Communicative Functions of morphemes and other things

February 10, 2015

Or what we can learn from language teachers.
Non-Propositional Semantics

• The agreement reached by delegates from 196 countries establishes a framework for a climate change accord to be signed by world leaders in Paris next year.

• Propositional and lexical content
  – Reach (delegates, agreement)
  – Establish (agreement, framework)
  – Sign (leaders, accord, Paris, next year)
  – Meanings of nouns, verbs, adjectives, adverbs, and some prepositions
Non-Propositional Semantics

• The agreement reached by delegates from 196 countries would establish a framework for a climate change accord to be signed by Ø world leaders in Paris next year.

• Propositional content
  – Reach (delegates, agreement)
  – Establish (agreement, framework)
  – Sign (leaders, accord, Paris, next year)
  – Meanings of nouns, verbs, adjectives, adverbs, and some prepositions
Communicative Function

• Meaning as opposed to form:
Example: Two ways to teach ESL (English as a second language)

• Form-based teaching
  – Example: All the uses of the word “should”.
    • You should go to the party.
      – advice or obligation
    • It should be here.
    • That shouldn’t be a problem.
  – This way of teaching is not common, but you can find a lot of web pages that are intended for reference that have lists like this.
Example: Two ways to teach ESL (English as a second language)

• Function-based teaching:
  – All the ways of giving advice:
    • I think you should go to the party.
    • It would be nice if you went to the party.
    • If I were you I would go to the party.
    • You might try going to the party.
    • [Link](http://www.teach-this.com/images/resources/problems-and-advice.pdf)
  – This is more common in ESL textbooks
Relevance to conlanging

• Don’t make up your conlang based on form
  – how to say “should”
  – how to say “the”

• Make it up based on function
  – how to express obligation, advice, etc.
  – how to refer to discourse-old and discourse-new entities

• Become aware of what things mean.
The functions of morphemes and closed class lexical items in propositional semantics
Grammatical Encoding

• How do you know who did what to whom?
  – The man bit the dog.
  – The dog bit the man.

• Primary mechanisms:
  – Word order
  – Case marking (dependent marking)
  – Agreement (head marking)

• This sounds like grammar (form) but keep in mind that we are talking about the function of grammar to differentiate agent from patient and what forms are used to carry out that function.
English:
Grammatical relations encoded by word order

The cat chases the dogs.          The cats chase the dog.

What does this mean?

*The cats chases the dog.
Italian: grammatical relations encoded by verb agreement

Il gatto inseguono i cani.  I gatti inseguono il cane.
cat-sg chase-3sg dog-pl  cat-pl chase-3pl dog-sg

Insegue il gatto i cani.  Il cane inseguono i gatti.

What does this mean?
Il gatto inseguono i cani.
<table>
<thead>
<tr>
<th>Greenberg's universal</th>
<th>Parameter</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>main clauses</td>
<td>V-O</td>
</tr>
<tr>
<td>3, 4</td>
<td>adpositions</td>
<td>prepositions postpositions</td>
</tr>
<tr>
<td>2</td>
<td>genitive (possessor) and head noun</td>
<td>N-G</td>
</tr>
<tr>
<td>17</td>
<td>head noun and modifier</td>
<td>N-M</td>
</tr>
<tr>
<td>24</td>
<td>relative clauses and head noun</td>
<td>N-RelCL</td>
</tr>
<tr>
<td>22</td>
<td>comparatives</td>
<td>Adj-Mkr-Std</td>
</tr>
<tr>
<td>16</td>
<td>inflected auxiliaries</td>
<td>Aux-V</td>
</tr>
<tr>
<td>9</td>
<td>question particles</td>
<td>sentence-initial</td>
</tr>
<tr>
<td>12</td>
<td>question words</td>
<td>sentence-initial</td>
</tr>
<tr>
<td>27</td>
<td>affixes</td>
<td>prefixes</td>
</tr>
</tbody>
</table>
World Atlas of Language Structures

• Order of subject, object, and verb
  – http://wals.info/feature/81

• Order of subject and verb
  – http://wals.info/feature/82

• Order of object and verb
  – http://wals.info/feature/83

• To see all the chapters on Word Order
  – http://wals.info/chapter
(5)  
   a. He left.  
   b. He hit him.

