MEANING IN FLUX 2019

CONNECTING DEVELOPMENT, VARIATION, AND CHANGE

OCTOBER 10–12, 2019
LINSLY-CHITTENDEN HALL
YALE UNIVERSITY

ACKNOWLEDGEMENTS

WHY WE ARE HERE

The connections between meanings and the pronunciations through which they are linguistically conveyed vary systematically within a speech community and change systematically over time. Many synchronic and diachronic patterns that instantiate such dynamics have been well described, yet the cognitive and communicative forces that support them—including their discourse-based, linguistic, conceptual, and cognitive components—remain poorly understood. The focus of this conference is to bring together researchers working on one or more of these facets with the aim of connecting development, variation, and change.

Specifically, in this workshop we would like to address the following questions:

(a) To what extent are trajectories of meaning-pronunciation dynamics construable as dynamics that emerge from and are guided by real-time implementation of the architecture of language and the larger cognitive system?

(b) How are the actuation and propagation of these dynamics driven by discourse context and other communicative constraints?

(c) how are the causal relations between the arcs of acquisition/development and change in meaning-pronunciations informed by processing constraints?

We are planning this very much as a retreat, with discussion driven by foundational questions on meaning-pronunciation development, variation, and change, as well as the struggle of messy data. We are seeking to bring together all kinds of perspectives on meaning and phonetics/phonology representation, as well as all experimental and empirical approaches, as exemplified by our invited speakers.

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SCHEDULE OF EVENTS

THURSDAY, OCTOBER 10, 2019

14:30–15:30	**Registration (LC LOBBY)**	

15:30–16:00	Welcome	Remarks by Alan Gerber, Dean of Social Sciences Yale University
		María Mercedes Piñango Yale University

PLENARY TALK I (LC 102)

16:00–17:00	Meaning in the moment	Herbert Clark *Stanford University*

SESSION 1, MODERATED BY VENEETA DAYAL, YALE UNIVERSITY (LC 102) 17:00–18:40

17:00–17:20	Real-time methods for diachronic semantics: The PROG-TO-IMPF shift in Spanish	Martín Fuchs & María Mercedes Piñango *Yale University*
17:20–17:40	Interpreting semantic judgment tests on subjectivity and intersubjectivity	Sayaka Abe *Middlebury College*
17:40–18:00	Two cross-linguistic studies on the acquisition of definiteness and Theory of Mind	Paula Rubio-Fernández *Massachusetts Institute of Technology*
		Vishakha Shukla *Shroff Hospital Delhi*
		Madeleine Long *University of Oslo*
		Fatoumata Jallow *The Gambia College*
		Marta Bialecka-Pikul *Jagiellonian University*
		Julian Jara-Ettinger *Yale University*
18:00–18:40	Discussion	

18:40–20:30	**Reception (LC FOYER)**	

SCHEDULE OF EVENTS

FRIDAY, OCTOBER 11, 2019

8:30–9:20	**Breakfast (LC FOYER)**	

<div align="center">PLENARY TALK II (LC 102)</div>

9:20–10:20	Genericity and (in)definiteness: A cross-linguistic perspective	Veneeta Dayal *Yale University*

<div align="center">SESSION 2, MODERATED BY JOSH PHILLIPS, YALE UNIVERSITY (LC 102) 10:20–11:30</div>

10:20–10:40	Pragmatic and semantic influences on nominal morphosyntax in Kwéyòl Donmnik: Insights from information status, specificity, and deixis	Joy Peltier *University of Michigan*
10:40–11:00	Exemplar-driven Categorial Grammar as a framework for studying the dynamics of semantic change	Emanuel Quadros *Yale University*
11:00–11:30	Discussion	
11:30–12:00	**Lunch (LC FOYER)**	

<div align="center">PLENARY TALK III (LC 101)</div>

12:00–13:00	When meaning changes reflect conceptual change; the possibility (and actuality) of episodes of conceptual construction over time.	Susan Carey *Harvard University*
13:00–13:20	**Coffee**	

