



# Semantic Frames as a Universal Metalanguage?

Hans C. Boas

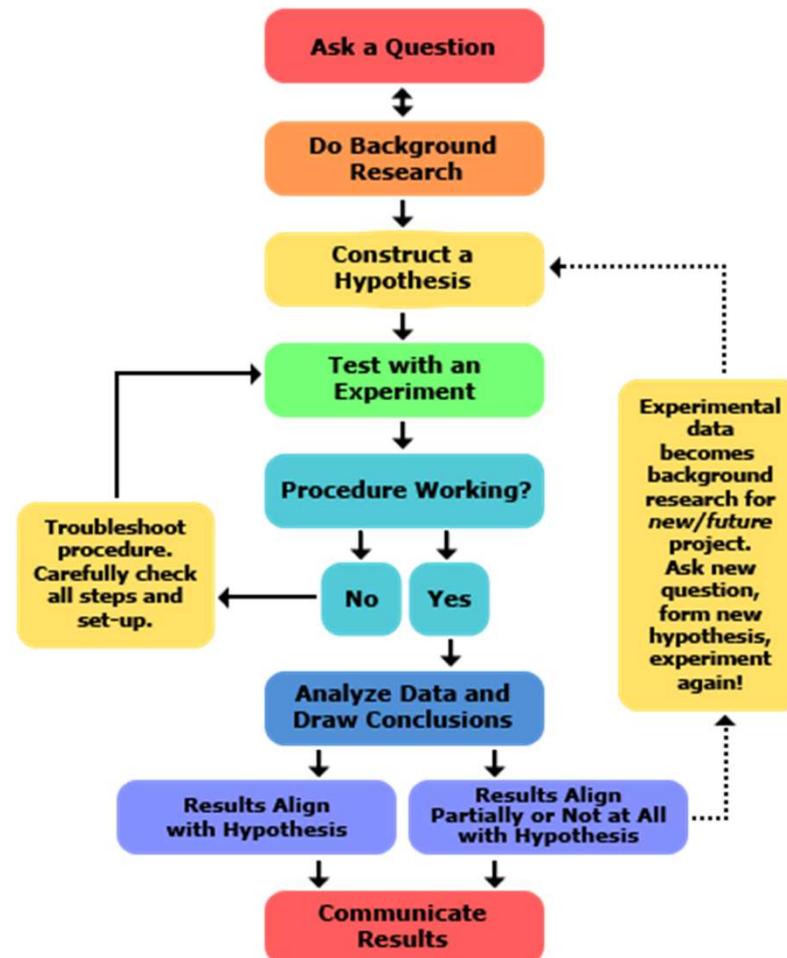
Linguistics Research Center, Department of Germanic Studies, Department of Linguistics

The University of Texas at Austin

[hcb@mail.utexas.edu](mailto:hcb@mail.utexas.edu)

<http://sites.la.utexas.edu/hcb/>

# The scientific method



# The problem(s)

- Find a coherent metalanguage for linguistic description and analysis (semantic frames?)
- To what degree can we reuse semantic frames derived on the basis of English for the description of other languages?
- How consistent are definitions of frames and Frame Elements in one language and across languages?
- How can we develop a more coherent and empirical frame-semantic metalanguage?

# Outline

1. What is a metalanguage?
2. Frames and Frame Elements as a metalanguage
3. Re-using (English) semantic frames
4. Identifying cross-linguistic frames employing the same metalanguage
5. “Universal” and culture-specific semantic frames
6. Conclusions

# 1. What is a metalanguage?

- Metalanguage is language used in talking about language. (Roman Jakobson)
- “We are so immersed in our own metalanguage that we may not notice (a) that it is much more metaphorical than we think, and (b) how important metaphors are as devices for framing and thinking.”  
(Roger Lass (1997), *Historical Linguistics and Language Change*)

Jackendoff (1990):

# Lexical Conceptual Structure (LCS)

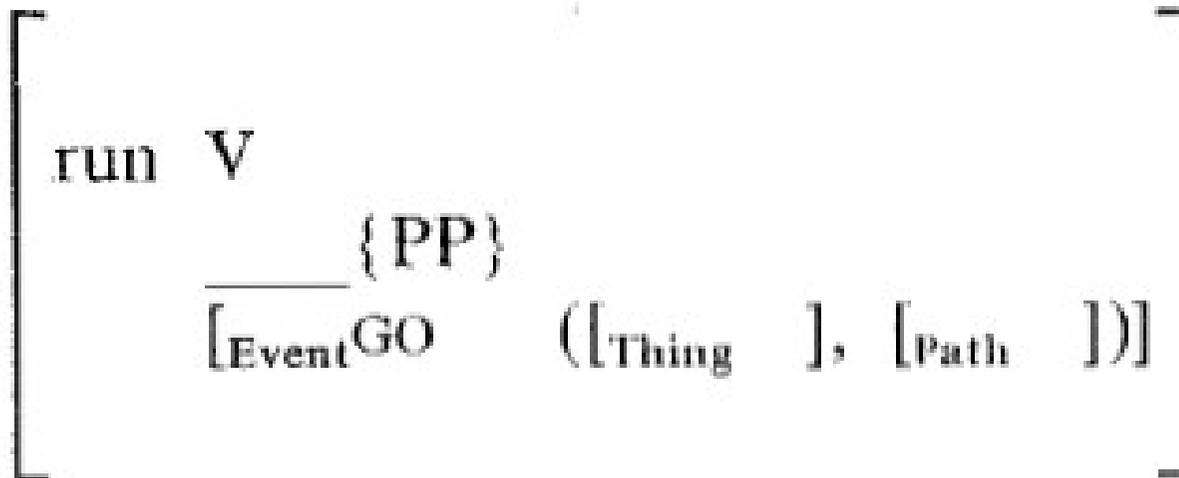
- [GO], [STAY], [MOVE], [CAUSE], [PATH], [THING], [EVENT], etc.
- Combination of primitive predicates to capture linguistically relevant meanings of words



Ray Jackendoff

# Lexical entry of *to run*

(Jackendoff 1990: 45)



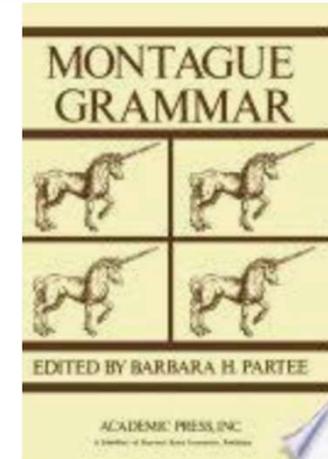
Running is not always fun ...

→ Problems with definition granularity, verification, testing  
 (Taylor 1996, Boas 2013, etc.)



