

A corpus-based analysis of grammatical constructions in metaphoric language

Karen Sullivan

University of California, Berkeley

<http://ksull.berkeley.edu>

What is metaphoric language?

- Language that evokes the structure of a conceptual metaphor

Factors that encourage metaphoric interpretation can include:

- Lexical items
- Gesture (Cienki 1998, McNeill 1992)
- Context
- Genre

What is metaphoric language?

- Language that evokes the structure of a conceptual metaphor

Factors that encourage metaphoric interpretation can include:

- Lexical items
- ~~Gesture (Cienki 1998, McNeill 1992)~~
- ~~Context~~
- ~~Genre~~

What is metaphoric language?

- Many phrases evoke metaphor even when considered out of context:

bright student

KNOWING IS SEEING (INTELLIGENCE IS LIGHT-EMISSION)

- the adjective *bright* indicates the source domain (is “metaphoric”)
- the head noun *student* indicates the target domain (is typically “non-metaphoric”)

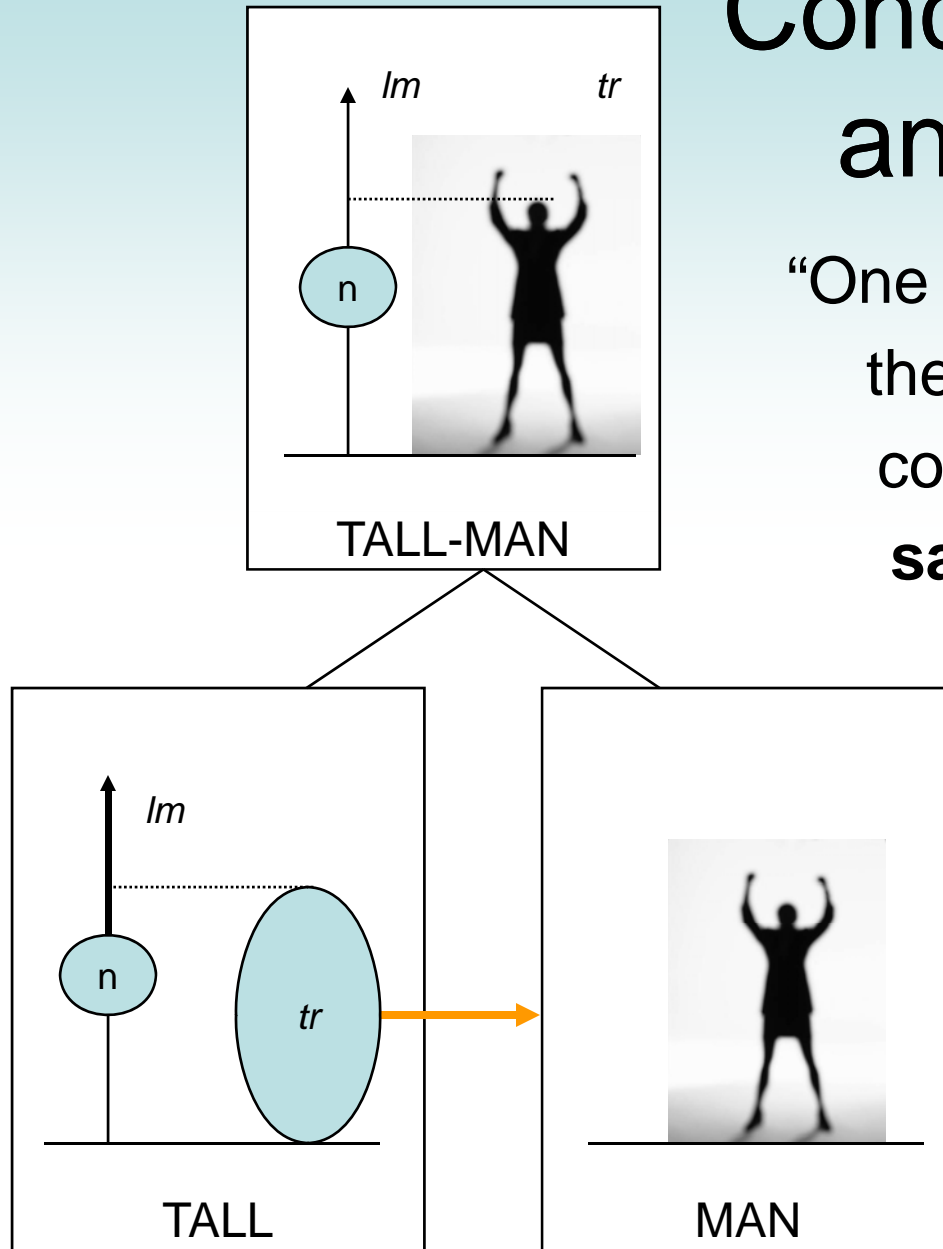
Conceptual autonomy and dependence in metaphor (Croft 2003)

Metaphoric phrases:

- combine elements representing different conceptual domains (a “metaphoric” and a “non-metaphoric” item)
- combine conceptually autonomous and dependent elements
- “...domain mapping (metaphor) occurs with dependent predications” (Croft 2003:192)

Conceptual autonomy and dependence

“One structure, D, is dependent on the other, A, to the extent that A constitutes **an elaboration of a salient substructure** within D”
(Langacker 1987:300).