<div align="center">SESSION 3, MODERATED BY MARÍA MERCEDES PIÑANGO, YALE UNIVERSITY (LC 101) 13:20–15:00</div>

13:20–13:40	Social meaning in sales interaction at a multilingual urban street market	Britta Schulte & Irem Duman *University of Potsdam*
13:40–14:00	Acquiring sociophonetic variation in the globalized world: Style-shifting and metalinguistic awareness of Polish-English-speaking adolescents in the UK	Kinga Kozminska *Birbeck College* Hua Zhu *University of London*

SCHEDULE OF EVENTS

FRIDAY, OCTOBER 11, 2019

14:00–14:20	Comprehension of underspecified meaning and the impact of individuals' autistic traits	Yao-Ying Lai & Michiru Makuuchi *National Rehabilitation Center for Persons with Disabilities, Japan* María Mercedes Piñango *Yale University* Hiromu Sakai *Waseda University*
14:20–15:00	Discussion	
15:00–15:20	**Coffee & Dessert**	

15:20–15:40	Toddlers both hear and recognize polysemous word meanings: Corpus and eye tracking evidence	Sammy Floyd *Princeton University* Libby Barak *Rutgers University* Adele Goldberg & Casey Lew-Williams *Princeton University*
15:40–16:00	The effect of bilingualism and bi-dialectalism on irony	Kyriakos Antoniou & George Spanoudis *University of Cyprus*
16:00–16:30	Discussion	
16:30–16:50	**Coffee & Snacks**	

16:50–17:10	The development of metonymic comprehension as the growth of context-construal ability	Muye Zhang, María Mercedes Piñango & Jisu Sheen *Yale University*
17:10–17:30	Partial Meanings	Eve V. Clark *Stanford University*
17:30–18:00	Discussion	
18:30–20:30	**Dinner (Luce Hall)**	

SCHEDULE OF EVENTS

SATURDAY, OCTOBER 12, 2019

8:30–9:00	**Breakfast (LC FOYER)**	

9:00-10:00	The listener's dilemma: Interpreting speaker meaning from prosody under variable encoding	Jennifer Cole *Northwestern University*

SESSION 6, MODERATED BY JASON SHAW, YALE UNIVERSITY (LC 101) 10:00–11:40

10:00–10:20	The relationship between syntactic distributions and prosodic position	Nick Lester *University of Zurich* Argyro Katsika *University of California, Santa Barbara*
10:20–10:40	Prosodic de-emphasis under non-identity: In support of a pragmatic account	Jeffrey Geiger & Ming Xiang *University of Chicago*
10:40–11:00	Meaning-intonation mapping in flux: Navigating variability through talker-sensitive adaptation	Andrés Buxó-Lugo & Chigusa Kurumada *University of Rochester*
11:00–11:40	Discussion	
11:40–12:00	**Coffee & Snacks**	

SESSION 7, MODERATED BY SARAH BABINSKI, YALE UNIVERSITY (LC 101) 12:00–13:10

12:00–12:20	Accommodation to observed vs. expected behavior in an alien language	Lacey Wade & Gareth Roberts *University of Pennsylvania*
12:20–12:40	Behavior of homophones does not support irregular phonological change	Chelsea Sanker *Yale University*
12:40–13:10	Discussion	
13:10–13:30	**Lunch (LC FOYER)**	

SCHEDULE OF EVENTS

SATURDAY, OCTOBER 12, 2019

13:30–13:50	Negation in flux: A negative concord stage in child English	Kathryn Davidson *Harvard University*
13:50–14:10	Does a communicative partner's behavior affect children's informativeness?	Myrto Grigoroglou & Patricia Genea *University of Toronto*
14:10–14:40	Discussion	
14:40–15:00	**Coffee & Dessert**	
15:00–16:00	One role for individual differences	Language & Brain Lab *Yale University*
16:00–17:00	**Panel Discussion**	Susan Carey *Harvard University* Herbert Clark *Stanford University* Jennifer Cole *Northwestern University*
17:00–21:00	**Party (Pierson College Fellows' Lounge)**	