(6)  
   Huánuco Quechua  
   a. Juan-0   aywan. "Juan goes."  
      Juan-NOM goes  
      S  
   b. Juan-0   Pedro-ta  maqan. "Juan hits Pedro."  
      Juan-NOM Pedro-ACC hits  
      A   P
Nominative-Accusative (agreement)

(8)  a. Aywa-n. "He goes."
    go-3sg
    S

    go-1sg
    S

  c. Maqa-ma-n. "He hit me."
    hit-1sg-3sg
    P A

Quechua, page 136
Ergative-Absolutive (case marking)

(7)  

a. Doris-aq ayallruuq.  
Doris-ABS traveled  
 S  

b. Tom-am Doris-aq cingallrua. “Tom greeted Doris.”  
Tom-ERG Doris-ABS greeted  
 A  
 P

Yupik, page 135
Ergative-Absolutive (agreement)

(9) **Yup’ik**

a. Ayallruu-nga.  
traveled-1sg  
S

b. Ayallruu-q.  
traveled-3sg  
S

c. Cingallru-a-nga.  “He greeted me.”  
greeted-3sg-1sg  
A   P

“I traveled.”

“He traveled.”
No marking for A (agent) and P (patient). The NP that is highest on the topic worthiness hierarchy is interpreted as A.

When there is ambiguity (e.g., Pedro hit Juan), the discourse topic is interpreted as A.
Variations on grammatical encoding

• When sentences are not prototypical
  – Prototypical: a discourse-old animate agent acts volitionally and has an effect on a discourse-new inanimate patient in the past so that we know that the patient was really affected.

• When sentences are not prototypical $+*!$ happens and all $&@\{/ breaks loose. (Or as I usually say, “Grammar happens.”)
  – Split ergativity
  – Differential object marking
  – Differential subject marking
  – Quirky case
Prototypical

• The girl ate a sandwich.
• The dog broke a vase.
Less prototypical

• A rock hit the girl.
• The dog is going to break the vase.
• He saw me.
Different agreement markers for agent-like and patient-like S (subject of intransitive verb).

(20)  
(a) ma-híxpaye  
1sg-fall  
“I fall”  
(b) ma-t’e’  
1sg-die  
“I die”  
(c) ma-č’áča  
1sg-shiver  
“I shiver”

(19)  
(a) a-ma-ya-phe
   dir-1sg-2sg-hit  
“You hit me.”

(b) wa-0-ktékte  
1sg-3sg-kill  
“I kill him.”

(c) 0-ma-ktékte  
3sg-1sg-kill  
“He kills me.”

(21)  
(a) wa-škáte  
1sg-play  
“I play”  
(b) wa-núwe  
1sg-swim  
“I swim”  
(c) wa-lówà  
1sg-sing  
“I sing”
Different case markers for agent-like and patient-like S.
Split Ergativity based on tense, aspect, mood (TAM)

(41) Georgian (from Comrie 1989)

a. Student-i midis.  
   -NOM goes  
   "The student goes."

b. Student-i ceril-s cers.  
   -NOM letter-ACC writes  
   "The student writes the letter."

c. Student-i mivida.  
   -ABS went  
   "The student went."

d. Student-ma ceril-i dacera.  
   -ERG letter-ABS wrote  
   "The student wrote the letter."

Ergative-absolutive used in the past tense.

Ergative-absolutive is more patient oriented.

Patient is more likely to be affected in the past tense. In non-past tenses, you don’t know whether the patient is affected or not because you don’t know whether the event was completed.

There is a third pattern where the A is dative and the P is nominative. It is an evidential mood. See book by Alice Harris. The A is more like an experiencer than an agent in those sentences.
Split Ergativity for different types of NPs

Different marking systems for S, A, and P within one language.