Richard Montague  
(1930-1971)

## Montague Grammar representation of *to have*



Unicorns in the  
garden

$[[\text{have to } \varphi]]^{w,f,g} = 1$  iff for all  $v \in f(w)$  such that there is no  $v' \in f(w)$  such that  $g(w)(v',v), [[\varphi]]^{v,f,g} = 1$

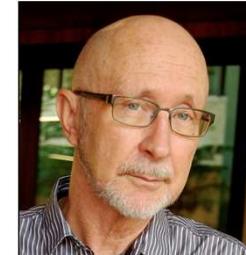
--> see Fillmore 1975 on checklist theories of meaning



Anna  
Wierzbicka

# Natural Semantic Metalanguage

(Wierzbicka 2010 / Goddard 2012)



Cliff  
Goddard

Table 1: The semantic primes

Substantives:	I, YOU, SOMEONE/PERSON, SOMETHING/THING, PEOPLE, BODY
Relational substantives:	KIND, PART
Determiners:	THIS, THE SAME, OTHER/ELSE
Quantifiers:	ONE, TWO, LITTLE/FEW, SOME, MUCH/MANY, ALL
Evaluators:	GOOD, BAD
Descriptors:	BIG, SMALL
Mental predicates:	THINK, KNOW, WANT, FEEL, SEE, HEAR
Speech:	SAY, WORDS, TRUE
Actions, events, movement, contact:	DO, HAPPEN, MOVE, TOUCH
Location, specification, existence, possession:	BE (SOMEWHERE), THERE IS, HAVE, BE (SOMEONE/SOMETHING)
Life and death:	LIVE, DIE
Time:	WHEN/TIME, NOW, BEFORE, AFTER, A LONG TIME, A SHORT TIME, FOR SOME TIME, MOMENT
Space:	WHERE/PLACE, HERE, ABOVE, BELOW, FAR, NEAR
Logical concepts:	NOT, MAYBE, CAN, BECAUSE, IF
Intensifier, augmentor:	VERY, MORE
Similarity:	LIKE/AS

# NSM: How and why?

- All of the items in the vocabulary are claimed to be found lexicalized in all languages and thus "universal"
- This is supposed to establish their status as 'semantic primes' - items that are further unexplainable and from which other meanings can be built
- Primes also are supposed to have universal 'combinatorial properties'
- Not anglo-centric, independent of culture

# NSM representation of *to have*

*Someone X has to do something (VP):*

- a. it is like this:
- b. this someone X can't not do something (VP)
- c. someone can know this

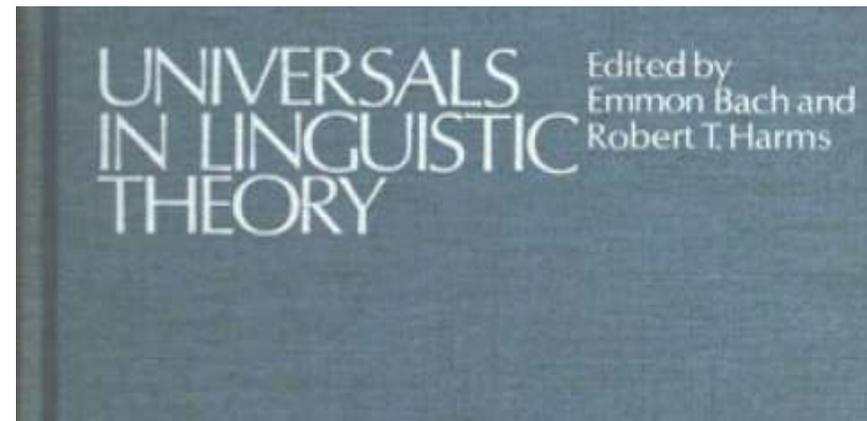
- Rather than using mathematical/logical symbols ( $\forall$ ,  $\neg$ ,  $\supset$ ,  $\nexists$ ), NSM takes symbols from natural language (ALL, NOT, SOME, IF).
- Rather than using the syntax of functions or following the order of operations, NSM uses the syntax of natural language, following (in English for example) the normal order of SVO, adjective-noun etc.

## Some issues with NSM

- Concepts such as "I, you" may appear as lexical items in all languages but they often do not describe the same oppositions as in English.
- Some of the verbs like 'do' and 'move' do not have the same level of generality across languages - so definitions using them in English tend to be a lot easier to deal with than those formulated in other languages.
- Translating English descriptions into another language, the translator would still have to interpret what was being said, rather than just mapping primes from one language onto the other.
- “Armchair Linguistics” (empirical verification?)
- Universal? Top-down ...
- Coverage?

# Form and Meaning from Case Frames to Semantic Frames (and Constructions)

- Charles Fillmore (1968):  
The Case for Case
- “Case Frames” as  
specifications of semantic  
valency (with syntactic  
ramifications)



Symposium “Universals in Linguistic Theory” at The University of Texas at Austin, 13.-15. April 1967

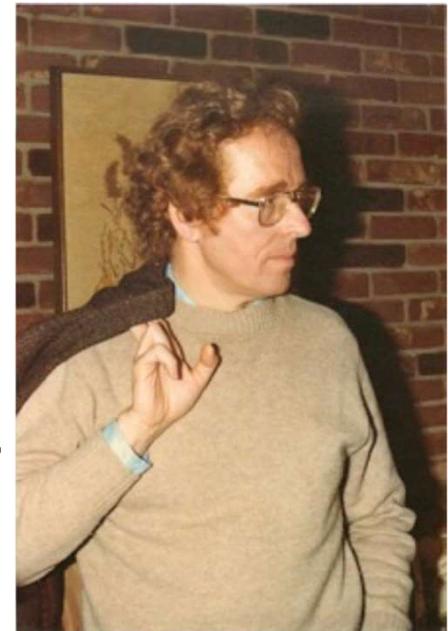
# Fillmore (1968)

- Limited number of semantic roles:  
Agentive, Instrumental, Dative, Factitive,  
Locative, Objective, ... (metlanguage)
- Hierarchy for the realization of  
grammatical functions:

Agentive < Instrumental < Objective < ... < ...

(a) **Kim** opened the door. (Agentive)

(b) **The key** opened the door. (Instrumental)

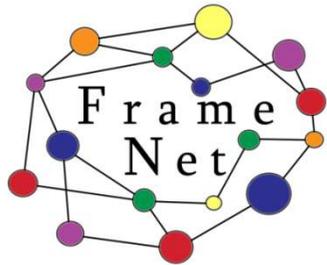


# From case to frame

- Fillmore (1968/1970): Semantic roles (deep cases) are the relevant unit of description and analysis
- 1970s: Fillmore's further development of semantic roles (Fillmore 1975, 1976, 1977a, 1977b, 1978, 1979)
  - Semantic Frames form the primary units of description and analysis. Semantic roles need to be defined with respect to specific frames.
  - Central role of “meaning” units (FEs) for the classification of word meaning (frames) (and later also constructions)

## 2. Frames and Frame Elements as a Metalanguage

The semantic information associated with a lexical item (...) does its work in part by providing an indicator of the **semantic frame** with which the item is associated. The **semantic role array** in the valence description (what I used to call the **case frame**) identifies the elements which are foregrounded. We will often find that information about the syntactic requirements of a lexical item can be read off from, or at least motivated by, the associated semantic frame. (Fillmore 1988: 43)



# FrameNet

(Fillmore et al. 2003, Boas 2005, Ruppenhofer et al. 2010, Fillmore & Baker 2010, Boas 2017, Ruppenhofer et al. 2017)



Charles J. Fillmore  
1929-2014

- Corpus-based lexicographic database for English verbs, nouns, prepositions, and adjectives (<http://framenet.icsi.berkeley.edu>)
- Lexical Unit (LU): a word in one of its senses
- Primacy of semantic information: lexicon is structured according to semantic frames

# An example from Texas

(9) Rich avenged the death of his pet armadillo by killing the coyote.

