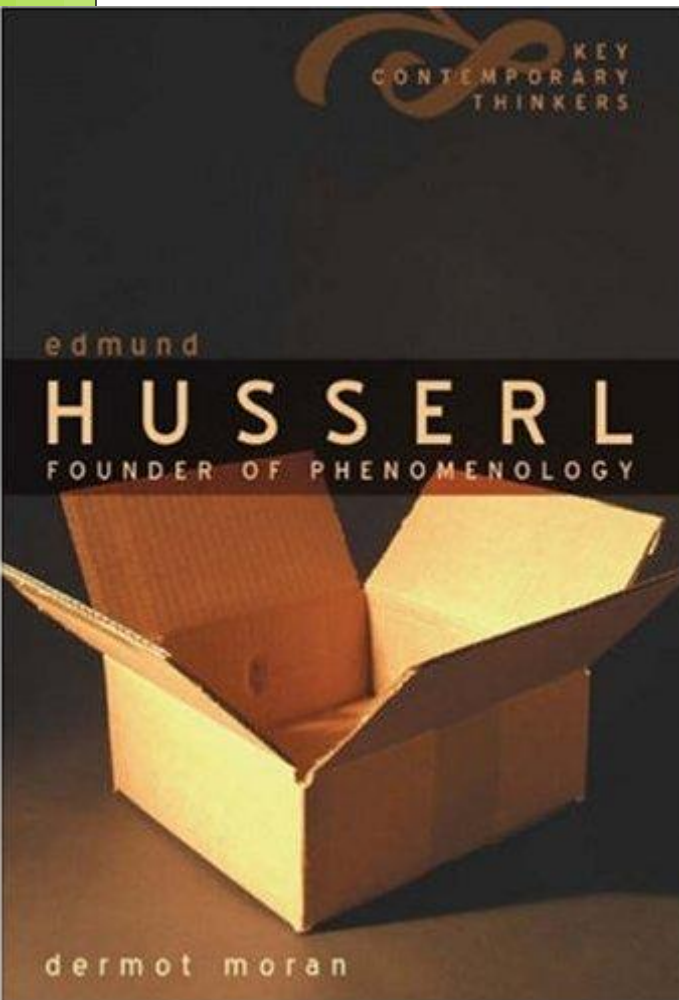
1. NAM in perception

- **Talmy** (2000: 172): A tilted painting: can be seen as a static object with the shape of a rhomb (in “factive mode”) or as an artifact that calls to be readjusted (in a “fictive mode”).
- “[f]actively static phenomena may also be more readily cognized in fictively dynamic terms than in static terms” (ibid: 172)

1. NAM in perception

- “Since the dynamic process of imagistic motion does not correspond to anything outside itself, it seems misleading to apply the notion of fictivity, implying, as it does, that something is conceptualized as not real” (Brandt 2009: 579).
- Talmy’s “fictive mode” corresponds to a **pre-reflective and engaged mode of experiencing**.
- Husserl’s analysis of ***the capacity for self-motion as a central precondition for perceptual intentionality*** (Husserl 1973; Overgaard 2012)

1. NAM in perception



“Every perception which presents the object to me [...] leaves open the practical transition to other appearances of the same object, specifically to a group of appearances. [...] There is thus a freedom to run through the appearances in such a way that I move my head, alter the position of my body, go around the object, direct my regard toward it, and so on. We call **these movements, which belong to the essence of perception** and serve to bring the object of perception to givenness from all sides insofar as possible, ***kinaestheses***.”

