

June 28, 2013

From: Soonja Choi, University Wien

Report to NetWords on Soonja Choi's visit to University College Dublin

## **1. Purpose of the visit;**

The goals of Choi's visit were (1) to meet with the Dublin research group\*; (2) present her work on Motion events and Spatial Categorization; (3) discuss her work with the Dublin group to identify common ground that could offer new insights into understanding universals and language-specifics of Motion event expressions and representing them more accurately and comprehensively than currently available models; (4) discuss relationship between language acquisition and adult grammar in the domain of spatial expressions; (5) seek concrete ways for further collaboration with a view to jointly work on publication and/or launch a grant application.

\*\*The Dublin research group consists of Paolo Acquaviva (the host researcher, University College Dublin), Jamal Ouhalla (linguistics, UCD), Valeria Bandecchi (linguistics, UCD), [Mark Keane (UCD), Eithne Guilfoyle (Dublin City University), Bozena Dubiel (Dublin City University) and Carl Vogel (Trinity College Dublin).

## **2. Description of the work carried out during the visit;**

During the four-day visit to UCD (June 17-20, 2013), Choi gave two presentations of her work and had several discussion sessions with the members of the Dublin team, both individually and with the group. Details are as follows:

### (1) Choi's presentations and summary of group discussions:

#### i. Presentation #1: Choi's collaborative work\* on the development of Motion events expressions.

Choi presented her recent crosslinguistic and collaborative\*\* work on the development of Motion event expressions in English, French, German, Chinese and Korean. (\*\*Maya Hickmann (Language Acquisition and Cognition, Université de Paris VIII, CNRS, France), Anne-Katherine Ochsenaubauer-Harr (Language Acquisition, Ludwig-Maximilians Universität, München, Germany), Eva Freiburger (Linguistics, University Wien, Austria) and Choi have compared development of Motion event expressions across the five languages from the single-word to multi-word periods using both experimental and naturalistic developmental data.)

According to Talmy's typology, Korean and French belong to the same type, i.e. Path language (=verb-framed language) whereas English, German, and Chinese belong to the Manner language type (= satellite-framed language). **However**, Choi and her colleagues' crosslinguistic studies demonstrate that there are significant differences across these languages that are *not* captured by Talmy's typology. For example, Korean differs significantly from French in their morpho-syntactic behaviors for Motion event expressions. On the other hand, Korean is similar to Chinese in that both languages use serial verb construction (SVC) to express Motion events. Furthermore, Korean is unique among the five languages in that it has a large lexicon of adverbs that express Manner of motion. Thus, the crosslinguistic comparisons show significant variation among languages of the same type.

Choi's research team conducted detailed analyses of morpho-syntactic development of Motion event expressions in the five languages (from two years of age to adulthood using both spontaneous speech data and experimental data). Analyses included form-function relationships between types of linguistic devices (e.g., verb, nouns, gerunds, adverbs, prepositions, post-positions) and semantic components of Motion (e.g., Path, Manner, Cause), as well as measuring semantic density of motion-relevant information within the clause.

Results showed clear influence of these language-specific characteristics from the youngest age period (from two years of age): Both Korean and Chinese children used language-specific syntactic features (e.g., SVC) and produced semantically denser utterances than French children. In experimental studies, Chinese children provided denser utterances compared to English and French children. These findings show that language-specific grammar influences children's expression of Motion events from very early on (Hickmann et al., 2009).

#### Group Discussion:

The Dublin group pointed out that Igbo also uses SVC as well as a distinct, V-V-like strategy, as explored in a recent doctoral thesis directed by J. Ouhalla. It was also pointed out that a closer investigation of the link between morpho-syntactic type and cognitive packaging of motion would be desirable, in a crosslinguistic perspective.

In addition, the group discussed that neither Path nor Manner are unitary categories but that they have subtypes. This is apparent in Valeria Bandecchi's work on different types of Manner of motion in Italian and differential processing of Manner of motion in English and Italian. (See Group Discussion of the next section.)

#### ii. Presentation #2: Influence of universal perception/cognition and language-specific semantics in nonverbal categorization of spatial relations.

Choi presented her recent work that teased apart the relative contribution of perception/cognition and language-specific semantics in nonverbal categorization of spatial relations. Languages vary significantly in the way they categorize spatial relationships (e.g., containment, support, attachment, covering). For example, English spatial prepositions distinguish between containment (*in*) and support (*on*). Support (*on*) includes all non-containment relations (e.g., loose horizontal support, vertical support, attachment, covering). In contrast, Korean semantically distinguishes between tight fit (e.g., tight containment, tight covering (*kkita*)) and loose fit (e.g., loose horizontal support (*nohta*)). In Choi & Hatrup (2012), English and Korean speakers completed a video-based similarity judgment task involving containment, support, tight fit, and loose fit. (Participants were first shown a target video and then two choice videos. They were to choose a video that was similar to the target.) The results showed that *both* perception/cognition and language served as resources for categorization. Allocation between the two resources depended on the target relation and the features contrasted in the choices. While speakers of both languages chose on the basis of containment and tight-fit features in many contexts, thus showing perceptual/cognitive salience for the two features, language-specific semantics influenced categorization where the two features (containment and tight-fit) competed for similarity judgment and when the target relation was tight support, a domain where spatial relations are perceptually diverse (e.g., attachment, covering, encirclement). In the latter contexts, each group categorized more in line with semantics of their language, i.e. containment/support for English and tight-/loose-fit for Korean. Thus, the results show that universal perception/cognition and language contribute to spatial cognition in specific and complex ways.