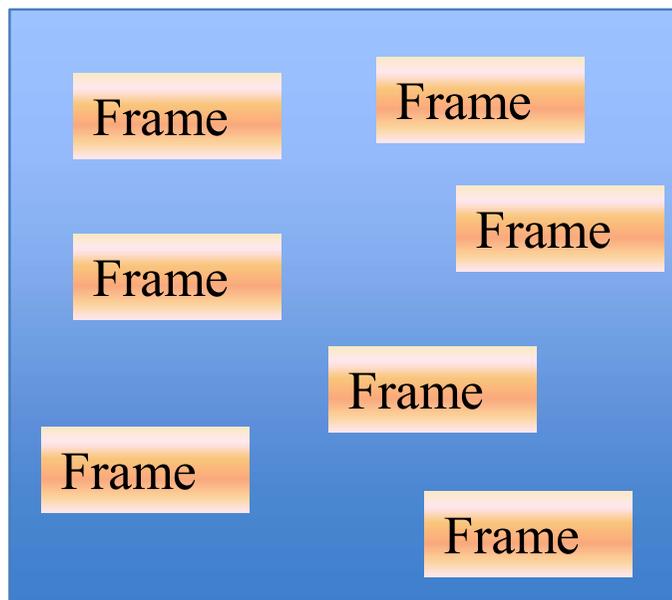


# The Revenge frame

One person (we call him the OFFENDER) did something to harm another person (what he did we call the OFFENSE and his victim we call the INJURED\_PARTY); reacting to that act, someone (the AVENGER, possibly the same individual as the INJURED\_PARTY) acts so as to do harm to the OFFENDER, and what he does we call the PUNISHMENT.

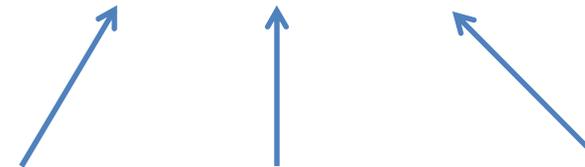
# Semantic Frames for Structuring the Lexicon

## Lexicon



## Questioning FRAME

FE: **Speaker**, **Topic**, Addressee, **Message**,  
**Medium**



LEs: *to question, query, inquiry, to grill, to ask, to quiz, questioning, etc.*

# FEs, GFs, PTs as metalanguage

- Definition of categories for frame elements, grammatical functions, and phrase types
- Based on combination of linguistic intuition and corpus evidence
- Verification (and possible falsification) by members of different FN groups (vanguard, annotators)
- Categories are applied to new corpus data: If they don't work, they need to be redefined

# Questioning

[Lexical Unit Index](#)

[O](#) [P](#) [Q](#) [R](#) [S](#)

## Definition:

The words in this frame have to do with a **Speaker** asking an **Addressee** a question which calls for a reply (as opposed to making a request which calls for an action on the part of the **Addressee**).

**We** **ASKED** **Ruby** what kind of food they ate.

**Yeats** was able to **INTERROGATE** the spirit world about his relationship with Maude.

## FEs:

### Core:

**Addressee** [Add]

Semantic Type: Sentient

The Addressee is most frequently the NP Object of a target verb. However, with the verb inquire, Addressee can only occur as an of-PP and with a noun target, Addressee occurs in a PP Complement or as a possessive :

Pat **QUESTIONED** me about where I had been.

"Do you often come here?" Kim **INQUIRED** of the person sitting next to her.

My **QUESTION** to you is straightforward.

Kim's **INTERROGATION** by the police was long.

**Message** [Msg]

Semantic Type: Message

The Message, or content of the question, usually takes the form of a direct quote or an embedded question with a verb target:

"What are you doing?" Kim **INQUIRED**.

Kim **INQUIRED** what I was doing.

With noun targets, Message is not common (as Topic occurs more frequently). However, Message does occur in a PP Complement with the noun question:

The answer to your **QUESTION** of how the company makes money is simply that it doesn't.

**Speaker** [Spkr]

Semantic Type: Sentient

The person asking a question generally occurs as the External Argument of verb and noun targets:

Pat **QUIZZED** me about where I had been.

Pat's **QUESTION** surprised me.

https://frames2.ic3i.bekeley.edu/frames/data/framesIndex.xml?frame=Questioning

## Frame Index

ABCEFGHIJKLMNOPQRS  
TUVWXYZ

Abandonment  
Abounding with  
Absorb heat  
Abundance  
Abusing  
Access scenario  
Accompaniment  
Accomplishment  
Accoutrements  
Accuracy  
Achieving first  
Active substance  
Activity  
Activity abandoned state  
Activity done state  
Activity finish  
Activity ongoing  
Activity pause  
Activity paused state  
Activity prepare  
Activity ready state  
Activity resume  
Activity start  
Activity stop  
Actually occurring entity  
Addition  
Adding up  
Addressing  
Agency  
Adjusting  
Adopt selection  
Aesthetics  
Affirm or deny  
Age  
Aggregate  
Aging  
Agree or refuse to act  
Agriculture

## Questioning

Lexical Unit Index

**Definition:**

The words in this frame have to do with a **Speaker** asking an **Addressee** a question which calls for a reply (as opposed to making a request which calls for an action on the part of the **Addressee**).

**Examples:**

We **ASKED** Ruby what kind of food they ate.

Yates was able to **INTERROGATE** the spirit world about his relationship with Maudie.

**FEs:**

**Core:**

**Addressee (Add)**  
Semantic Type: Sentient

The Addressee is most frequently the NP Object of a target verb. However, with the verb inquire, Addressee can only occur as an of-PP and with a noun target, Addressee occurs in a PP Complement or as a possessive :

Pat **QUESTIONED** me about where I had been.

"Do you often come here?" Kim **INQUIRED** of the person sitting next to her.

My **QUESTION** to you is straightforward.

Kim's **INTERROGATION** by the police was long.

**Message (Msg)**  
Semantic Type: Message

The Message, or content of the question, usually takes the form of a direct quote or an embedded question with a verb target:

"What are you doing?" Kim **INQUIRED**.

Kim **INQUIRED** what I was doing.

With noun targets, Message is not common (as Topic occurs more frequently). However, Message does occur in a PP Complement with the noun question:

The answer to your **QUESTION** of how the company makes money is simply that it doesn't.

**Speaker (Spkr)**  
Semantic Type: Sentient

The person asking a question generally occurs as the External Argument of verb and noun targets:

We **QUZZED** me about where I had been.

Pat **QUESTIONED** surprised me.

https://frames2.ic3i.bekeley.edu/frames/data/framesIndex.xml?frame=Questioning

## Frame Index

ABCEFGHIJKLMNOPQRS  
TUVWXYZ

Abandonment  
Abounding with  
Absorb heat  
Abundance  
Abusing  
Access scenario  
Accompaniment  
Accomplishment  
Accoutrements  
Accuracy  
Achieving first  
Active substance  
Activity  
Activity abandoned state  
Activity done state  
Activity finish  
Activity ongoing  
Activity pause  
Activity paused state  
Activity prepare  
Activity ready state  
Activity resume  
Activity start  
Activity stop  
Actually occurring entity  
Addition  
Adding up  
Addressing  
Agency  
Adjusting  
Adopt selection  
Aesthetics  
Affirm or deny  
Age  
Aggregate  
Aging  
Agree or refuse to act  
Agriculture

## Questioning

Lexical Unit Index

**Definition:**

The words in this frame have to do with a **Speaker** asking an **Addressee** a question which calls for a reply (as opposed to making a request which calls for an action on the part of the **Addressee**).