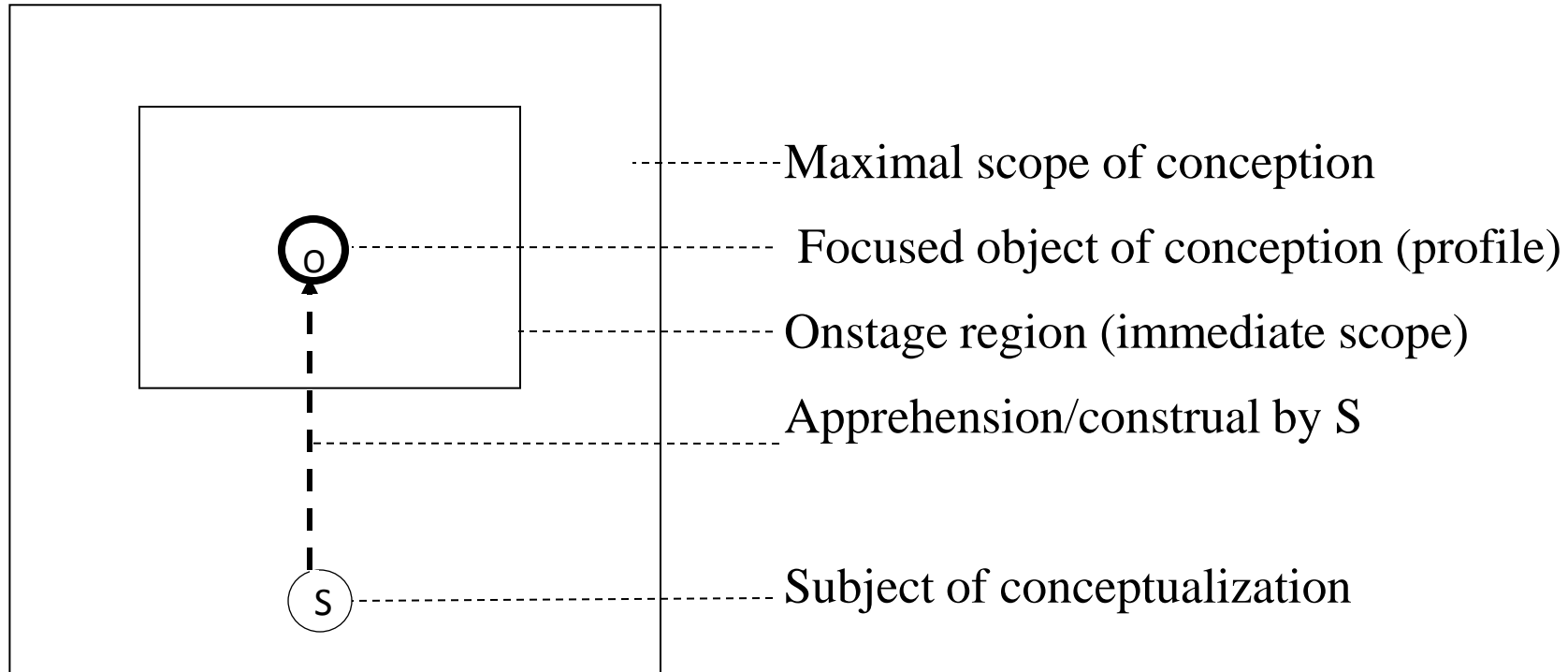
1. NAM in perception

- (11) a. The road goes through the forest. (= 3b)
 b. The path leads to the top of the mountain.
 c. The picture is leaning to the left.
- The subject is always related to the environment in a dynamic and kinesthetic mode: **we perceive a road or a path as features of the environment that afford movement** (through a forest, or to a summit); we perceive a lopsided painting as “leaning”, and thus calling on us to set it straight.

2. NAM in the noetic act

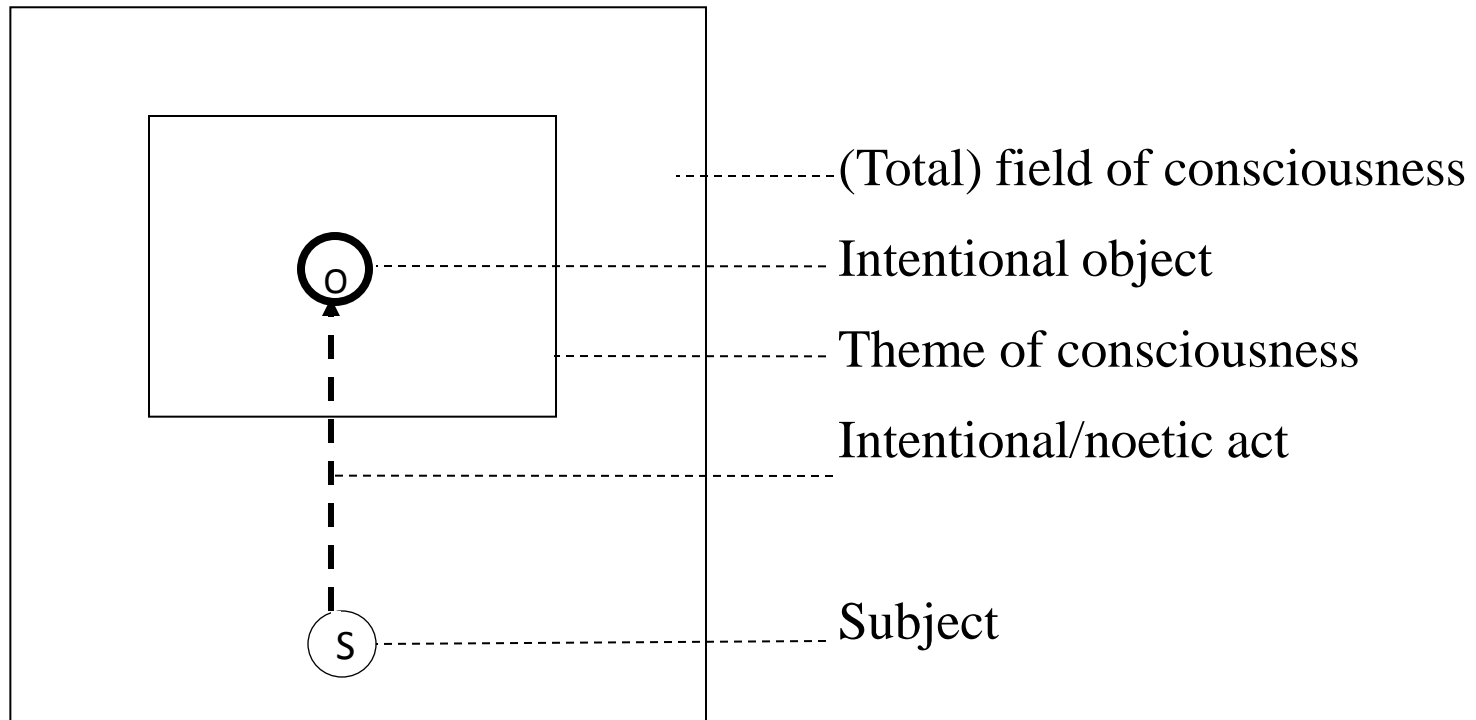
- The essential difference between actual and non-actual motion is according to Langacker (1987, 2006) that the first involves *objective*, and the second ***subjective construal***.