INVITED SPEAKERS

Meaning in the moment
Herbert Clark, *Stanford University*

Genericity and (in)definiteness: A cross-linguistic perspective
Veneeta Dayal, *Yale University*

When meaning changes reflect conceptual change; the possibility (and actuality) of episodes of conceptual construction over time.
Susan Carey, *Harvard University*

The listener's dilemma: Interpreting speaker meaning from prosody under variable encoding
Jennifer Cole, *Northwestern University*

Real-time methods for diachronic semantics: The PROG-to-IMPF shift in Spanish

Martín Fuchs & María Mercedes Piñango, *Yale University*

We report two self-paced reading tasks in three dialectal varieties of Spanish. Study 1 shows that to express an *event-in-progress* reading, besides the Present Progressive marker, Iberian and Argentinian participants allow the Simple Present when interlocutors **share perceptual access**. Contrastively, in Mexican Spanish, share perceptual access no longer plays a role in improving the comprehension of this marker. The pattern observed across dialects is consistent with a model of variation embedded in a communicative system subject to tensions between Common Ground and Theory of Mind: while *Common Ground* affords the speaker greater reliance on context, *Theory of Mind* forces her to be linguistically explicit.

Study 2 shows that, with respect to the expression of the *habitual* reading, besides the use of the Simple Present, Argentinian and Iberian speakers allow Present Progressive-marking when contextual information satisfies the presuppositional demands of *estar*, the auxiliary in the progressive periphrasis. Contrastively, Mexican speakers do not need this contextual support. This pattern is consistent with a *generalization* process already underway in the three dialects, with the Mexican variety appearing further along the Progressive-to-Imperfective shift. This process of change is driven by the combined lexico-semantic properties of the Present Progressive marker.

Interpreting semantic judgment tests on subjectivity and intersubjectivity

Sakaya Abe, *Middlebury College*

The purpose of this presentation is to illustrate the cognitive and communicative factors that involve the emergence of subjective and intersubjective meanings. Either or both of these types of meanings can occur simultaneously with non-subjective meaning in a single occurrence, rather than strictly one sense at a time. This semantic characteristic is the result of diachronic processes, subjectification and/or intersubjectification as a type of semantic/functional extension and is thus best characterized in terms of layers of meanings, or possibly, semantic change in progress. The present talk sheds light on the role of hearers, who, as potential speakers themselves, may project their linguistic intuition onto others' language usage. It presents the method and results of a set of semantic judgment tests on Japanese grammaticalized constructions (conducted in 2016). The test can be used to complement other more common approaches, such as corpus analyses. I will highlight the informants' thought processes as depicted through comments from follow-up interviews, including "ambiguous" cases, in which different informants chose different answers or in which a single informant had difficulty coming up with an answer. It will be shown that these answers and comments offer valuable information for analyzing (inter)subjectification and meaning in flux.

THURSDAY

Two cross-linguistic studies on the acquisition of definiteness and Theory of Mind

Paula Rubio-Fernández, *Massachusetts Institute of Technology*

Vishakha Shukla, *Shroff Hospital Delhi*

Madeleine Long, *University of Oslo*

Fatoumata Jallow, *The Gambia College*

Marta Bialecka-Pikul, *Jagiellonian University*

Julián Jara-Ettinger, *Yale University*

We present two cross-linguistic studies looking at the relationship between pragmatics and Theory of Mind (ToM). We hypothesize that the acquisition of pragmatic markers such as the definite-indefinite distinction (e.g., 'Sue bought a car' vs. 'Sue bought the car') may boost ToM development by requiring that children monitor common ground (e.g., the distinction between new and old information). In this view, the acquisition of pragmatics may train children's ToM abilities, but need not determine them; that is, monitoring common ground does not depend on speaking a language that marks definiteness. However, our hypothesis predicts cross-linguistic differences in the time course of ToM development. For example, complex article systems may take longer to acquire, but in this process, children start monitoring common ground. This benefit would justify not only their protracted acquisition, but potentially the evolution of more complex article systems during language change.