**Examples:**

We **ASKED** Ruby what kind of food they ate.

Yates was able to **INTERROGATE** the spirit world about his relationship with Maudie.

**FEs:**

**Core:**

**Addressee (Add)**  
Semantic Type: Sentient

The Addressee is most frequently the NP Object of a target verb. However, with the verb inquire, Addressee can only occur as an of-PP and with a noun target, Addressee occurs in a PP Complement or as a possessive :

Pat **QUESTIONED** me about where I had been.

"Do you often come here?" Kim **INQUIRED** of the person sitting next to her.

My **QUESTION** to you is straightforward.

Kim's **INTERROGATION** by the police was long.

**Message (Msg)**  
Semantic Type: Message

The Message, or content of the question, usually takes the form of a direct quote or an embedded question with a verb target:

"What are you doing?" Kim **INQUIRED**.

Kim **INQUIRED** what I was doing.

With noun targets, Message is not common (as Topic occurs more frequently). However, Message does occur in a PP Complement with the noun question:

The answer to your **QUESTION** of how the company makes money is simply that it doesn't.

**Speaker (Spkr)**  
Semantic Type: Sentient

The person asking a question generally occurs as the External Argument of verb and noun targets:

We **QUZZED** me about where I had been.

Pat **QUESTIONED** surprised me.

## Frame Index

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#)  
[T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

[Abandonment](#)  
[Abounding with](#)  
[Absorb heat](#)  
[Abundance](#)  
[Abusing](#)  
[Access scenario](#)  
[Accompaniment](#)  
[Accomplishment](#)  
[Accoutrements](#)  
[Accuracy](#)  
[Achieving first](#)  
[Active substance](#)  
[Activity](#)  
[Activity abandoned state](#)  
[Activity done state](#)  
[Activity finish](#)  
[Activity ongoing](#)  
[Activity pause](#)  
[Activity paused state](#)  
[Activity prepare](#)  
[Activity ready state](#)  
[Activity resume](#)  
[Activity start](#)  
[Activity stop](#)  
[Actually occurring entity](#)  
[Addiction](#)  
[Adding up](#)  
[Adducing](#)  
[Adjacency](#)  
[Adjusting](#)  
[Adopt selection](#)  
[Aesthetics](#)  
[Affirm or deny](#)  
[Age](#)  
[Aggregate](#)  
[Aging](#)  
[Agree or refuse to act](#)  
[Agriculture](#)

## Questioning

[Lexical Unit Index](#)

### Definition:

The words in this frame have to do with a **Speaker** asking an **Addressee** a question which calls for a reply (as opposed to making a request which calls for an action on the part of the **Addressee**).

**We** **ASKED** **Ruby** what kind of food they ate.

**Yeats** was able to **INTERROGATE** **the spirit world** about his relationship with Maude.

### FEs:

#### Core:

**Addressee** [Add]

Semantic Type: Sentient

The Addressee is most frequently the NP Object of a target verb. However, with the verb inquire, Addressee can only occur as an of-PP and with a noun target, Addressee occurs in a PP Complement or as a possessive :

Pat **QUESTIONED** **me** about where I had been.

"Do you often come here?" Kim **INQUIRED** **of the person sitting next to her**.

My **QUESTION** **to you** is straightforward.

**Kim's** **INTERROGATION** by the police was long.

**Message** [Msg]

Semantic Type: Message

The Message, or content of the question, usually takes the form of a direct quote or an embedded question with a verb target:

"What are you doing?" Kim **INQUIRED**.

Kim **INQUIRED** **what I was doing**.

With noun targets, Message is not common (as Topic occurs more frequently). However, Message does occur in a PP Complement with the noun question:

The answer to your **QUESTION** **of how the company makes money** is simply that it doesn't.

**Speaker** [Spkr]

Semantic Type: Sentient

The person asking a question generally occurs as the External Argument of verb and noun targets:

**Pat** **QUIZZED** me about where I had been.

**Pat's** **QUESTION** surprised me.

# Disambiguating between frames based on syntactic and semantic information

(1) *to cure*: [NP.Ext, *cure.V*, NP.Obj ]

(a) *Healing*: They cured his measles.

→ German *heilen*

(b) *Preserving*: They cured the ham.

→ German *räuchern, aushärten*



# A metalanguage for capturing knowledge about unknown things

There are known knowns.  
These are things we know  
that we know. There are  
known unknowns. That is to  
say, there are things that we  
know we don't know. But  
there are also unknown  
unknowns. There are things  
we don't know we don't  
know.



(Donald Rumsfeld, U.S. Secretary of Defense, February 12, 2002)

## Frame Elements as a metalanguage for capturing the meaning of absent words Indefinite Null Instantiation (INI)

- (2) a. Pat {ate/swallowed/drank/chewed} too much  $\emptyset$ . (ingestion)
- b. Pat {talked/whispered/yelled/spoke} too much  $\emptyset$ . (speaking)
- c. Pat {?hit/touched/?clashed/\*broke} too much  $\emptyset$ .(physical impact)

# Capturing the meaning of absent words

(context-bound missing arguments (DNI))

(3) When others arrived at the scene they assumed from the empty cockpit that the pilot must have bailed out.

(4) One of the other members had a quite different reaction.

# Missing arguments (constructionally licensed (CNI))

(5) a. \*The cops arrested  $\emptyset$  last night.

b. The cops arrest  $\emptyset$  when they can,  
but it's always in small amounts.

(Ruppenhofer & Michaelis 2010)



# Problems with definitions of frame elements and frames (Osswald & van Valin 2014)

- `Cutting` frame: The definition of a frame is only intended as an informal description that indicates the kind of scenario the frame is supposed to represent. (...) None of the sense definitions of the LUs indicate that something is cut into pieces.
- There is no general representation of the meaning component common to the described scenarios, that is, of the turning of something into pieces.

# Problems with FE definitions (Dux 2016)

- Individual `Change` verbs exhibit subtle semantic distinctions which influence their valency behavior in systematic ways.
- These finer-grained meaning components are not captured by FrameNet's frame definitions.
- FE definitions should be more systematic and transparent, especially across frames that are related to each other via a frame-to-frame rela

### 3. Re-using (English) semantic frames

We will be satisfied with the technical resources at our disposal, and with our use of them, if they allow us to represent, in a perspicuous way, everything that we consider to be part of the conventions of the grammar of the first language we work with. We will be happy if we find that a framework that seemed to work for the first language we examine also performs well in representing grammatical knowledge in other languages.