Subjective and objective construal



“An entity is said to be *objectively construed*, to the extent that it goes “onstage” as an explicit, focused object of conception ... An entity is *subjectively construed*, to the extent that it remains “offstage” as an implicit unselfconscious subject of conception. At issue, then, is the inherent asymmetry between the conceptualizer and the conceptualized, between ***the tacit conceptualizing presence and the target of conceptualization.***”

Intentional object and noetic act



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2. NAM in the noetic act

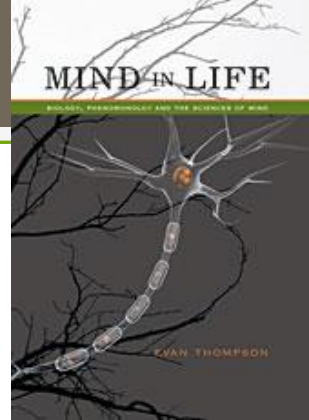
- A reformulation of the thesis of *correlational nature of intentionality* (Husserl 1973; Moran 2005): **a correlation between the subjective intentional act (*noesis*) and the (objective) intentional object (*noema*)** (cf. Zlatev 2010).
- When this distinction is applied to motion, the latter can be seen as either objectively (12a) or as subjectively (12b) construed:

- (12) a. The balloon rises.
 b. The trail rises steeply near the summit.

- **“Subjectification”: semantic bleaching of the objective pole.** In both cases “the conceptualizer traces an analogous mental path” (Langacker 2006: 25), but (12b) lacks a moving objective-pole “correlate”.

3. NAM in imagination?

- “Mental simulation”:
 1. glosses over different experiences on non-actual motion (and their role as motivations for non-actual motion sentences)
 2. runs the risk of losing the distinction even between actual and non-actual motion sentence semantics
 3. ambiguous between referring to “personal”, conscious imagination, and “sub-personal” neural processes
 4. even if taken as fully-fledged personal, conscious mental imagery: the notion confuses **two fundamentally different forms of intentionality: perception and imagination**
- ◉ **Perception**: the intentional object is presented, and its existence is posited (assumed).
- ◉ **Imagination**: the object is re-presented, and existence is not posited.



A possible role (1)

- “In visual imaging or **visualizing**, we do not inspect a phenomenal mental picture; instead we mentally re-present an object by subjectively simulating or emulating a perceptual experience of that object. ... [it is] the activity of mentally representing an object or scene by way of mentally enacting or entertaining a possible perceptual experience of that object or scene” (Thompson 2007: 297, 279)

(13) a. The man goes through the forest. (= 9a)

b. The road goes through the forest. (= 9b)

(14) The road is located in such a way that it allows X to move through the forest.

=> *to some extent, in some contexts, by some subjects*, Matlock's “simulation” explanation may be valid: as conscious visualizing

A possible role (2)

- Sentences where the verb of motion is *not* one of generic, “bleached” motion such as ‘go’ and ‘run’, but rather **expresses a particular manner of movement, often typical for certain living creature**.

- (15) a. The highway **crawls** through the city. (= 2a)
 b. Insanity runs in my family... It practically **gallops**! (Cary Grant)
 (Brandt 2009: 573)
 c. There is like this **snaking** road up over the hills. (Brandt 2009: 582)

d. Det sammetsmörka diket **krälar** vid min sida
 DEF velvet-dark ditch.DEF **creeps** by my side
 ‘The dark velvet ditch is creeping by my side.’
 (T. Tranströmer, *April and Silence*)

- Truly **metaphorical** and “fictive” NAM-sentences (also apparently typologically rare...)

4. NAM-sentences and metonymy

- Metonymy (cf. Martínez-Losa 2007)

MOTION ALONG PATH FOR CONFIGURATION OF PATH

(16) a. The road goes into the forest.
 b. The road has a certain configuration with respect to the forest: the initial part (closest to us) is outside, the further part (away from us) is inside...

(17) a. The ham sandwich asked for the check.
 b. The man who ordered a ham sandwich asked for the check.

- Other factors than pre-linguistic experiences such a **linguistic economy**, can serve as motivation...

Summary

- Non-actual motion **experiences** correspond to at least three different aspects of human intentionality (consciousness), that can each *motivate* the use of NAM-sentences
 - **The enactive/engaged nature of perception**
 - **Noetic-noematic correlation, with the ability to redirect (some) attention to the noetic act itself**
 - **Imagination (re-enactment)**
- In addition, at least in the cases where the figure is an object that (culturally) “affords” motion, NAM-sentences can be seen as **linguistic compressions (metonymy)**

Conclusions so far

- NAM-sentences are *multi-motivated*, and a single explanation (“mental simulation”, “dynamism”, “subjectification”) is inadequate.
- In addition: the use of NAM-sentences is subject to language-internal (and typological) constraints (Zlatev and Blomberg 2011)
- **Empirical studies** with different conditions and languages in order to be able to tease these factors apart.