1 > 2 > 3 > 1 > 2 > 3 > proper names > humans > non-human animates > inanimates
agreement > pronouns
definite > indefinite

(35) Universal
If a language exhibits split ergativity based on the topic-worthiness of the noun phrases in the transitive clause, it is always the case that the nominative/accusative system will be manifested for nominal arguments that are high in topic-worthiness and the ergative/absolutive system will be manifested for nominal arguments that are low in topic-worthiness.

Payne, page 154
The pronouns show an ergative-absolutive system. A is different from S and P.

The agreement markers show a nominative accusative system. A and S are the same. P is different.
Spanish differential object marking, Payne page 157

(39) a. Estoy buscando una empleada.
   be:1sg looking:for INDEF housekeeper
   “I'm looking for a housekeeper (don't have one in mind).”

   b. Estoy buscando a una empleada.
   be:1sg looking:for CM DEF housekeeper
   “I'm looking for a housekeeper (have a specific one in mind).”

No case marking on non-pronominal noun phrases in general, but there is a case marker for animate noun phrases.
Differential object marking in Farsi, Payne page 157

(40) a. Man dombale kitob hæsdæm.
    I look:for book aux
    "I'm looking for a book."

b. Man dombale kitob-ro hæsdæm.
    I look:for book-CM aux
    "I'm looking for the book."

Accusative case marking on definite nouns. No accusative case marking on indefinites.
Quirky case

• Me thinks.
  – Experiencer is not in nominative case.

• Icelandic (Sorry. Don’t have the real sentences.)
  – Me lacks money.
    • subject is “mig” (accusative case)
  – To me is cold.
    • subject is “mér” (dative case)
Differential subject marking

• Hindi and Urdu and many other languages in the same area.
  – There is an ergative case marker that is used for animate A in the past tense.
    • Not used in any other tense.
    • Not used for inanimate A?
    • Not used for S
Another use of morphology in propositional semantics

• Transitivity alternations
  – Passive voice
  – Dative shift and applicatives
  – Causatives
  – etc.
How to understand an English Sentence
(Lexical Functional Grammar: Bresnan and Kaplan)

[s [np Sam] [vp interviewed [np Sue ]]]

constituent structure
grammatical rlns.
semantic roles

interview< agent patient >
lexical mapping

Encoding of Gml. Rlns.
For English!!!
How to understand an English Sentence

[s [np Sue] [vp was interviewed [np by Sam ]]]

constituent str.

grammatical rlns.

semantic roles

lexical mapping

Encoding of Gml. Rlns. For English!!!
Passive Voice

• “Voice”
  – In the default voice, the subject is probably the most agentive argument.
  – In other voices, something other than an agent is the subject. There is usually a marker on the verb to indicate that the voice is different.

• Passive Voice
  – Passive verbs are intransitive.
  – The argument that was the OBJ of the active verb is the SUBJ of the passive verb.
  – The argument that was the SUBJ of the active verb is oblique.
Kera (Afroasiatic, Chadic)

(80)  
Transitive  
Hùlúm gà-ng hàrgá-ng gidè hiúw-a. 
man:DEF put-PAST goat:DEF womb pen-LOC  
“The man put the goat in the pen.”

(81)  
Passive  
Hàrgá-ng dè-gà-gè gidè hiúw-a (kás hùlúm-a). 
goat:DEF PASS-put-REDUP womb pen-LOC hand man-LOC  
“The goat was put in the pen (by the man).”

Suffix on verb indicates passive voice, unlike English, which has an auxiliary verb and a participle.
Functions of Passive Voice

• Agent is not known or not mentioned or doesn’t matter.
  – Can be paraphrased with impersonal sentences
    • Spanish is spoken here.
    • They speak Spanish here.
    • One speaks Spanish here.

• Patient is in discourse focus.

• Many language specific functions.
  – Japanese adversity passive.
Not all languages have passives

• If they have other ways to make impersonal sentences and focus a patient argument
Relevance for conlangs

- Don’t decide how to say passives.
- Decide whether you need a passive voice.
- If so, decide on its discourse functions
  - impersonal agent
  - focused patient
  - other
Antipassive

• An antipassive sentence is intransitive.
• The argument that was an OBJ in the active sentence is OBL in the antipassive sentence.
• The argument that was a SUBJ in the active sentence is still a SUBJ in the antipassive sentence, but it is an S rather than an A.