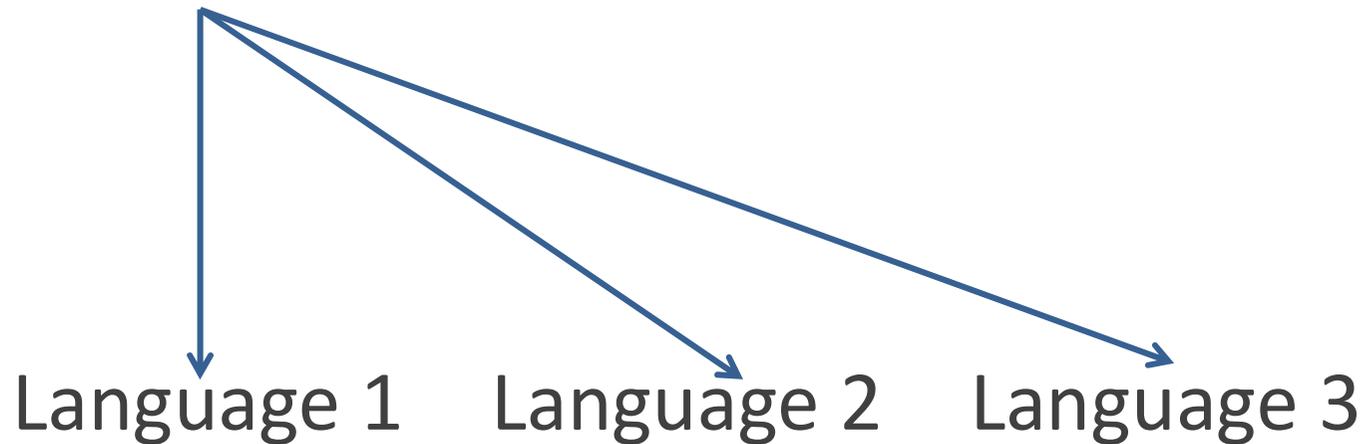
(Fillmore & Kay 1993: 4-5)

# FrameNets for other languages

- Spanish FrameNet (Subirats 2009)
- Japanese FrameNet (Ohara 2009)
- SALSA for German (Burchardt et al. 2009)
- French FrameNet (Candito et al. 2014)
- German FrameNet (Boas 2002)
- Swedish FrameNet (Borin et al. 2014)
- FrameNet Brazil (Torrent et al. 2014)
- Kicktionary (Schmidt 2009)
- BiFrameNet (Fung & Chen 2004)

# English frames (=our metalanguage) for structuring the lexicons of other languages

FrameNet frames (English)



- Which ones can be re-used (perhaps “universal”?)
- Which ones are language-specific?
- Translation equivalence

# English → other languages (here German)

(Boas 2002, 2005, 2009, 2013)

(1) The immigration people **questioned** her about her occupation.



# Identifying Frame and FEs

Questioning Frame:

The words in this frame have to do with a **Speaker** asking an **Addressee** a question which calls for a reply (as opposed to making a request which calls for an action on the part of the Addressee).

8 frame  
element  
configurations

1 valence  
realization



<u>05</u>		Message	Speaker	TARGET	Addressee	
	<u>01</u>	QUO.Comp +QUO.Comp	NP.Ext	question.V	DNI.xNI	
	<u>04</u>	QUO.Comp	NP.Ext	question.V	DNI.xNI	
<u>03</u>		Message	Speaker	TARGET	Manner	Addressee
	<u>03</u>	QUO.Comp	NP.Ext	question.V	AVP.Comp	DNI.xNI
<u>03</u>		Message		TARGET	Speaker	Addressee
	<u>01</u>	QUO.Comp +QUO.Comp	question.V	NP.Ext	DNI.xNI	
	<u>02</u>	QUO.Comp	question.V	NP.Ext	DNI.xNI	
<u>03</u>		Addressee	TARGET	Topic	Speaker	
	<u>03</u>	NP.Ext	question.V	PP_about.Comp	CNI.xNI	
<u>09</u>		Addressee	TARGET	Speaker	Topic	
	<u>05</u>	NP.Ext	question.V	CNI.xNI	DNI.xNI	
	<u>04</u>	NP.Ext	question.V	PP_by.Comp	DNI.xNI	
<u>29</u>		Speaker	TARGET	Addressee	Topic	
	<u>08</u>	NP.Ext	question.V	NP.Obj	DNI.xNI	
	<u>14</u>	NP.Ext	question.V	NP.Obj	PP_about.Comp	
	<u>01</u>	NP.Ext	question.V	NP.Obj	PP_concerning.Comp	
	<u>01</u>	NP.Ext	question.V	NP.Obj	PP_in.Comp	
	<u>04</u>	NP.Ext	question.V	NP.Obj	PP_on.Comp	
	<u>01</u>	NP.Ext	question.V	NP.Obj	PPing_about.Comp	
<u>01</u>		TARGET	Addressee	Topic	Speaker	
	<u>01</u>	question.V	NP.Obj	PP_about.Comp	CNI.xNI	
<u>01</u>		TARGET	Addressee	Speaker	Topic	
	<u>01</u>	question.V	NP.Obj	CNI.xNI	DNI.xNI	

Partial  
lexical entry  
of *question.v*

More than 17  
valence  
realizations  
("mini-  
constructions",  
cf. Boas 2003)

## Identifying FEs based on PT & GF information

<b>Speaker</b>	TARGET	<b>Addressee</b>	<b>Topic</b>
NP.Ext	Question.V	NP.Obj	PP_about.Comp



[<sub>Speaker</sub> The immigration people] questioned<sup>Tgt</sup>  
 [<sub>Addressee</sub> her] [<sub>Topic</sub> about her occupation].

## Linking FE and lexical units in the same frame

<b>Speaker</b>	TARGET	<b>Addressee</b>	<b>Topic</b>
NP.Ext	question.V	NP.Obj	PP_about.Comp



<b>Speaker</b>	TARGET	<b>Addressee</b>	<b>Topic</b>
NP.Ext	fragen.V	NP.Obj	PP_nach.Comp



[Speaker **Die Immigrationsbehörde**] fragte<sup>Tgt</sup>  
 [Addressee **sie**] [Topic **nach ihrem Beruf**].

# What about the other valence realizations?

- Only ONE out of 8 frame element configurations and more than 17 valence realizations
- This was the “easy” case
- What about the problems?

8 frame  
element  
configurations

1 valence  
realization



<u>05</u>		Message	Speaker	TARGET	Addressee	
	<u>01</u>	QUO.Comp +QUO.Comp	NP.Ext	question.V	DNI.xNI	
	<u>04</u>	QUO.Comp	NP.Ext	question.V	DNI.xNI	
<u>03</u>		Message	Speaker	TARGET	Manner	Addressee
	<u>03</u>	QUO.Comp	NP.Ext	question.V	AVP.Comp	DNI.xNI
<u>03</u>		Message		TARGET	Speaker	Addressee
	<u>01</u>	QUO.Comp +QUO.Comp	question.V	NP.Ext	DNI.xNI	
	<u>02</u>	QUO.Comp	question.V	NP.Ext	DNI.xNI	
<u>03</u>		Addressee	TARGET	Topic	Speaker	
	<u>03</u>	NP.Ext	question.V	PP_about.Comp	CNI.xNI	
<u>09</u>		Addressee	TARGET	Speaker	Topic	
	<u>05</u>	NP.Ext	question.V	CNI.xNI	DNI.xNI	
	<u>04</u>	NP.Ext	question.V	PP_by.Comp	DNI.xNI	
<u>29</u>		Speaker	TARGET	Addressee	Topic	
	<u>08</u>	NP.Ext	question.V	NP.Obj	DNI.xNI	
	<u>14</u>	NP.Ext	question.V	NP.Obj	PP_about.Comp	
	<u>01</u>	NP.Ext	question.V	NP.Obj	PP_concerning.Comp	
	<u>01</u>	NP.Ext	question.V	NP.Obj	PP_in.Comp	
	<u>04</u>	NP.Ext	question.V	NP.Obj	PP_on.Comp	
	<u>01</u>	NP.Ext	question.V	NP.Obj	PPing_about.Comp	
<u>01</u>		TARGET	Addressee	Topic	Speaker	
	<u>01</u>	question.V	NP.Obj	PP_about.Comp	CNI.xNI	
<u>01</u>		TARGET	Addressee	Speaker	Topic	
	<u>01</u>	question.V	NP.Obj	CNI.xNI	DNI.xNI	