4. An empirical study of non-actual motion

(Preliminary) results from
Swedish, French and Thai

Method

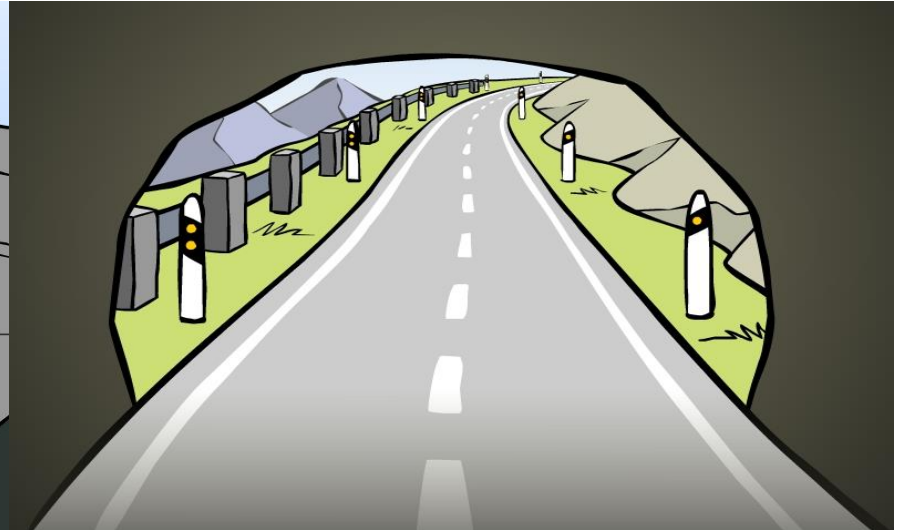
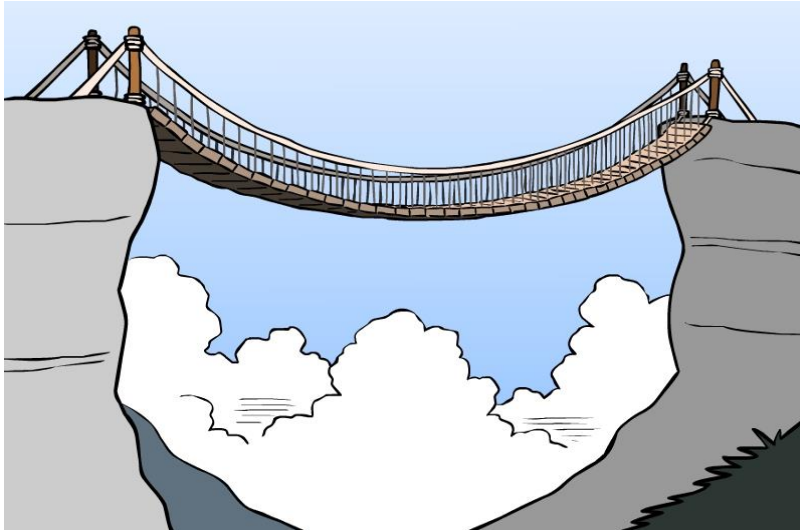
- 24 pictures (+ 12 controls) according to a 2-by-2 design:
 - **12 figure affords human motion (+afford)**
 - **12 figure does not affords human motion (-afford)**
 - **12 from 1st person perspective (1pp)**
 - **12 from 3rd person perspective (3pp)**
- Described by native speakers of Swedish (n=16), French (n=14) and Thai (n=14)
- Video-recorded, and transcribed using ELAN
- Instructions

You will see a number of pictures. Look at the picture and describe it in one sentence. Try to give natural and colloquial descriptions – as if you were to informally describe the picture for someone who has not seen it.

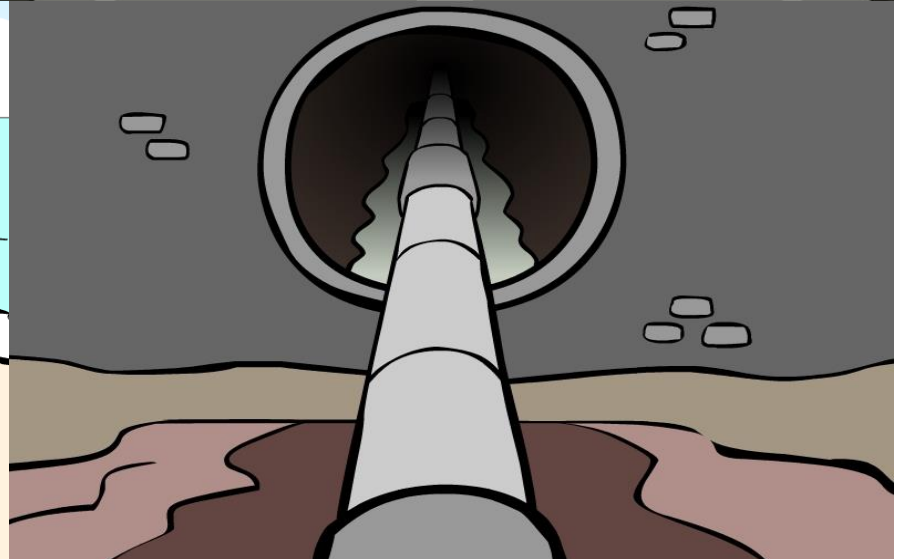
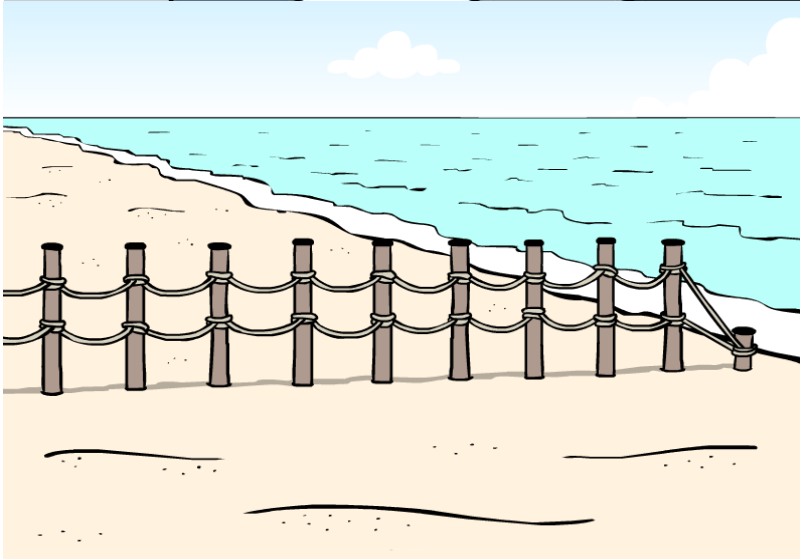
3pp