tall man

(Langacker 2002:176)

Conceptual autonomy and dependence in metaphor

“...domain mapping (metaphor) occurs with
dependent predications” (Croft 2003:192)

bright

dependent

source domain

student

autonomous

target domain

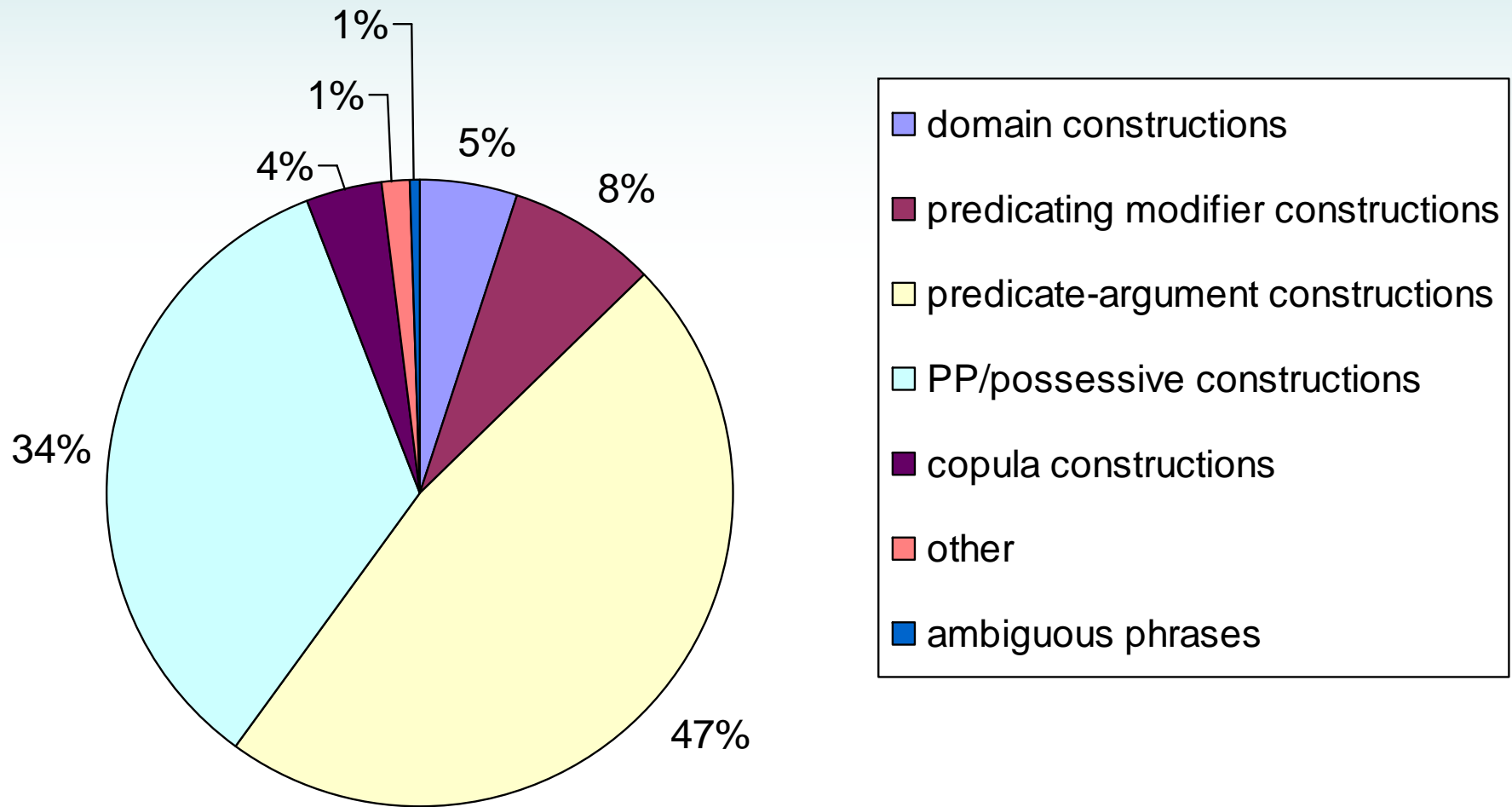
Autonomy/dependence relations in the corpus

- Corpus represents a subset of the BNC (British National Corpus) produced as a by-product of the FrameNet project
- 1611 excerpts from BNC
- 1723 instances of conceptual metaphor
- 2464 metaphoric constructions (involving open-class items), classified according to their constructional type

Autonomy/dependence relations in the corpus

Construction type:	Percent of total:	Source-domain (dependent) slot:	Target-domain (autonomous) slot:	Examples from corpus:
Predicating modifier constructions	7.8	predicating modifier	head	<i>bitter thoughts</i> perform <i>brilliantly</i>
Predicate-argument constructions	47.3	head	argument NP(s)	the cinema <i>beckoned</i> fire <i>gutted the embassy</i>
Copula constructions	3.7	copula-linked NP, PP, AP	head	trade unionism was a <i>difficult road</i>
Domain constructions	4.9	head	domain Adj/ Adv/ N	political <i>game</i> verbally <i>attack</i>
PP/ possessive constructions	34.3	head N	nominal in PP/ possessive NP	<i>the foundation of an</i> argument
Other constructions	1.4			They say he's <i>gone soft</i>
Ambiguous phrases	0.6			... the idea of Beuno <i>shackled to a wife</i>