Partial lexical  
entry of  
*question.v*

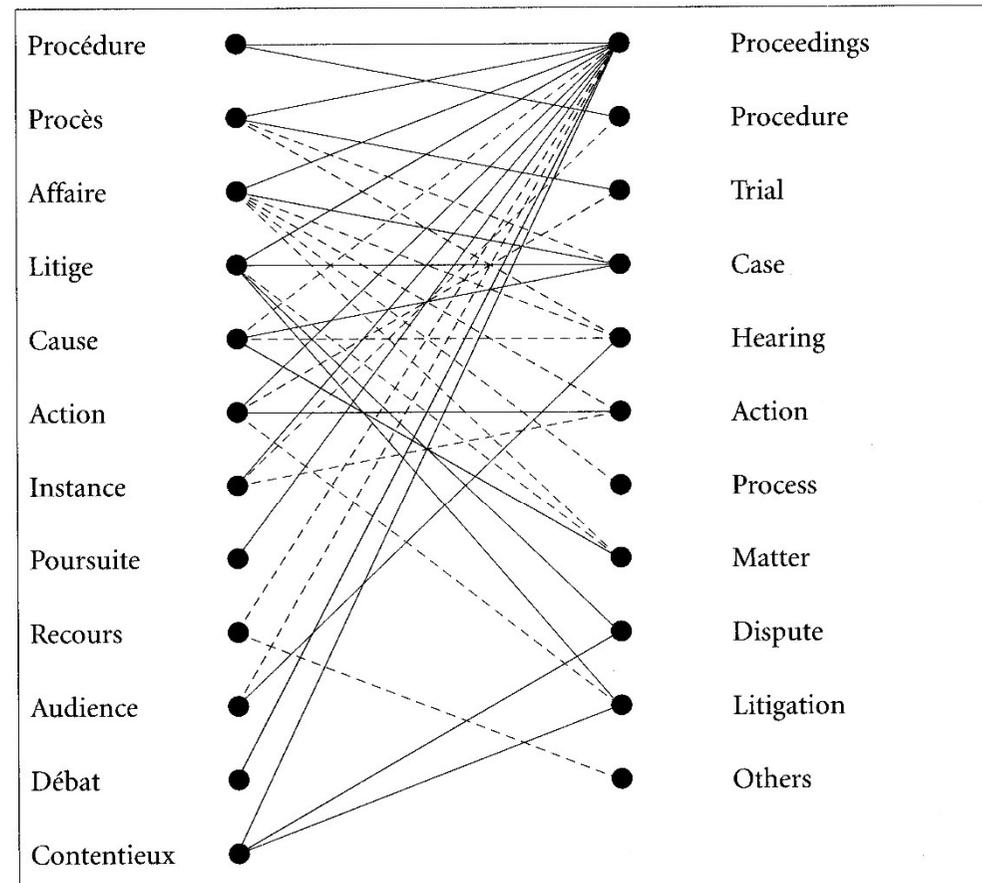
More than 17  
valence  
realizations  
("mini-  
constructions")

# Polysemy

- Overlapping polysemy: Items in two languages have roughly the same meaning extensions in the same contexts (e.g. English *cold* and German *kalt*). Relatively uncommon
- Diverging polysemy: Items in 2 languages have different meaning extensions. Most common “problem.”

# English *proceedings* / French *procédure*

Chodkiewicz et al. (2004: 264)



**Figure 2.** Cross-linguistic correspondences of French *procédure* and English *proceedings*. Frequent equivalents are indicated by an unbroken line, less frequent by a broken line.



# Little to no correspondence - English *well* and its many German counterparts

Discourse particles (DP)	Modal particles (MP)	DP + MP	Conjunctions	Adjectives	Adverbials	Interjections or exclamations
<i>also, also gut, also hör mal, also schön, ja, ja also, na, na ja (naja), na gut, na schön, na und?, nun, nun ja, nun gut, nu sag mal, tja</i>	<i>eben, ja</i>	<i>na ... ja, na ja ... doch, na ja .... eben, na ja ... schön, nun ja ... eben, tja ... eben</i>	<i>aber, oder, und, und nun</i>	<i>gut, sehr gut, schön, sicher</i>	<i>auf jeden Fall, jedenfalls, bloss, da, dann, trotzdem</i>	<i>ach, ach wirklich, aha, grosser Gott, hm</i>

Table 3

*Well* in English original texts: German correspondences (cf. Johansson: 2006, 130-131)

→ Multifunctional and highly context-dependent.<sup>45</sup>

## Disambiguation based on syntactic frames:

### English to *aet* and Swedish equivalents (Vibera 2002)

Table 10. The major meanings of *get*. English originals

Meaning	Frame	Example	% N = 967
<i>Possession</i>	get + NP	Peter got a book	30,1
	have got + NP	Peter has got a book	8,0
<i>Modal: Obligation</i>	have got to + VP <sub>Infinitive</sub>	Peter has got to come	1,8
	gotta + VP <sub>Infinitive</sub>	Peter gotta come	
<i>Inchoative</i>	get + ADJ/Participle	Peter got angry	11,2
<i>Passive</i>	get + PastPart (by NP)	Peter got killed (by a gunman)	2,6
<i>Causative</i>	get + NP +to VP <sub>Infinitive</sub>	Peter got Harry to leave	1,7
<i>Motion:</i>			
<i>Subject-centered</i>	get + Particle	Peter got up/in/out...	30,1
	get + PP	Peter got to Berlin	
<i>Object-centered</i>	get + NP + PP	Peter got the buns out of the oven	7,1
	get + Particle + NP		
<i>Various other cases</i>			5,8

# Swedish Counterparts

Table 11. The most frequent Swedish equivalents of English *get*

Possession			Motion			Inchoative		Total
få	'get'	202	komma	'come'	109	bli	'become'	80
ha	'have'	92	gå	'go'	29			
ta	'take'	55	stiga	'step'	20			
ge	'give'	18	kliva	'stride'	11			
skaffa	'acquire'	18	resa sig	'rise'	15			
hämta	'fetch'	15						
<b>Total</b>		<b>400</b>			<b>184</b>		<b>80</b>	<b>664</b>
<b>Total other equivalents</b>								<b>303</b>
<b>Total</b>								<b>967</b>

## Problem: Identify appropriate L-2 lexical unit

**Main problem**: Many translational equivalents of *question.v* in German:

→ *ausfragen, befragen, bezweifeln, fragen, hinterfragen, in Frage stellen, prüfen, verhören, vernehmen, etc.*

They all evoke the meaning of the questioning frame, but highlight different aspects of it.