1pp

+
a
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f
o
r
d



-
a
f
f
o
r
d



Hypotheses

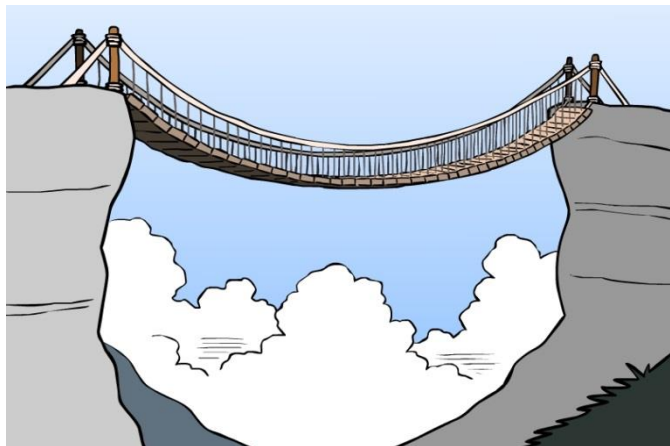
H1: All categories of pictures will elicit some NAM-sentences from some speakers in both languages

H2: IF Metonymy THEN Most NAM-sentences in **+Afford**, irrespective of Perspective

H3: IF Scanning THEN Most NAM-sentences in **3^{pp}**, irrespective of +/- Afford Motion

H4: IF Multi-motivated THEN Most NAM-sentences in the combination **+Afford + 1^{pp}**

Perspective: 3pp



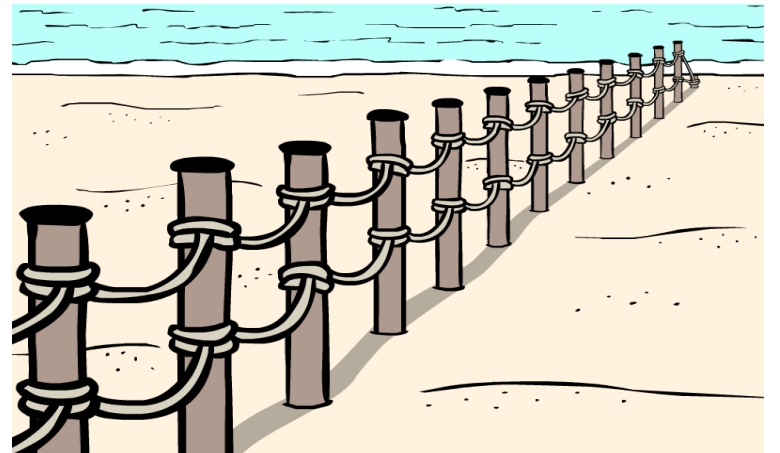
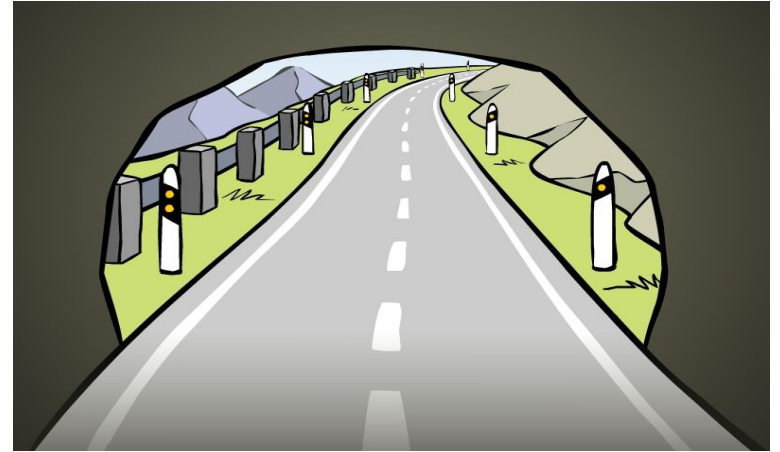
- *En hängbro **löper** från ett berg till ett annat.*
(‘A hanging bridge **runs** from one mountain to another.’)
- *Un pont suspendu pour **traverser** un grand précipice...*
(‘A hanging bridge for crossing a great ravine’)
- *Saphan **yong kham** rawang song napha*
(‘bridge **link cross** between two cliffs’)



- *Ett avloppsrör som **leder** in i en vägg.*
(‘A drainpipe that **leads** into a wall.’)
- *Une canalisation d’égout qui **s’apprête à entrer** dans un tunnel.*
(‘A sewer pipe which is **getting ready to enter** into a tunnel.’)
- *Mi tho prapa **khâw pai** nai chong...*
(‘have pipe water **enter go** into a hole’)