Autonomy/dependence relations in the corpus



Autonomy/dependence relations in the corpus

- Source- and target-domain items cannot be reversed in the constructions:

bright student

KNOWING IS SEEING (INTELLIGENCE IS LIGHT-EMISSION)

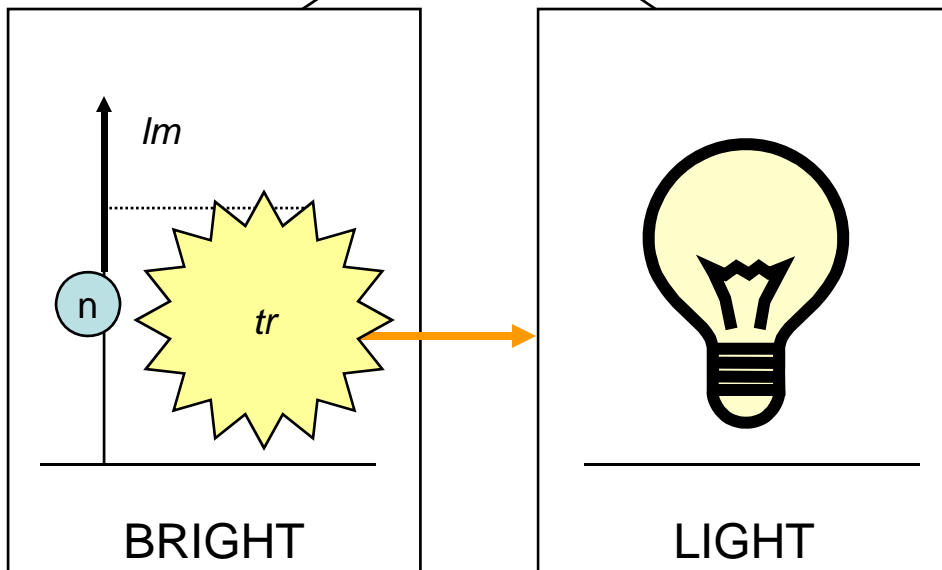
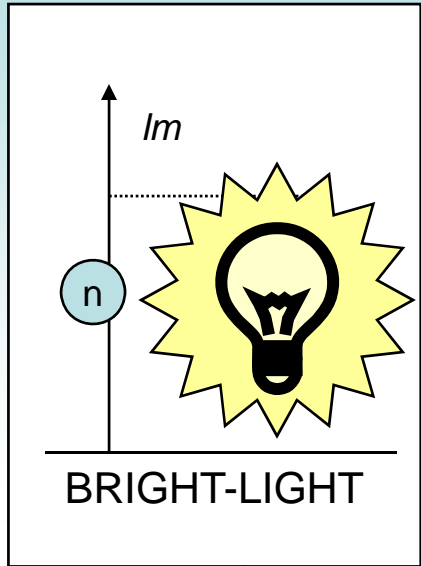
- the adjective *bright* indicates the source domain
- the head noun *student* indicates the target domain

intelligent light

KNOWING IS SEEING (INTELLIGENCE IS LIGHT-EMISSION)

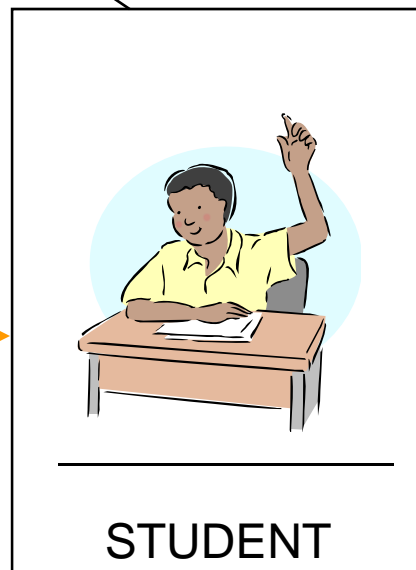
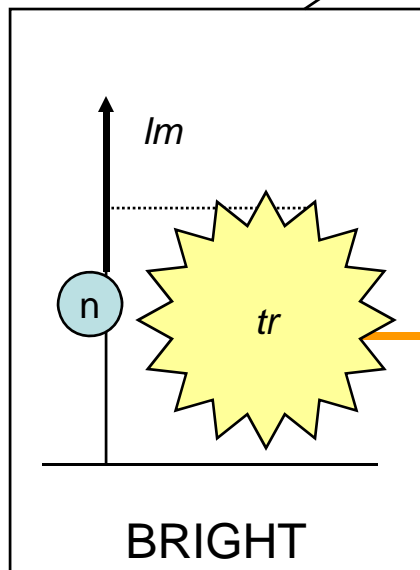
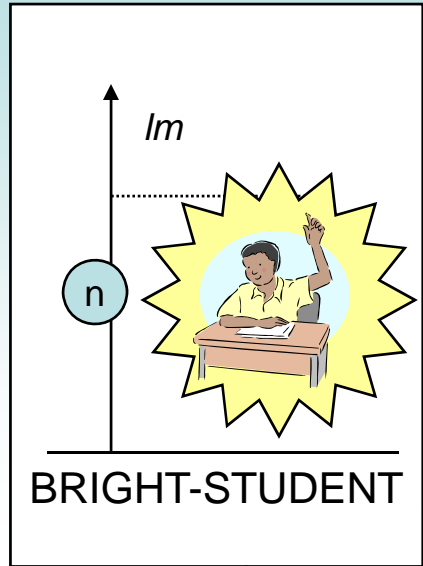
- the adjective in this construction cannot evoke the target domain, or the noun evoke the source domain, to obtain the intended meaning.