< agent  patient >  <  agent  patient >
SUBJ    OBJ         SUBJ    OBL
(113) Transitive
Yero-m keme-q nerre-llru-a.
Y. -ERG meat-ABS eat-PAST-3SG/3SG
“Yero ate the meat.”

(114) Antipassive
Yero-q (kemer-meng) nerre-llru-u-q.
Y. -ABS meat-INST eat-PAST-INTRNS-3SG
“Yero ate (meat).”
Inverse, Payne, page 210, Naga

(97)  

a. nga-ma ate hetho-ang  
1-ERG 3 teach-1SG  
“I will teach him.”

b. ate-ma nga-nang hetho-ang  
3-ERG 1-ACC teach-INV-1SG  
“He will teach me.”

Agent is lower than patient on the hierarchy of empathy-worthiness.

The verb agrees with the patient, thereby downplaying the agent, but not as much as in a passive voice sentence.

The inverse marker warns you that the verb is agreeing with the patient.
Direct: the “ni” prefix refers to the agent.

Inverse: the “ni” prefix refers to the patient.
Payne, page 212, Cree

Direct: obviate is patient.

Inverse: obviate is agent.
Applicative morpheme, Chichewa
Kroeger, citing Bresnan and Mchombo

(21) a  Mbidzi  zi-na-perek-a  msampha kwa nkhandwe.
        zebras(10)  subj(10)-past-hand-asp  trap  to  fox
        ‘The zebras handed the trap to the fox.’

   b  Mbidzi  zi-na-perek-er-a  nkhandwe msampha.
        zebras(10)  subj(10)-past-hand-appl-asp  fox  trap
        ‘The zebras handed the fox the trap.’

(22) a  Ndi-na-tumiz-a  kalata kwa mfumu.
        1sg.subj-past-send-asp  letter  to  chief
        ‘I sent a letter to the chief.’

   b  Ndi-na-tumiz-ir-a  mfumu kalata.
        1sg.subj-past-send-appl-asp  chief  letter
        ‘I sent the chief a letter.’
(7) **Swahili** (Comrie, 1976)

a  Msichana a-li-(u-)fungu-a mlango.
  girl   S.agr-PAST-O.agr-open-INDIC door
  ‘The girl opened the door.’

b  Mwalimu a-li-m-fungu-zish-a msichana mlango.
  teacher   S.agr-PAST-O.agr-open-CAUS-INDIC girl door
  ‘The teacher made the girl open the door.’
Turkish Causative (from Kroeger)

(13) **Turkish** (Aissen, 1974; Comrie, 1981)

a  Müdür mektub-u imzala-dı.
director letter-ACC sign-PAST
‘The director signed the letter.’

b  Dişi mektub-u müdür-e imzala-t-tı.
dentist letter-ACC director-DAT sign-CAUS-PAST
‘The dentist got the director to sign the letter.’

(14) **Turkish** (Aissen, 1974)

a  Kasap et-i kes-tı.
butcher meat-ACC cut-PAST
‘The butcher cut the meat.’

b  Hasan kasab-a et-i kes-tir-dı.
Hasan butcher-DAT meat-ACC cut-CAUS-PAST
‘Hasan had the butcher cut the meat.’
Possessor raising
(Uusually not associated with a morpheme)

• I hit his arm.
• I hit him on the arm.
• He was hit on the arm.

• “His” is the possessor in the noun phrase “his arm”.
• “Him” can also be the direct object of “hit”.
• It was “raised” out of the noun phrase to have a grammatical relation in the main clause.
I hit his arm

I hit the arm on him
Complementizers, relativizers, genitive markers

• This sounds like more grammar (form) but keep in mind that we are talking about the function of grammar:
  – marking a verb as subordinate to another verb
  – marking a noun as subordinate to another noun
  – marking a verb as subordinate to a noun
Relevance to conlangs

• Don’t decide how to say “that”, “to”, and “-ing”
• Decide how to make subordinate clauses that
  – modify verbs
  – modify nouns
  – (and many more details)
Definitions

• Clause – one verb and its arguments
  – or a serial verb, as we will see...