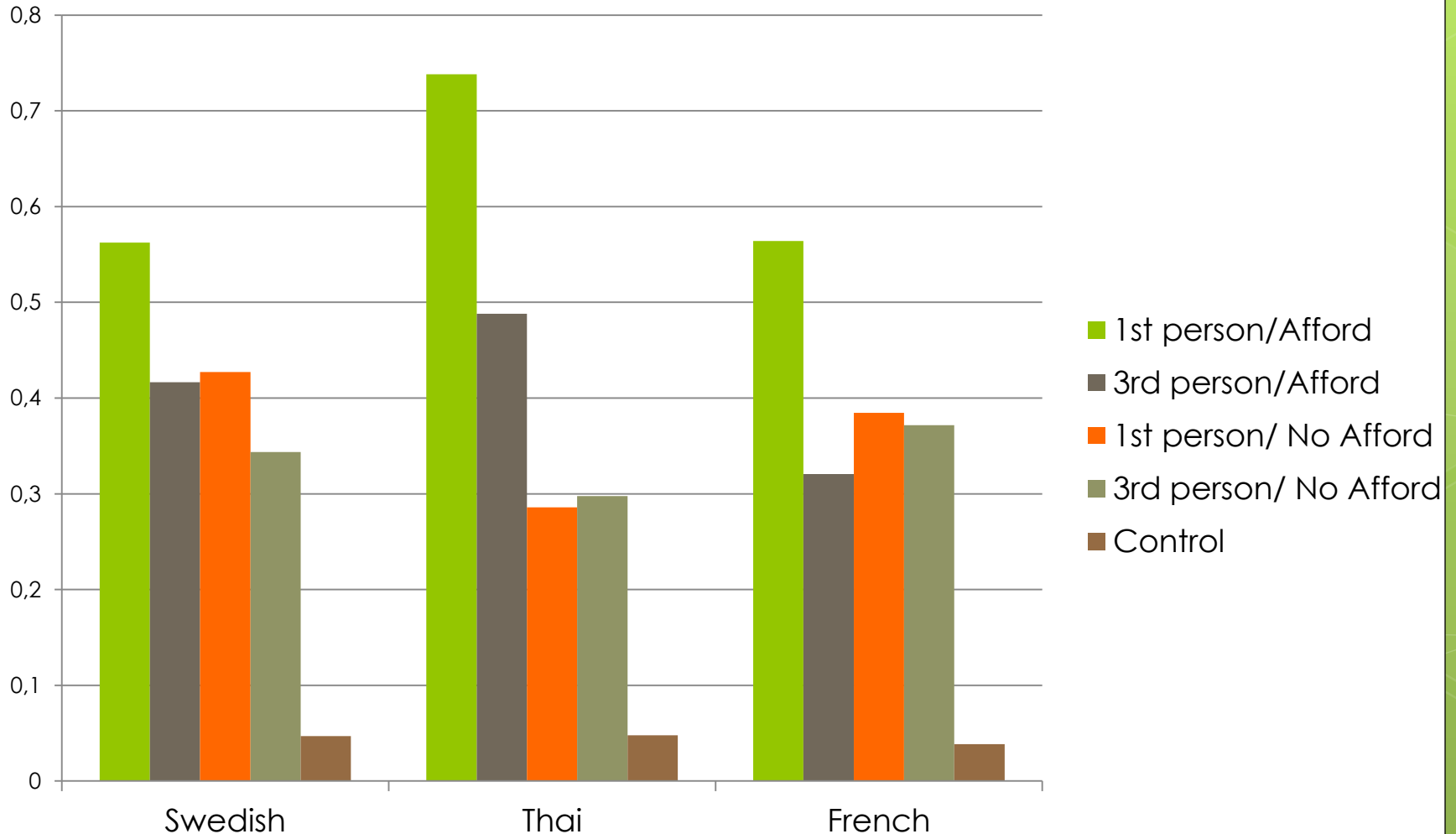
Perspective: 1^{pp}

- *En bilväg **kommer** ut ur en tunnel.*
(‘A road **comes** out of a tunnel.’)
- *C’est une sortie de tunnel qui **débouche** sur une route qui s’en **va** vers la campagne.*
(‘An exit of a tunnel that **opens** onto a road that **goes** to the countryside.’)
- *Mi thanon **tat khâw pai** nai umong*
(‘have road **cut enter go** into cave’)
- *Ett staket som **går** på en strand ut mot vattnet.*
(‘A fence that **goes** on a beach out towards the water’)
- *Un barrière sur la plage qui **va** ... jusqu’à l’autre extrémité de la plage.*
(‘A barrier on the beach that **goes** to the other end of the beach’)
- *Mi rua yao **pai thueng** thale.*
(‘have fence long **go reach** sea’)



Results

(% elications with at least one motion verb)

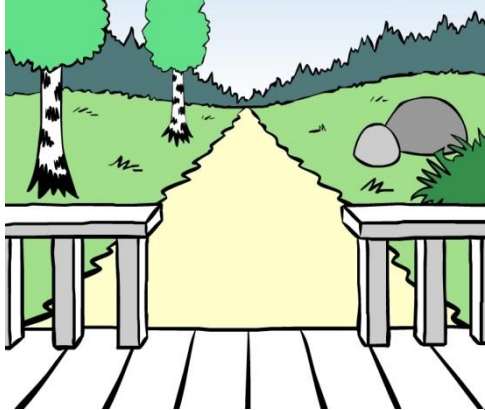


Pilot study of co-speech gestures

For each elicitation, code:

1. Did the description have (at least) one co-speech gesture?
2. Did the gesture(s) refer to the picture?
3. Did the gesture(s) have the shape of an extended path or direction (“trajectory”)?