Conceptual autonomy and dependence in a non-metaphoric predicating modifier construction



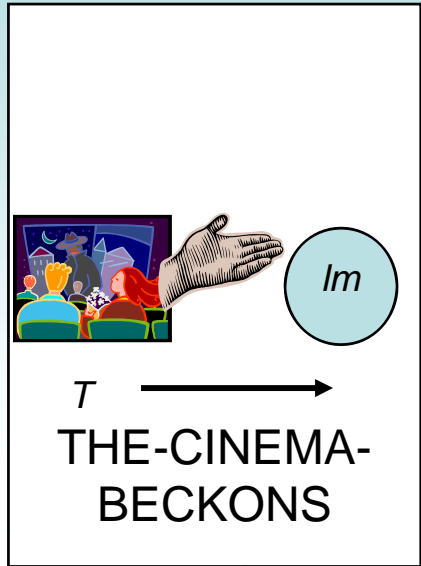
bright light

Conceptual autonomy and dependence in a metaphoric predicating modifier construction (7.8%)

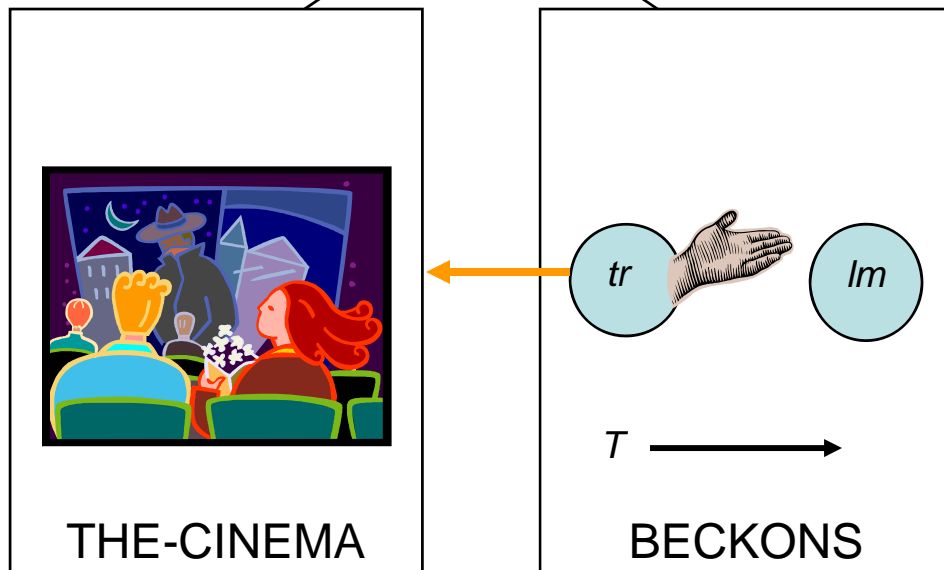


bright student

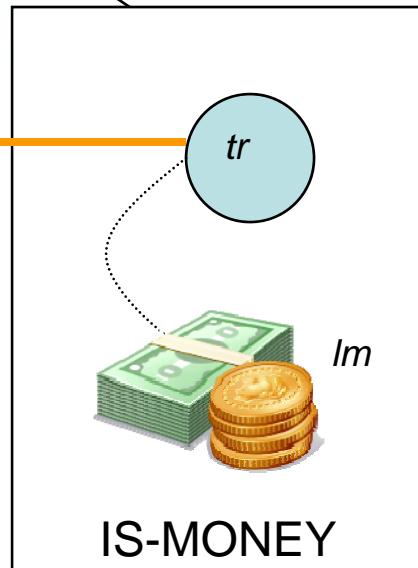
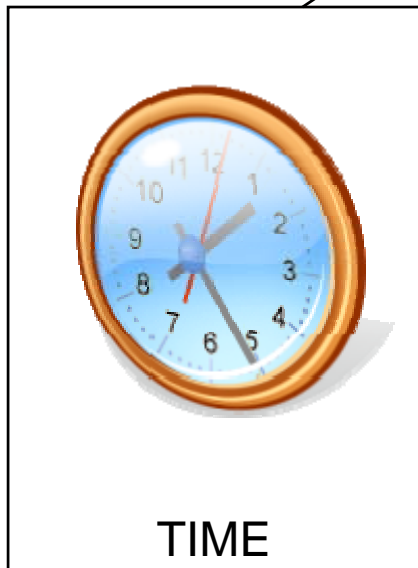
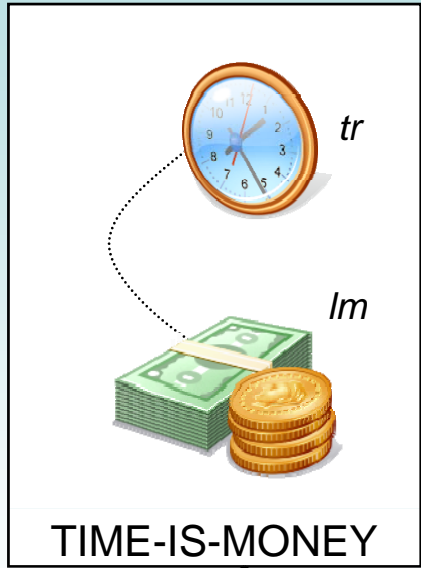
Conceptual autonomy and dependence in a metaphoric predicate-argument construction (47.3%)