• Complement clause
  – A clause that is the subject or object of another clause
    – That she stepped on his toe stunned him.
    – It stunned him that she stepped on his toe.
      • Extraposition
        – I think that she stepped on his toe.
        – I want her to step on his toe.
        – She tried to step on his toe.
Definitions: Other types of embedded clauses

• Adjunct
  – *Having left early*, she missed all the fun.
  – *Admired by her friends*, she was sure to win the election.
  – She left early *in order to go to study*.

• Complement of noun
  – The fact *that she won* bothers me.

• Relative clause
  – The student *I met* studied a lot.
I think Sony interviewed Sam.

More terminology

Upper clause or higher clause or matrix clause or main clause.

Lower clause or embedded clause or complement clause or subordinate clause.
I think that Sony interviewed Sam.

Upper clause or higher clause or matrix clause or main clause.

Lower clause or embedded clause or complement clause.

- **SUBJ**: [‘I’]
- **PRED**: ‘think< SUBJ COMP>’
- **COMP**: SUBJ [‘Sony’]
  - PRED: ‘interviewed…’
- **OBJ**: [‘Sam’]
Complement Clauses

- NP thinks that S
- It seems that S
- NP seems to VP
- NP tries to VP
- NP believes that NP
- NP believes NP to VP
- NP persuade NP that S
- NP persuade NP to VP
- That S is likely.
- It is likely that S.
- NP is likely to VP.
- There BE NP VP-ing
- There BE NP VP-pastpart
What are relative clauses?

Sometimes people use the term “relative clause” to refer to the S-bar. Sometimes they use it (sloppily) to refer to the whole NP.

Let’s say that the filler is the relative pronoun, not the head noun.
Definitions

• Finite
  – Has a tense (e.g., present, past, future)
  – English
    • She studied.
    • She is studying.
    • She has studied.
    • She will study.
    • She studies.

• Non-finite
  – Infinitives and participles
  – English
    • Sam wants to study.
    • Sam waited for her to study.
    • Studying is hard.
    • For her to study would be surprising.

Note that the finite forms in English must have a subject and if the subject is a pronoun, it must be nominative.

The non-finite forms either don’t have an overt subject or, if they do have a subject, and it is a pronoun, the pronoun is not nominative.
Many areas of non-propositional semantics

- Sentiment
- Speech acts
- Rhetorical relations
- Implicit social hierarchy
- Quantification
- Definiteness and referring
- Tense and Aspect
- Comparison
- Modality
- Evidentiality
- Negation
- Information structure (old and new information)
General Properties of Non-Propositional Semantics

• There are too many meanings
  – Each meaning cannot have its own grammatical construction
  – Many meanings are conflated in grammatical constructions or closed class lexical items

• Prototypes with centroids
  – the centroids may match across languages
    • e.g., past tense morpheme indicating that something happened before the time of speech
  – the extension from the centroid almost never matches across languages

• Function drift
  – from the centroid
  – is it predictable?
Grammaticalization


• The process by which words become grammar.
• Happens over long time spans

• Examples:
  – “Go” becomes future time: I’m **going to** read.
  – Small thing becomes negation:
    • French “pas” (step): je n’ai **pas** de pain (I don’t have any bread).
Example: English “will"

- Example: English “will”
  - The Original meaning of volition grammaticalized to the current meaning of future
    - I will go to the market.
  - You can still see volition in “He won’t wash the dishes.”
    - a prediction for the future or
    - Expresses his refusal
  - Phonological reduction ‘ll
  - Function drift:
    - Presentative Construction:
      - Phone rings: That will be my son.
    - The present and past tenses diverged (will and would).
Grammaticalization with function drift

• http://www.ecenglish.com/learnenglish/lessons/will-would-shall-should

• Will is used to show desire, preference, choice or consent:
  – I will accept your offer.
  – Will you please be quiet?
  – He won’t wash the dishes

• To show the future:
  – It will be a great party.
  – I will probably go out tonight.

• To express capability:
  – The ship will take three hundred guests.
  – This bottle will hold two litres of wine.