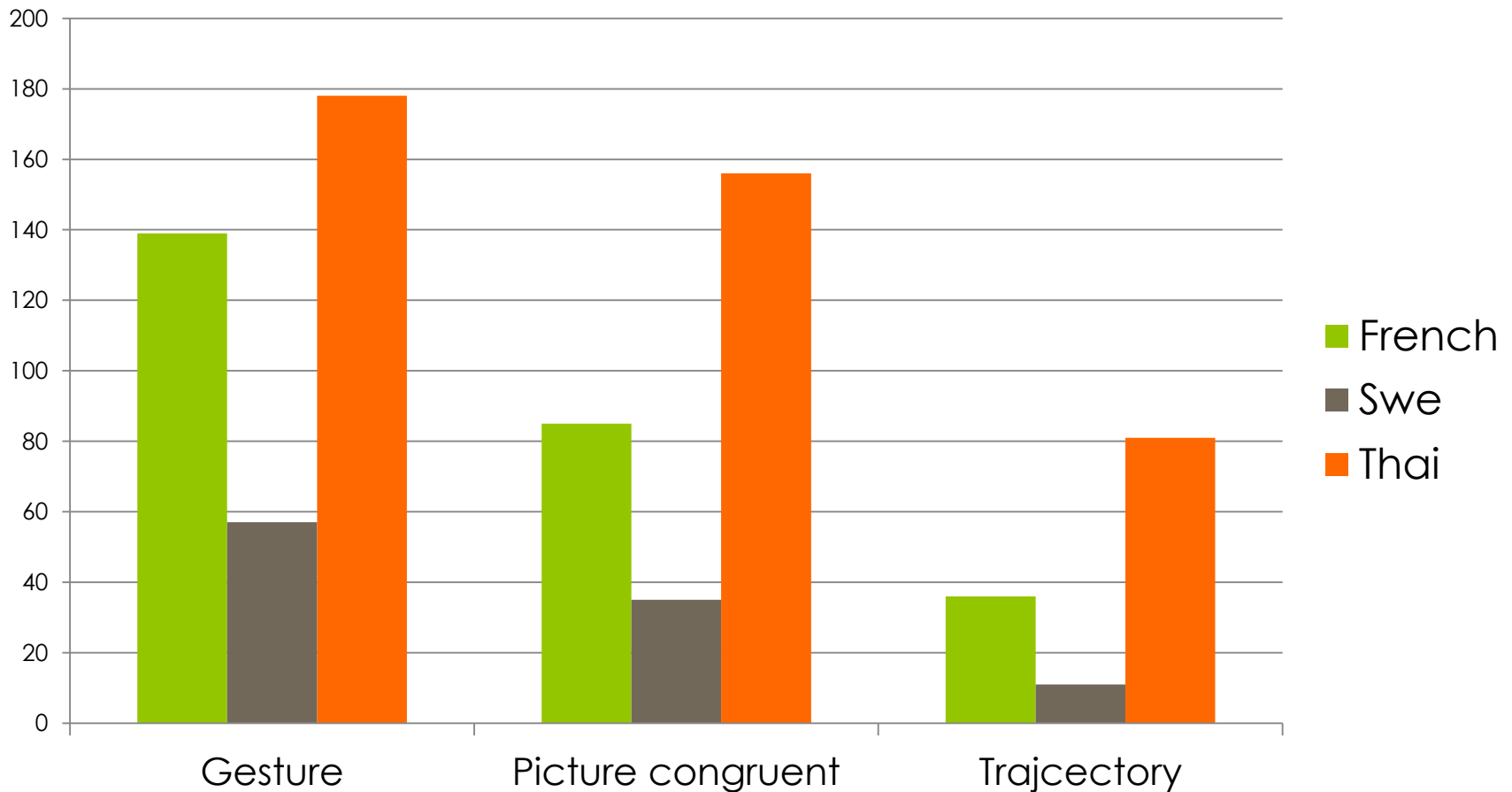
Prediction: (3) will be most prominent in the +Afford + 1pp condition



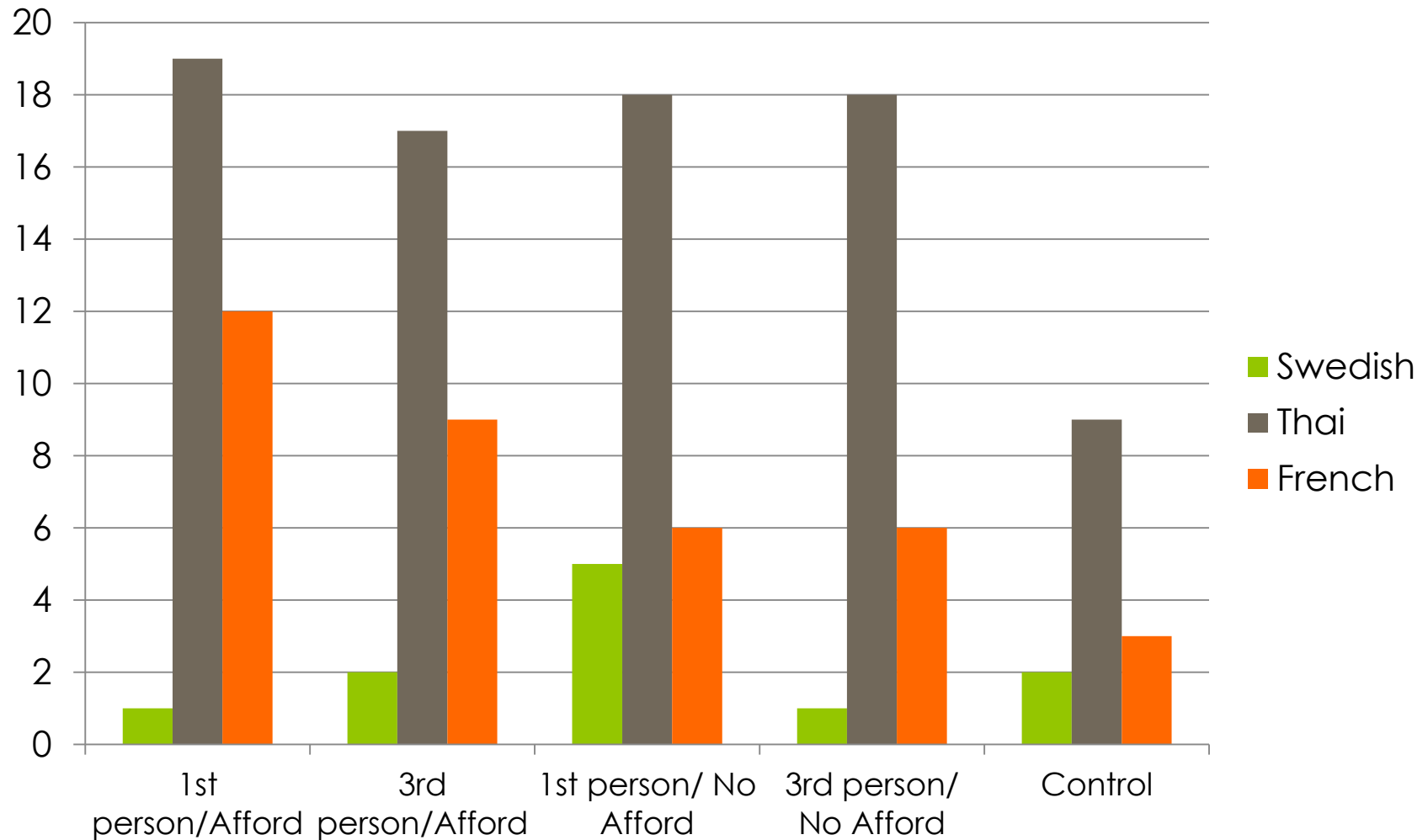
*Muean Rabiang Na Ban / Lao_Ko **Mong Ok Pai** Pen Thanon /
Lae Ko Mi Tonmai Song Ton Yu Na Ban / Khot_Hin Song Kon.*