*the cinema
beckons*

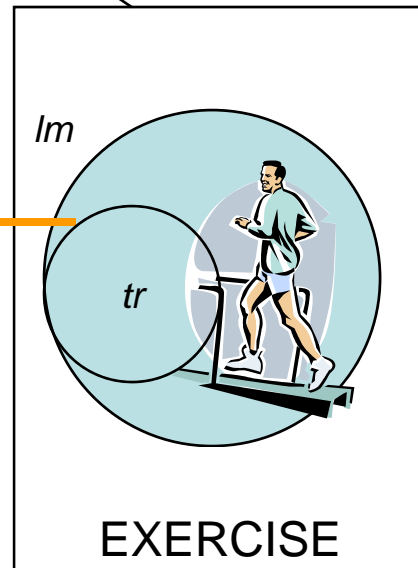
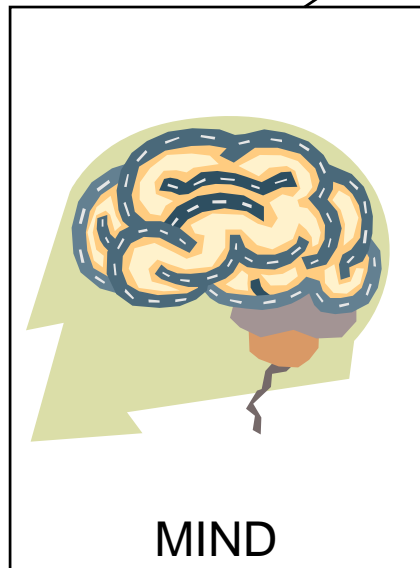
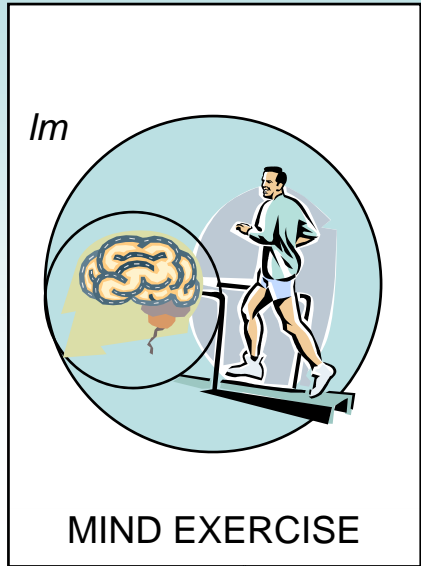


Conceptual autonomy and dependence in a metaphoric predicate nominative (copula) construction (3.7%)