### Group Discussion:

The Group responded that the complex relationship between language and cognition in spatial concepts was also apparent in Valeria Bandecchi's collaborative work (with Mark Keane, UCD). Bandecchi et al. investigated processing of different types of Path and Manner of motion by English (Manner language) and Italian speakers (Path language). Their methodology was to measure reaction times in a Plausibility Judgment task. They found that while both language groups processed Path verbs similarly (i.e. similar reaction times), it was not the case for Manner verbs. In particular, the two language groups differed significantly for those Manner verbs that required complex morphological structure. Thus, Manner verbs do not form a unitary category. There is also evidence (in other work) that Path verbs are of diverse types. The Group discussed possibility of jointly conducting further cross-linguistic examination of diversity of Path and Manner markers.

The Group also discussed exploring the language & cognition interaction in bilingual children. This extension has an intrinsic interest (as the language-dependent factors would seem to cause contrasting conditionings), but the discussion brought out the difficulty caused by hard-to-assess dominance effects of one language on another in the same speaker. Later exchanges identified the possibility to quantify this type of dominance as one of the possible areas of joint research.

### (2) Choi's meeting with Bandecchi

Choi had an individual meeting with Bandecchi and discussed their common findings (see above) in more detail. Bandecchi would like to further her research with Choi to include other languages (e.g., French, German) and to include non-verbal experiments (e.g., nonverbal visual processing of different Manners). She plans to apply for a Postdoctoral Fellowship to spend two years in Vienna with Choi as postdoctoral mentor (3-year fellowship co-funded by Marie Curie Scheme and Irish Research Council). (See Section 4 below)

### (3) Choi's meeting with Eithne Guilfoyle and Bozena Dubiel.

Choi held a meeting with Eithne Guilfoyle and Bozena Dubiel, a doctoral student of Guilfoyle who works on bilingual acquisition (Polish and English) particularly with respect to parental and other caregivers' input. At this meeting, each presented their particular research interests in order to identify possible common projects for the group. As mentioned above, the Group could expand Choi's work to include bilingual children and adults. In addition, the group could expand Guilfoyle & Dubiel's work to include analysis of spatial morphemes in Polish/English bilingual children.

Choi pointed out that her colleagues in her Vienna research group (headed by Wolfgang Dressler) were working on the effect of input and socio-economic status in bilingual children (Turkish-German) growing up in Vienna. Thus, there is much research overlap between Dubiel's current work and the Vienna research Group. It would thus be beneficial for both groups to interact with each other. For this end, Dubiel will plan to attend the next Workshop of the Vienna INPUT project.

### (4) Choi's meetings with Paolo Acquaviva and with the whole group

Choi met with Paolo Acquaviva (the host researcher) and also with the whole group and discussed specifics of our next step: (1) possible collaborative studies the group can conduct together; (2) types of grants to apply for; and (3) types of joint publication and its content. The

results of the discussions are summarized in the Section 3 and 4 below.

### **3. Description of the main results obtained.**

Choi's visit to UCD resulted in narrowing down **possible topics for joint collaboration:**

- i. Detailed crosslinguistic comparisons of morpho-syntactic structure for reassessment of PATH and MANNER categories. This would include studying the crosslinguistic variation in morphological types (nouns, adjectives, verbs, prepositions, adverbs) in expressing basic motion concepts.
- ii. Systematic studies examining the relation between morpho-syntactic types and processing of PATH and MANNER in motion-expressing sentences.
- iii. Investigation of crosslinguistic stability of PATH and MANNER in language acquisition. Specific research questions include: Do PATH and MANNER mean the same things and play the same role in the acquisition of different languages? What do acquisition studies reveal about the importance and representation of these two categories?
- iv. Testing crosslinguistic asymmetries in non-verbal cognition on bilingual speakers. This would include (a) finding tools to estimate and control for the language dominance effect, and (2) study degrees to which language-specific semantics (cf. Choi's work) influence spatial conceptualization in a bilingual speaker.

### **4. Future collaboration with host institution (if applicable);**

Paolo Acquaviva will visit University Wien in November, 2013 to conclude the process and bring it to a concrete fruition, either by finalizing a grant application, or by agreeing on other joint initiatives involving members of the two teams.

Valeria Bandecchi (doctoral student of Paolo Acquaviva) will apply in 2014 (March) for an ELEVATE Postdoctoral Fellowship to spend two years in Vienna with Soonja Choi as postdoctoral mentor (3-year fellowship co-funded by Marie Curie Scheme and Irish Research Council). Her postdoctoral research would include (1) testing other languages (e.g., German, French) on the complex relationship between language and cognition concerning Path and Manner verbs in sentential context, and (2) designing/conducting non-verbal experiments (e.g., nonverbal visual processing of different Manners) to examine possible influence of language-specific structure on nonverbal cognition.

### **5. Projected publications / articles resulting or to result from the grant** (ESF must be acknowledged in publications resulting from the grantee's work in relation with the grant);

- Multi-author book or journal monographic issue, with solicited chapters on motion as a cognitive category.
- Series of short responses from different sub-disciplines to designated journal article on a specific topic related to Motion & Space.

- COST application with a focus on categorization in cognitive and linguistic perspective (<http://www.cost.eu/>).

6. Other comments (if any).