• To express determination or insistence:
  – I will pass my driving test.
  – I will do as you say.

• Special Constructions
  – Phone rings: That will be my son
What do all multi-linguals and second language learners know?

• Function drift is never exactly the same in any two languages.

• Function drift is complicated and seems to be illogical:

I lived here for two years.
You can’t say this if you still live here.
I have lived here for two years.
You can say this if you still live here.

I traveled here by plane.
You can say this if you are still here.
I have traveled here by plane.
Experiential reading: doesn’t apply to present time.
Syntax (form) is not enough

Example: English NP-of-NP corresponds to six syntactic forms in Hmong, depending on the **communicative function**.

<table>
<thead>
<tr>
<th>English</th>
<th>Hmong</th>
<th>Hmong Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>some of the students</td>
<td>cov tub-kawm-ntawv ib txha</td>
<td>CLF N ib CLF</td>
</tr>
<tr>
<td>a book of mine</td>
<td>kuv ib phau ntawv</td>
<td>NP ib CLF NP</td>
</tr>
<tr>
<td>a house of bamboo</td>
<td>ib lub tsev-xyoob</td>
<td>ib CLF N N</td>
</tr>
<tr>
<td>the top of the tree</td>
<td>tsob ntoo saab sau</td>
<td>CLF NP CLF NP</td>
</tr>
<tr>
<td>the mother of that student</td>
<td>tug tub-kawm-ntawv hov leej nam</td>
<td>CLF NP CLF NP</td>
</tr>
<tr>
<td>a bottle of liquor</td>
<td>ib fwj cawv</td>
<td>ib CLF NP</td>
</tr>
</tbody>
</table>

(Hmong examples from David Mortensen)
Differences in function drift in related languages
(Croft 1990)

<table>
<thead>
<tr>
<th>Specific indefinite</th>
<th>He broke a vase</th>
<th>Il a cassé un vase</th>
<th>same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific definite</td>
<td>He broke the vase</td>
<td>Il a cassé le vase</td>
<td>same</td>
</tr>
<tr>
<td>Proper name</td>
<td>The concert will be on Saturday</td>
<td>Le concert sera samedi</td>
<td>same</td>
</tr>
<tr>
<td>Specific manifestation of an institution</td>
<td>He went to the bank</td>
<td>Il est allé à la banque</td>
<td>same</td>
</tr>
<tr>
<td>Partitive of a mass noun</td>
<td>I drank wine</td>
<td>J’ai bu du (= de le) vin</td>
<td>different</td>
</tr>
<tr>
<td>Generic mass noun</td>
<td>The French love glory</td>
<td>Les Français aiment la gloire</td>
<td>different</td>
</tr>
<tr>
<td>Specific manifestation of an abstract quality</td>
<td>He showed extreme care</td>
<td>Il montra un soin extrême</td>
<td>different</td>
</tr>
<tr>
<td>Generic of a count noun</td>
<td>I love artichokes</td>
<td>J’aime les artichauts</td>
<td>different</td>
</tr>
<tr>
<td>Generic of a count noun, indefinite number</td>
<td>Birds have wings</td>
<td>Les oiseaux ont des (= de les) ailes</td>
<td>different</td>
</tr>
<tr>
<td>Predicate nominal</td>
<td>He became a soldier</td>
<td>Il est devenu soldat</td>
<td>different</td>
</tr>
<tr>
<td>Specific but indefinite number of a count noun</td>
<td>Dogs were playing</td>
<td>Des (= de les) chiens jouaient</td>
<td>different</td>
</tr>
</tbody>
</table>

**Table 1** Use of articles in French and English (Croft, 1990:6-7)
Variation across languages:
- grammaticalization can be different
- same CFDs

Neha read a book.

नेहा ने किताब पढ़ी।
Neha Erg book read.Perf

Neha read the book.

नेहा ने किताब को पढ़ा।
Neha Erg book ACC read.Perf
The ovals represent the points in semantic space. The outlines each represent the irrealis morpheme in one language, showing what part of the semantic space it covers.

Ferdinand De Haan, “On Representing Semantic Maps”