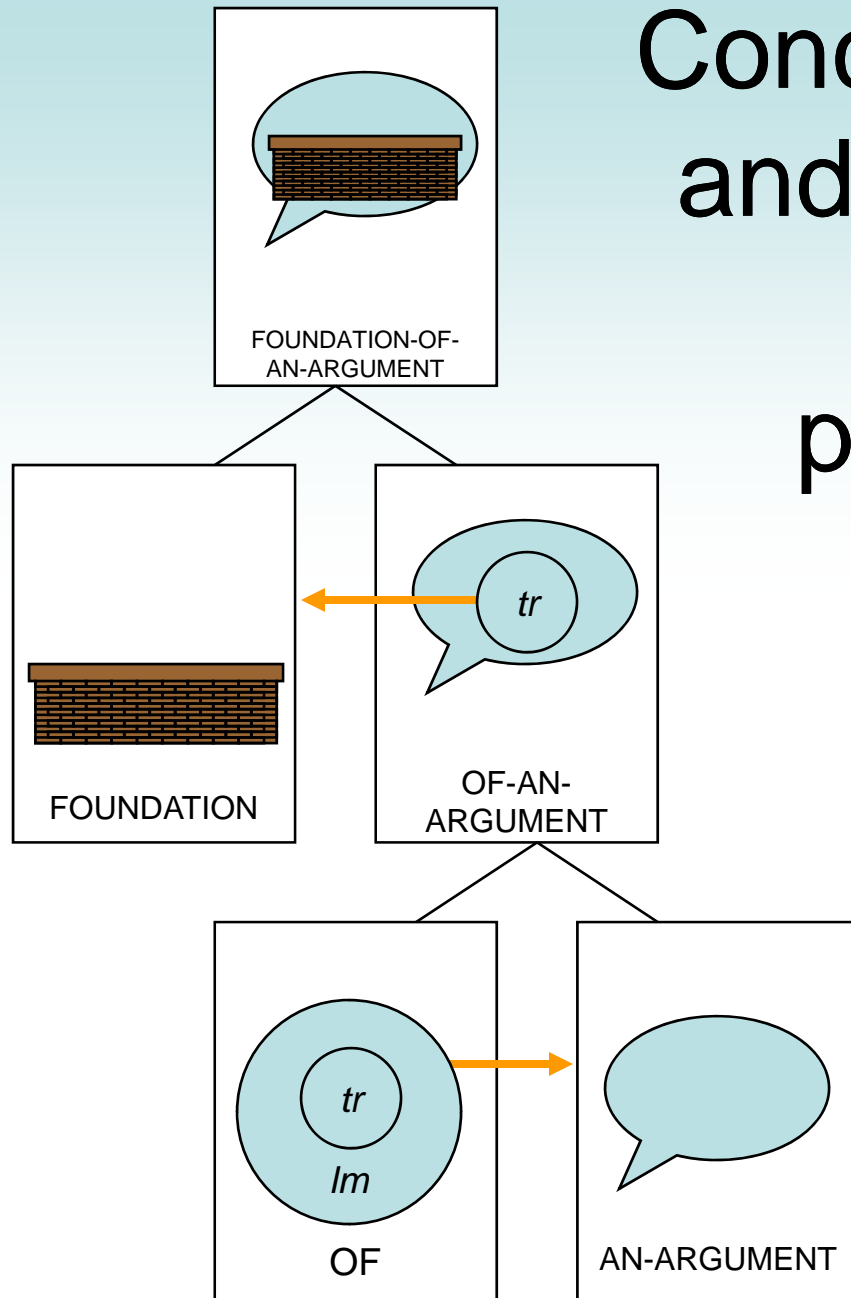
time is money

Conceptual autonomy and dependence in a metaphoric domain construction (4.9%)



mind exercise
or
mental exercise

Conceptual autonomy and dependence in a metaphoric preposition phrase construction (34.3%)



*foundation
of an argument*

Conceptual autonomy and dependence in a preposition phrase construction

Croft (2003):

- The head noun is a “relational noun”, or a profiled part of a whole, as in *mouth of the river*
- The whole (Im) elaborated by *river* is therefore a very salient part of *mouth*
- The part of *river* elaborated by *mouth* is a less salient part of *river*

Autonomy/dependence relations in the corpus

Construction type:	Percent of total:	Source-domain (dependent) slot:	Target-domain (autonomous) slot:	Examples from corpus:
Predicating modifier constructions	7.8	predicating modifier	head	<i>bitter thoughts</i> perform <i>brilliantly</i>
Predicate-argument constructions	47.3	head	argument NP(s)	the cinema <i>beckoned</i> fire <i>gutted the embassy</i>
Copula constructions	3.7	copula-linked NP, PP, AP	head	trade unionism was a <i>difficult road</i>
Domain constructions	4.9	head	domain Adj/ Adv/ N	political <i>game</i> verbally <i>attack</i>
PP/ possessive constructions	34.3	head N	nominal in PP/ possessive NP	<i>the foundation of an</i> argument
Other constructions	1.4			They say he's <i>gone soft</i>
Ambiguous phrases	0.6			... the idea of Beuno <i>shackled to a wife</i>

Autonomy/dependence relations in the corpus

Construction type:	Construction subtype:	Count in corpus:	Percent of total:	Example from corpus:
Predicating modifier constructions	Adj-N	165	6.7%	<i>a juicy story</i>
	Adv-V	24	1.0%	campaigned <i>vigorously</i>
	Adv-Adj	3	0.1%	<i>largely rehabilitated</i>
Predicate-argument constructions	Intransitive	515	20.9%	your morals <i>reek</i>
	Transitive	648	26.3%	my faculty of speech was <i>deserting</i> me
	Ditransitive	2	0.1%	Meredith <i>flung</i> him an eager glance
Copula constructions	NP BE NP/Equations	64	2.6 %	international trade unionism was <i>a difficult road</i>
	NP be AP	23	0.9 %	he was utterly <i>allergic to the suggestion</i>
	NP be PP	5	0.2 %	Jones was now <i>in the twilight</i> of a ... career
Domain constructions	Domain adjective	69	2.8%	the academic <i>world</i>
	Noun compound	45	1.8%	heroin <i>tsar</i>
	Domain adverb	7	0.3%	verbally <i>scampered</i>
PP/ possessive constructions	Head-PP	829	33.6 %	<i>a taste of his temper</i>
	Possessive NP	16	0.6 %	her mind's eye

Constructional combinations

- 2415 constructions (in the 5 common classes) evoked 1697 instances of conceptual metaphor
- 2456 target-domain items
- 1935 source-domain items
- 67% of these constructions were part of constructional combinations expressing a single conceptual metaphor

Constructional combinations

- Embedded autonomy-dependence relations

*A remedy for **economic ills** ...*

(THE ECONOMY IS A BODY)

- *xyz constructions* (cf. Turner 1991)

Inflation is a *remedy for unemployment...*

(THE ECONOMY IS A BODY)

Summary

- Metaphor uses the same patterns of meaning construction found in non-metaphoric language
- Evidence suggests Croft (2003) is correct: conceptually dependent elements evoke metaphoric source domains and autonomous elements evoke target domains
- Metaphor is evoked compositionally in combinations of autonomy/dependence relations