The results of our studies offer preliminary support to our hypothesis, showing how different article systems have different 'Theory of Mind affordances' for the derivation of epistemic inferences (E1: 7yos and adults in Hindi, Polish and Spanish), but also different acquisition times relative to adult language (E2: 5yos and adults in English, Hindi, Mandinka and Spanish).

Pragmatic and semantic influences on the architecture of nominals in Kwéyòl Donmnik: Insights from information status, specificity, and deixis

Joy Peltier, *University of Michigan*

Exploring nominal items in French-influenced creoles (FICs) like Kwéyòl Donmnik (KD) poses many challenges. Notable among them are (1) speakers' variable use of both definite and demonstrative markers to express deixis and (2) speakers' semantically flexible usage of bare nouns (BNs).

Canonically, KD is described as having definite and indefinite determiners *(l)a* 'the' and *yon* 'a/an' and a demonstrative marker *sa* 'this/that' that co-occurs with *la*, while BNs are reserved for generic, unique and bare plural nouns. However, in discourse, speakers use *la*, *sa-la*, and the construction *la-la* in deictic contexts, and usage of BNs is semantically flexible.

Using conversations and wordless picture book narrations contributed by six KD speakers in London, UK, this study pursues the possibility that information status (newness to the discourse/hearer), specificity, and deictic type (spatial, temporal, etc.) play a key role in KD speakers' production of deictic expressions and BNs.

This research explores the interfaces between semantics, pragmatics, and morphosyntactic architecture. Ongoing analysis suggests that speakers may choose a deictic structure based on the type of deixis being expressed as well as the referents' information status. Also, speakers appear more likely to produce a BN when the referent has a specific identity and is discourse/hearer-old.

Exemplar-driven Categorial Grammar as a framework for studying the dynamics of semantic change

Emanuel Quadros, *Yale University*

In this talk I propose a formal framework in which the dynamic course of semantic change can be investigated in relation to context and the social structure of a population of language users. Expanding on previous work on grammaticalization, subjectification and the role of implicatures in semantic change (Traugott 1989, Kearns 2010), I suggest that meaning inferences can be conventionalized through the accrual of episodic traces of a linguistic construction in contexts that favor the original inference. This framework's novelty is in the coupling of an exemplar-theoretic model of lexical storage and retrieval with a Combinatory Categorial Grammar theory of the morphosyntax-semantics interface. The inclusion of structured grammatical information in the memory representation of linguistic events allows the gradual association of new meaning components with subparts of a linguistic construction, like affixes, whose expression of such components of meaning can take a life of its own. The

model will be discussed with reference to the competition between the Portuguese suffixes -*eza* and -*ice*, both of which have formed abstract nouns from adjectives since the early stages of the language. While both of them are still productive, the latter has found a niche as a pejorative suffix.

Social meaning in sales interaction at a multilingual urban street market
Britta Schulte & Irem Duman, *University of Postdam*

Street markets, such as the Maybachufer market in Berlin-Neukölln, constitute highly diverse and fluid settings with a large range of interlocutors of different socio-cultural backgrounds and linguistic resources. For successful communication, interlocutors need to negotiate linguistic and social aspects of their interactions including social meaning. Sellers at the Maybachufer market use a wide variety of forms of address and languages to facilitate and achieve successful sales interactions. Initial analyses of our data, collected as part of a larger project, point to complex patterns of (co-) constructing identities and indexing different types of belonging, contributing to the social meaning that emerges as part of such interactions. In particular, we suggest that sellers' choice of (1) different forms of address (e.g. abla (Turkish 'elder sister'), Madame or Schwester (German 'sister'). and (2) different languages of communication is based on assumptions of customers' ethnic belonging, including their religious background, and this seems to be triggered by customers' physical appearance and by their language accent. We will discuss what such (socio-)linguistic choices mean and how the fluid social meaning in such identity constructions facilitates a successful sale and provides us with insights into the dynamics of multilingual and multiethnic settings.