# Linking multitude of valence patterns of *question.v* and its translation equivalents

05	Message	Speaker	TARGET	Addressee	
01	QUO.Comp +QUO.Comp	NP.Ext	question.V	DNI.xNI	
04	QUO.Comp	NP.Ext	question.V	DNI.xNI	
03	Message	Speaker	TARGET	Manner	Addressee
03	QUO.Comp	NP.Ext	question.V	AVP.Comp	DNI.xNI
03	Message	TARGET	Speaker	Addressee	
01	QUO.Comp +QUO.Comp	question.V	NP.Ext	DNI.xNI	
02	QUO.Comp	question.V	NP.Ext	DNI.xNI	
03	Addressee	TARGET	Topic	Speaker	
03	NP.Ext	question.V	PP_about.Comp	CNI.xNI	
09	Addressee	TARGET	Speaker	Topic	
05	NP.Ext	question.V	CNI.xNI	DNI.xNI	
04	NP.Ext	question.V	PP_by.Comp	DNI.xNI	
29	Speaker	TARGET	Addressee	Topic	
08	NP.Ext	question.V	NP.Obj	DNI.xNI	
14	NP.Ext	question.V	NP.Obj	PP_about.Comp	
01	NP.Ext	question.V	NP.Obj	PP_concerning.Comp	
01	NP.Ext	question.V	NP.Obj	PP_in.Comp	
04	NP.Ext	question.V	NP.Obj	PP_on.Comp	
01	NP.Ext	question.V	NP.Obj	PPing_about.Comp	
01	TARGET	Addressee	Topic	Speaker	
01	question.V	NP.Obj	PP_about.Comp	CNI.xNI	
01	TARGET	Addressee	Speaker	Topic	
01	question.V	NP.Obj	CNI.xNI	DNI.xNI	

*fragen* (... valence patterns)

*hinterfragen* (... valence patterns)

*befragen* (... valence patterns)

*bezweifeln* (... valence patterns)

*ausfragen* (... valence patterns)

*prüfen* (... valence patterns)

# Polysemy and translation equivalents (Bertoldi 2010)

Notification  
 \_of\_charges  
 Frame in English  
 and Portuguese



English	Portuguese	English
Accuse.v	Acusar	Incriminate; blame; arraign; renounce; accuse; prosecute; charge; indict.
	Denunciar	Denounce; accuse; inform against; report; proclaim.
Charge.n	Acusação	Accusation; charge; incrimination; denunciation; prosecution; indictment.
Charge.v	Acusar	
	Pronunciar	Indict; arraign.
Indict.v	Acusar	
	Denunciar	
Indictment.n	Pronúncia	Indictment; arraignment.

## 4. Identifying cross-linguistic frames employing the same metalanguage

- Translation equivalence (with all the problems pointed out above)
- Valence equivalence (are the frame elements of frame all realized within the same valence pattern across languages?)
- Cultural equivalence (do the translation equivalents have the same cultural connotations, collocations, contextual restrictions, etc.?)

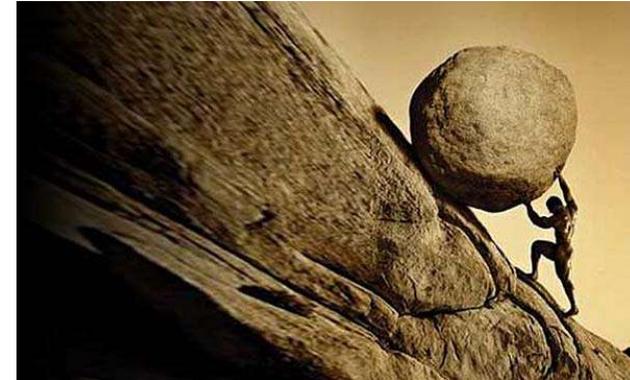
# What are some candidates for cross-linguistic (and possibly “universal”) status?

- Motion
- Communication
- Ingestion
- Temperature
- Bodyparts
- Causation

# Systematic procedure

- Pick a FrameNet frame (Ingestion)
- Pick a language other than English
- Take all LUs evoking the frame and find translation equivalents in L-2
- For each LU find corresponding valence equivalents and cultural equivalents (using corpus data and linguistic intuition)
- Annotate corpus examples and create parallel lexicon fragments English-L2 ..
- → Figure out whether English FE definitions work for the other language!

Repeat until you're  
done with “all”  
languages ...



Remember Sisyphus ?

- Those frames will be identified as cross-linguistic (and potentially “universal”) that have corresponding LUs as translation equivalents across all languages evoking the same frame
- Results will help us understand more about the status of FEs/frames as a cross-linguistic metalanguage
- The details are actually much more complicated than that ...

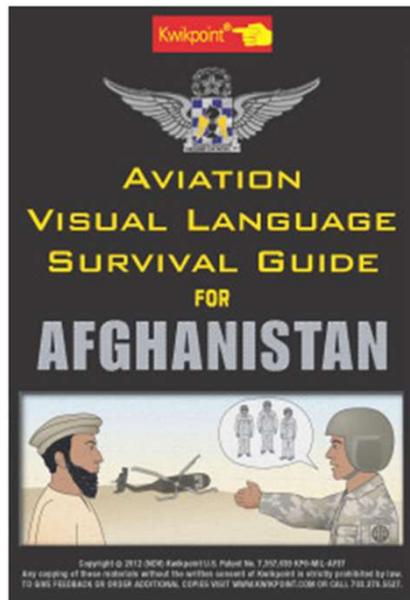
## 5. “Universal” and language-specific frames

- Disclaimer: claims made here apply “only” to the languages for which we have frame-semantic analyses (FrameNet)
- Can’t say anything specific about the roughly 6,000 languages around the world
- “cross-linguistic” instead of “universal”

# Culture-specific frames

- Cross-linguistic, “universal”: `Self_motion`, `Communication`, `Ingestion`, etc.
- Procedures establishing cross-linguistic frames and translation equivalents for LUs will leave some frame and LUs out
- Language-specific (??): `Personal_Relationship`, `Revenge`, etc.

# Revenge: Some cultural differences



## PASHTUNWALI CODE

Pashtuns often express religious devotion through the Pashtunwali Code, a standard of behavior centered on honor (namuz) and shame (haya). The 5,000 year-old Pashtun cultural practices often supersede religious ones. Pashtuns place a high value on the following concepts:

- Hospitality (malmastia)**

Affording shelter and sanctuary to all is a social obligation conferring honor on the host. Political patronage is a form of hospitality that allows a host to retain loyalty from and power over those subordinates.
- Solidarity (nang)**

The code mandates devotion and loyalty to families, tribes, and designated religious, tribal and political leaders, especially those who represent the tribe.
- Pride (ghairat)**

Loyalty to the homeland is displayed through a willingness to defend tribal and personal territory, property and individuals. Though often called "jihad" in Pashtun circles, a fight does not need a religious basis.
- Bravery (tureh)**

Pashtuns consider defensive or security roles in warfare shameful and insulting. However, conducting a surprise hit-and-run attack against a superior force, and other such acts of bravado, bring honor to a fighter and his tribe. Coalition leaders who use their Afghan fighters in offensive roles will likely see higher morale than those who use them defensively.
- Revenge (badal)**

It is considered honorable to respond to slights between individuals or tribes with reciprocation. This philosophy limits excessive violence between tribes. Failure to take revenge is perceived as shameful.

- Different type of Revenge frame?
- Different types of FEs?
- Correspondence between Revenge frame?