Like balcony in front of house / then see exit go is road /
and have two trees in front of house / two rocks

Gestures: Total



Gestures: per scene type



Conclusions from gesture-study

- Only for the French group there was a (weak) correlation b/n NAM-sentences and TRAJECTORY-gestures
- Thai group: many gestures, Swedish: almost no, French: “in between”
- A better design is necessary for eliciting gestures (involving an audience)
- A more fine-grained analysis, and theoretical analysis of the relation b/n gesture and NAM is needed

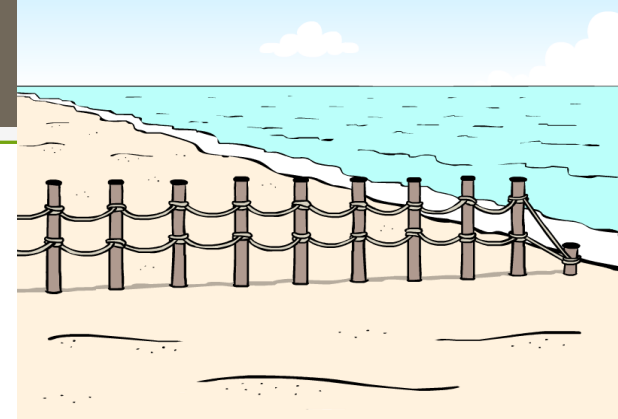


5. Discussion and conclusions

Enactive perception

- The third conditional hypothesis: **Function (Figure affords motion) + Perspective (1pp)** elicited most NAM-sentences **for all three languages**
- Very **few descriptions involved rich in content motion verbs (“crawl”)** that would be evidence for imagination (and metaphor)
- **Enactive perception seems to be a potent motivation for producing NAM-sentences**

Other motivations too



- Still, “mental scanning” of extended shapes that do not afford motion seems also to play a role, e.g.

(18) On voit une espèce de clôture ou barrière sur la plage qui **va** de la mer jusqu’à l’autre extrémité, de la plage.

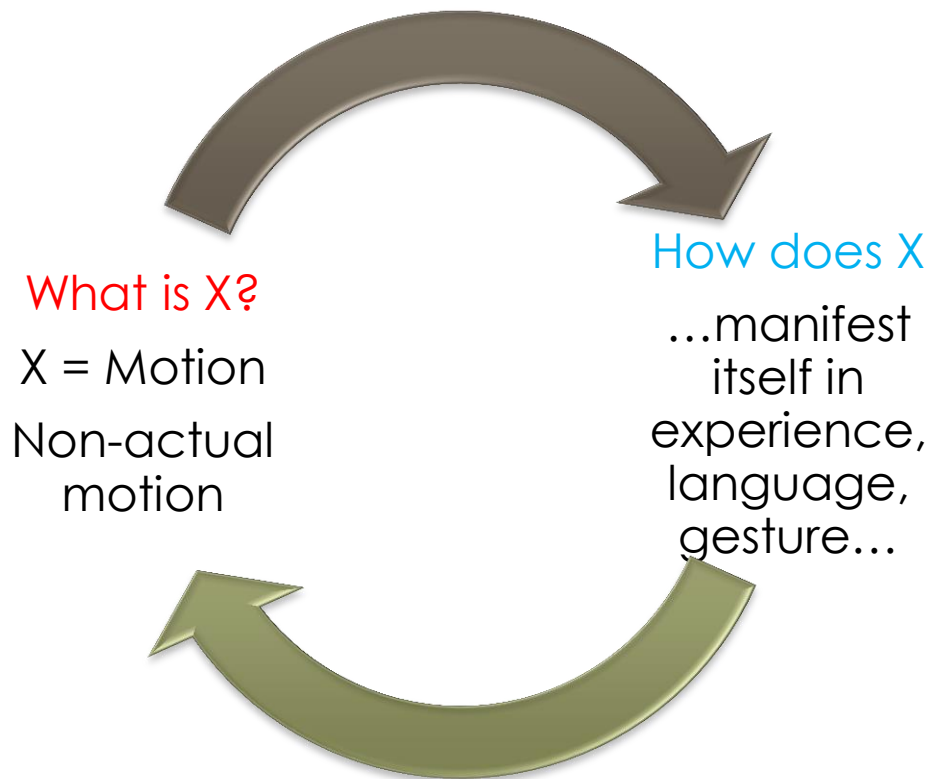
(19) Je vois une haie de bois qui s’**avance** vers la mer, je me situe au niveau de la plage.

- And (re-enactive) imagination cannot be excluded either...

A complex phenomenon

- All three motivations likely play a role for eliciting NAM-sentences,
- The **availability of linguistic conventions**: the frequent use of Path (e.g. *khâw*) and Deixis verbs (e.g. *maa*) in Thai serial verb constructions: the reason for more NAM-sentences?
- **Non-actual motion in language is a multi-motivated phenomenon that calls for a “hybrid explanation”.**
- The study illustrated the productivity of features of Cognitive Semiotics such as, influence from phenomenology and...

The conceptual-empirical loop



Grazie per l'attenzione!

