The grey eminences behind meet and join in some natural languages

DIP Colloquium, Sept. 12, 2014

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- Some of the beautiful things we learn in our first logic class:

  ∪ ∨ ∃ (join)

  ∩ ∧ ∀ (meet)

- Does natural language take note of these generalizations?

  or *some[one/where]* *(a, an)*

  and *every[one/where]* *(all)*

- Judging from English and other well-studied languages, no.

- Many other languages do better. E.g.,

	`A as well as B'	**`everyone'**
Japanese	A-mo B-mo	dare-mo
Malayalam	A-um B-um	aar-um
Sinhala	A-t B-t	kauru-t
Hungarian	mind A mind B	minden-ki
	`A or B'	**`someone'**
Japanese	A-ka B	dare-ka
Malayalam	A-oo B-oo	aar-oo
Sinhala	A-hari B-hari	kauru-hari
	A-də B-də	kau-də
Hungarian	A vagy B	vala-ki
Russian	A libo B	kto-libo

- Note the identity of the morphemes in the ∨/∃ and ∧/∀ columns.
- The meanings match up better, too.

  A-mo B-mo and its cross-linguistic brothers are strictly distributive conjunctions, exactly like *dare-mo* and bros.

  A-ka B and its cross-linguistic brothers (so far as I know) are positive polarity items, exactly like *dare-ka* and bros.
- So, it seems that *-mo* is meet ∩, and *-ka* is join ∪. Similarly for bros.

- But... in many of the cases the particles obligatorily occur on each conjunct/disjunct ("junct" for short). Recall:

  Mal. A-*um* B-*um*, A-*oo* B-*oo*

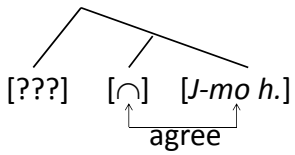
  Sin. A-*t* B-*t*, A-*hari* B-*hari* / A-*də* B-*də*
- Is this semantically significant? Or perhaps just syntactic agreement (concord)?
- Compare the Ladusaw/Zeijlstra view of negative concord and the Kratzer view of existential concord.

- How likely is it that null meet and join operators are syntactically present in the following examples, which have just one junct+particle?

  Not very.
- *John-mo hasitta*

  John-MO ran

  `John, too, ran'



- *gakkoo-ni ik-imas-u ka?*

  school-to go-polite-pres KA ditto

  `(Are you) going to school?'

- Do "John, too, ran" and "Are you going to school?" contain the same *-mo* and *-ka* that occur in coordinations and quantifier words?

- I assume that they are the same *-mo* and *-ka*. Cf.
  - *Italy, too, surrounds CH* ≈ "Italy surrounds CH and something else surrounds CH" (false)
    [irrevocably propositional, i.e. distributive]
  - *Are you going?* ≈ "You are going or you are not going" (not a tautology)
    [inquisitive, i.e. issue-raising]

Proposal

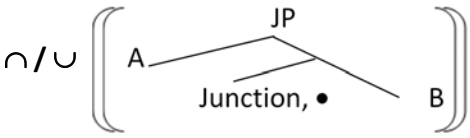
- At least in these languages, ∩ and ∪ are disembodied operations. No particle or connective "expresses" them.
- The particles are semantic, not syntactic, pointers to ∩ and ∪.
  NB Words like *and* are not pointers to ∩.
- Each occurrence of the particle is meaningful and does the same thing. When multiple particles co-occur, they work together.
- (There are various other particles; those point to other disembodied operations.)

- Terminology: Capital KA and MO are generic labels, not specifically Japanese particles.

- **A "semantic pointer" is something that imposes a semantic requirement.**
  Suppose X-KA / X-MO occurs in some "immediately larger" Y (= sentence-internal, textual, or conversational context).
  [[·]] is inquisitive and informative content.

  KA requires [[X]] < [[Y]].
  MO requires [[Y]] < [[X]].

Fleshing out some details. Treatment of coordination partially based on Winter (1995, 1998) and den Dikken (2006).



- Words like *and*, if present, spell out Junction, •.
- By default, ∩ applies to the pair <A,B>.
- MOs on A and B prevent the collective shift from applying to [[A]]∩[[B]], via MO's [[Y]]<[[X]] rqrmt.
- KAs on A and B bleed default ∩, via KA's [[X]]<[[Y]] requirement, and so ∪ applies.

- If the set of alternatives is computed from an open proposition (cf. quantified sentences and wh-questions), then the default is ∪ . Overt MO is required to bleed ∪ and trigger ∩.
- A default operation is one that kicks in even when no overt marker is present. Cross-linguistically,

(i) conjunctions are often unmarked (have no connective), but disjunctions always have KA-particles, and

(ii) indefinites and wh-questions are often unmarked (no Q-particle), but universal quantifiers always have MO-particles.

- Unmarked (asyndetic) conjunction:
  Kati, Mari elaludt. `Kate and Mary fell asleep'
  A man walks in the park. He whistles.
- Unmarked (asyndetic) disjunction, unattested.
  Kate Mary fell asleep. # `Kate or Mary fell asleep'

- Unmarked indefinite/wh-question word:
  Wer mag **was**? `Who likes **what/something**?'
- Unmarked universal quantifier, unattested:
  John likes whom. # `John likes everyone'

See further https://files.nyu.edu/as109/public/szabolcsi_esslli2014/ .