# Language-specific frames?

- Language-specific:  
Personal\_Relationship
  - Atzler (2011): sugar daddy



# Commercial transaction / customer service

(VanNoy 2017)

- German *Kulanz.n* , *kulant.a*



TANOS | VITALI | ZUPANCIC RECHTSANWÄLTE DR. KATRIN TANOS

„HILFE, MEINE KUNDEN WOLLEN IMMER MEHR“

—

DER RICHTIGE UMGANG MIT GARANTIE UND KULANZ

1

# Culturally sensitive missing words

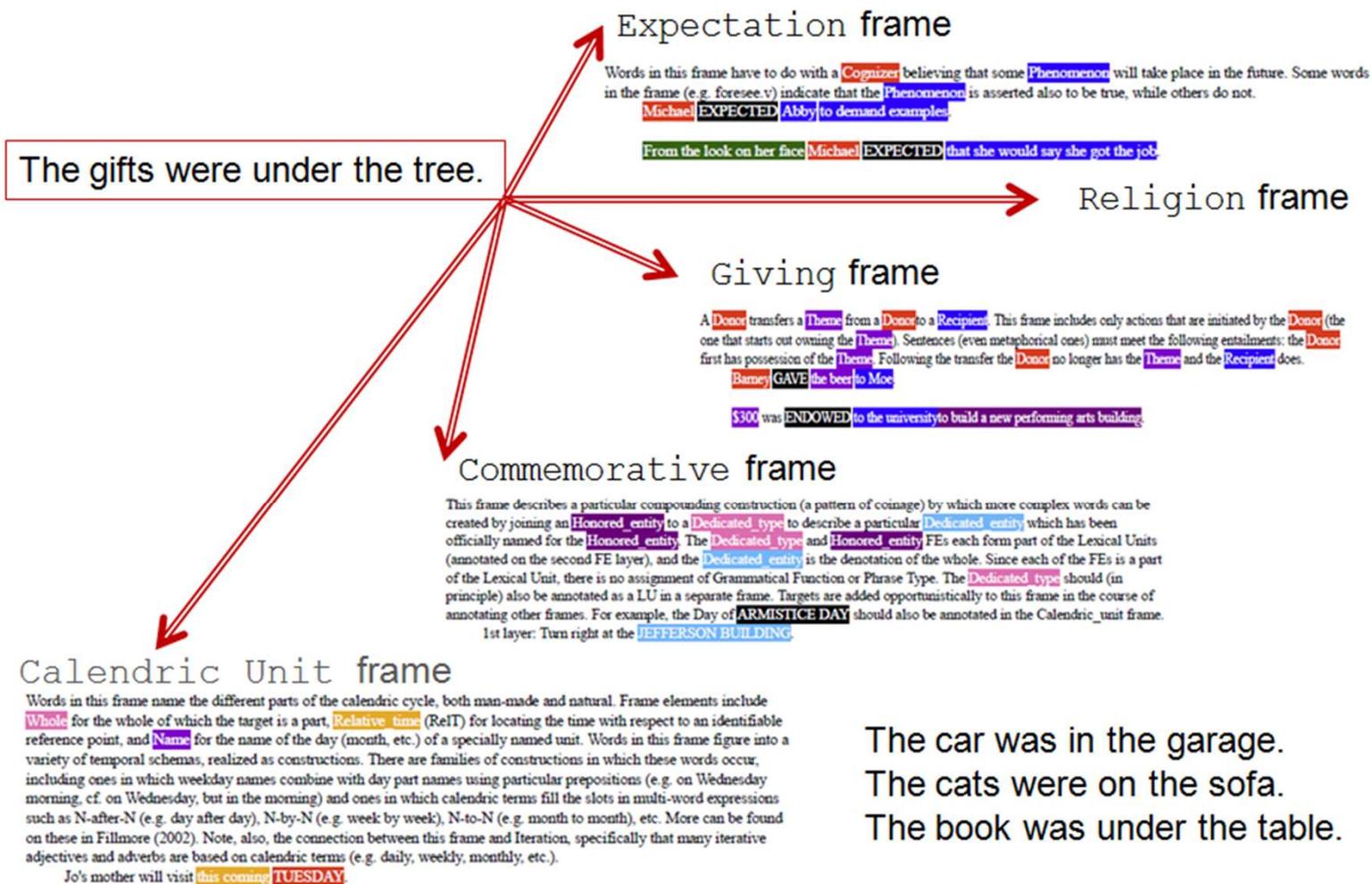
(9) The presents were under the tree.



# Cultural variation: December 25th / 24. Dezember



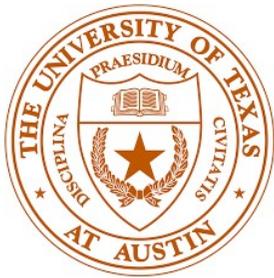
## Multiple frames evoked despite no overt lexical target



## 5. Conclusions

- Many frames are cross-linguistic, possibly “universal”
- Some are culture- and language-specific
- Frame elements (and GFs, PTs) as a cross-linguistic metalanguage need to be defined more clearly
- We need better procedures for keeping FE definitions more consistent (both within a language and across languages)

# THANK YOU !!!



<http://sites.la.utexas.edu/hcb/>

# *fragen*: most general equivalent

## fragen

1. *sich an jmdn. mündlich oder auch schriftlich wenden, um etw. von ihm zu erfahren* a) jmdn. etw. f.: er fragte (mich):  
»Warum kommst du nicht mit?«

## Manner of questioning: detailed, intense, curious

**ausfragen** /Vb./ *alles Wissenswerte durch fortwährendes Fragen aus jmdm.*

*herausholen*: jmdn. (nach jmdm., etw., über jmdn., etw.) näher, genau, neugierig, eifrig, zudringlich, unter vier Augen a.; jmdn. nach seinen Verhältnissen, seiner Familie a.; er ... hatte ihn über Absicht und Grund seiner Handlung ausgefragt **G. Hauptm.** 1,348 (*Quint*);

## Manner of questioning: authoritative, intense

**befragen** /Vb./ jmdn., etw. (*genau*) nach etw.  
*fragen*: jmdn. scharf, peinlich vernehmen und  
b.; den Sachverständigen, e. Arzt,  
Rechtsanwalt, Zeugen b.; Nie sollst du mich  
befragen **Wagner** *Lohengrin* I 3; in einer  
Volksabstimmung das Volk b.; **hist.** das Orakel  
b.]; jmdn. um Rat, um seine Meinung, nach  
dem Sachverhalt, über die genaue Situation  
b.;

## Manner of questioning: not believing the addressee or the topic

**bezweifeln** /Vb./ *etw. anzweifeln, in Frage stellen*: d. Glaubwürdigkeit, Nutzen einer Sache (stark) b.; jmds. Fähigkeiten, Aussagen b.; Ihre Angaben werden bezweifelt; aber je öfter er sie [*die Geschichten*] hörte, desto mehr bezweifelte er, daß alle auf Wahrheit beruhten **Kellerm.** *Totentanz* 186

## Manner of questioning: investigating and putting to the test whether something is true

**prüfen** /Vb./ jmdn. auf etw. p. *untersuchen, ob jmd. eine bestimmte Eigenschaft, Fähigkeit besitzt*:  
jmdn. auf seine Eignung, Reaktionsfähigkeit p.;  
wie um jeden einzelnen auf seine  
Vertrauenswürdigkeit zu prüfen **J. Roth Hiob 89**;  
sich p.: du mußt dich ernstlich p., ob du wirklich  
diese Aufgabe erfüllen kannst; p., ob jmd.  
vertrauenswürdig ist; jmds. Vertrauenswürdigkeit  
p.