References

- Cienki, Alan 1998. "Metaphoric gestures and some of their relations to verbal metaphoric expressions". In: Jean-Pierre Koenig, ed., *Discourse and Cognition: Bridging the Gap*. Stanford, CA: CSLI, 189-204.
- Croft, William 2003. "The role of domains in the interpretation of metaphors and metonymies". In: René Dirven and Ralf Pörings, eds., *Metaphor and Metonymy in Comparison and Contrast*. Berlin/New York: Mouton de Gruyter, 161-206.
- Ernst, Thomas 1984. *Towards an Integrated Theory of Adverb Position in English*. Bloomington, IN: Indiana University Linguistics Club.
- Ernst, Thomas 2001. *The Syntax of Adjuncts*. Cambridge, UK: Cambridge University Press.
- Fass, Dan 1997. *Processing Metonymy and Metaphor*. Greenwich: Ablex Publishing Co.
- Lakoff, George and Mark Johnson 1980. *Metaphors We Live By*. Chicago: University of Chicago Press.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar, Vol. I*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar, Vol. II*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1997. "Constituency, dependency, and conceptual grouping". *Cognitive Linguistics* 8-1: 1-32.
- Langacker, Ronald W. 2002. *Concept, Image and Symbol: The Cognitive Basis of Grammar*. New York: Mouton de Gruyter.

References (cont.)

- Levi, Judith N. 1978. *The Syntax and Semantics of Complex Nominals*. New York: Academic Press.
- McNeill, David 1992. *Hand in Mind: What gestures reveal about thought*. Chicago: University of Chicago Press.
- Sullivan, Karen 2006. "Frame-Based Constraints on Lexical Choice in Metaphor". In *Proceedings of the 32nd Annual Meeting of the Berkeley Linguistics Society*, Berkeley, CA: BLS.
- Sullivan, Karen *to appear*. "Metaphoric Extension and Invited Inferencing in Semantic Change". In *Culture, Language and Representation*. Castellón, Spain: Universitat Jaume I.
- Sullivan, Karen *to appear*. "Lexical Filledness and Metaphor in Idioms". In *Collocations and Idioms*, Nenonen, Marja, Sinikka Niemi and Jussi Niemi (eds.) Joensuu, Finland: Joensuu University Press.
- Sullivan, Karen *forthcoming*. "Grammar in Metaphor: A Construction Grammar Account of Metaphoric Language." Dissertation. University of California, Berkeley.
- Sweetser, Eve 1997. "Compositionality and blending: semantic composition in a cognitively realistic framework". In: *Fifth International Cognitive Linguistics Conference*. Amsterdam, 129-162.
- Turner, Mark 1991. *Reading Minds: The Study of English in the Age of Cognitive Science*. Princeton, New Jersey: Princeton University Press.
- Turner, Mark and Gilles Fauconnier 1995. "Conceptual integration and formal expression". *Metaphor and Symbolic Activity*, 10:3, 183-203.

Domain adjectives vs. predicating adjectives

A “predicating” or “predicational” adjective can appear in the predicate/post-copula position:

- ***tall man***
- ***a man who is tall***

A “domain” adjective (cf. Levi 1978, Ernst 1984, Sweetser 1997, Ernst 2001) cannot occur in this position:

- ***a rural policeman***
- ****a policeman who is rural***

- ***a morphological classification***
- ****a classification that is morphological***

- ***an equatorial jungle***
- ****a jungle that is equatorial***

The non-predicating adjective *rural* refers to a subcategory or type of policemen, not a quality of a particular instance of a policeman.

Appendix 1: Other constructions (35 total)

- 11 metaphoric idioms

In order to forestall **third-party Pentium development** from *screeching to a halt*... (Location Event-Structure Metaphor)

She was confident that there was little danger of **Anthony** *staggering in his father's footsteps*. (Location Event-Structure Metaphor)

The Allied force's superiority gradually *gains the upper hand* in Europe, North Africa and Italy. (WAR IS A PHYSICAL STRUGGLE)

I'm not prepared to simply *brush it under the carpet* and try to pretend it hasn't happened. (KNOWING IS SEEING)

Appendix 1: Other constructions

- 8 resultatives

Mowbray suddenly *shook* himself *free* from **his memories**.

They say he's *gone soft* ...

- 4 *way* constructions (all Location Event-Structure Metaphor)

...here you are, attempting to *barge your way* into **my life** all over again.

In the 1940s Carmen Miranda *sang and danced her way* to **success** beneath exotic head-dresses festooned with leaves, flowers, fruits and berries.

- 2 or fewer of: complement clause, parallelism, negation of the literal, conditional construction, etc.

Appendix 2: Ambiguous phrases

15 examples in corpus:

There was something most unpleasing and incongruous about the idea of **Beuno** *shackled* to a **wife**. (Location Event-Structure Metaphor)

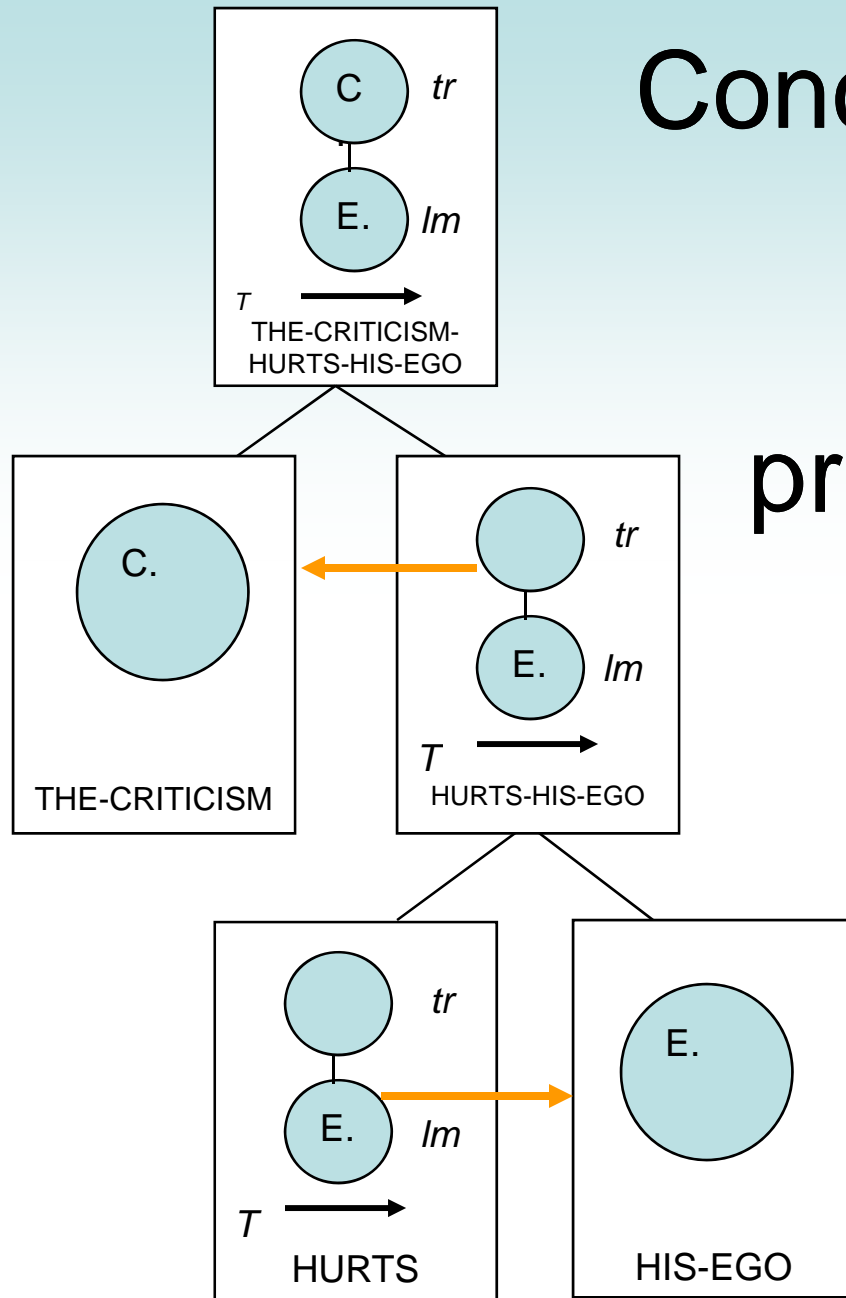
The shelter was demolished and traffic lights installed after the **trams** *departed* in 1962. (EXISTENCE IS LOCATION HERE; ENDING IS DEPARTING)

He would *pick you up* and *squeeze you dry* and *discard you* when you began to bore him. (Conduit Metaphor, Event-Structure Metaphor and INTIMACY IS CLOSENESS)

Appendix 3: Transitive constructions

Construction type:	Count in corpus:	Percent of total:	Examples from corpus:
Target-domain Subj.	51	2.1 %	my faculty of speech was <i>deserting</i> me, the criticism <i>stung</i> him
Target-domain Obj.	407	16.5 %	two people... <i>are chasing</i> the same world title , He built power , Miller <i>piles on</i> the earnestness , Clinton <i>wooed</i> the Irish vote
Target-domain Subj. and Obj.	190	7.7 %	surprise <i>hammered</i> her heart, the remark <i>soothed</i> Yussuf's pride

Conceptual autonomy and dependence in a transitive predicate-argument construction



Symbolic assembly
for *the criticism
hurts his ego.*

Appendix 4: Constraints on metaphoric language

- **Combinatory Constraint:** In a metaphoric phrase that can be understood out of context and that consists of a conceptually autonomous and a conceptually dependent element, the conceptually autonomous element must contain an item that evokes the target domain and the dependent element must contain an item that evokes the source domain.

(1) *Anyways, all the criticism hurt his ego, so he ran home to mommy...*
www.nfl-fans.com/index.php?showtopic=54346

(2) *The valid criticism stung him ...*

(3) a. *#Anyways, all the criticism offended his body/body-part/elbow...*
b. *Anyways, all the criticism hurt his ego...*

- **Autonomy-dependence Constraint:** In a metaphoric phrase that can be understood out of context, every source-domain item must be conceptually dependent relative to an autonomous target-domain item.

Appendix 4: Constraints on metaphoric language

Corollary of the Combinatory Constraint:

Any metaphoric phrase that can be understood out of context can fill either a source- or a target-domain slot in another metaphoric construction evoking the same metaphor (serving as either a dependent or an autonomous element relative to another element in the construction).

strenuous exercise for the mind evokes the same metaphor as the simple phrase ***exercise for the mind***: the items strenuous and exercise both evoke the BODY source domain of THE MIND IS A BODY, whereas mind evokes the target domain

(4) A remedy for economic ills is suggested.
BNC

(5) An economic remedy for unemployment is suggested.