Acquiring sociophonetic variation in the globalized world: Style-shifting and metalinguistic awareness of Polish-English-speaking adolescents in the UK
Kinga Kozminska, *Birbeck College*
Zhu Hua, *University of London*

This paper examines how adolescents born to migrant parents in Britain acquire and mobilise ways of speaking and sociophonetic variation to index their own socio-cultural values. By examining style-shifting practices (Eckert 2000, Zhang 2001, Podesva 2007) video-and audio-recorded during long-term linguistic ethnographic fieldwork in a single-parent family with a 14-year-old daughter in Greater London in 2017-2019, we demonstrate how the girl employs phonetic resources (e.g. VOT, vowel length) and exhibits metalinguistic awareness of indexical properties of sociophonetic variation. We consider her performance in relation to family members' input, age, social recognition of the variable, activity type, discourse context, etc. The paper contributes to discussions on language development and meaning-pronunciation dynamics emerging from real-time use of sociophonetic

variation in the globalized world. We offer preliminary implications of the findings for the architecture of language and the larger cognitive system.

Comprehension of unstated meaning and the impact of individuals' autistic traits

Yao-Ying Lai & Michiru Makuuchi, *National Rehabilitation Center for Persons with Disabilities, Japan*
María Mercedes Piñango, *Yale University*
Hiromu Sakai, *Waseda University*

We investigated the processing of unstated iterative meaning in expressions like "*jumped for 20 minutes*" in Japanese, crossing two Verb Types (punctual: *jump* vs. durative: *jog*) and Intervals denoted by *for*-adverbials (short: 20 minutes vs. long: 2 months). In addition, we examined the impact of individuals' autistic traits, measured by Autism-Spectrum Quotient (AQ), on sentence comprehension.

Sample sentences:
The athlete [jogged | jumped] for [20 minutes | 2 months] at the gym...

Results of Naturalness rating show that the perceived naturalness decreased as a function of meaning uncertainty: "*jogged for 20 minutes*" > "*jumped for 20 minutes*" > "*jogged for 2 months*" > "*jumped for 2 months*". The self-paced reading results show (i) a main effect of Interval (long > short) & (ii) an Interval x Verb Type interaction in the High-AQ group after both the verb and the *for*-adverbial are encountered, and (iii) a main effect of AQ group (high > low) at the sentence-final region. These suggest that **(a)** comprehending unstated meaning requires a conceptual-contextual search—regardless of verb type—to partition the intervals denoted by for-adverbials. Moreover, **(b)** meaning comprehension is impacted by individuals' autistic traits.

Toddlers both hear and recognize polysemous word meanings: Corpus and eyetracking evidence

Sammy Floyd, *Princeton University*
Libby Barak, *Rutgers University*
Adele Goldberg & Casey Lew-Williams, *Princeton University*

Languages reuse words to identify multiple, related meanings—a pervasive phenomenon called polysemy. In English, between 40–80% of words have multiple meanings. However, accounts of word learning almost uniformly assume one-to-one mappings between words and meanings, inadvertently predicting that children should struggle to learn polysemous words. We used two methods to evaluate: (1) whether toddlers are exposed to multiple meanings by using topic modeling on CHILDES corpora; (2) to what extent toddlers recognize multiple meanings in an eyetracking experiment.

Together, this joint computational/experimental investigation found that

children are exposed to multiple meanings of common words from the earliest stages of word learning, and have learned to recognize them. This suggests that the nature of everyday word use requires very young children to track and store multiple possible associations in a network of distinct, but related, meanings.

The effect of bilingualism and bi-dialectalism on irony comprehension
Kyriakos Antoniou & George Spanoudis, *University of Cyprus*

We examined the effect of bilingualism on irony interpretation and processing in young adults. Thirty-three bilinguals (in Greek and another language), 52 bi-dialectals (in Standard Modern Greek and Cypriot Greek) and 29 monolinguals (in Standard Modern Greek) were given: (1) An irony test in Standard Modern Greek (SMG), where, for ironic items, the speaker provided a positive reply to mean the opposite with a teasing and critical intent. Participants watched videos where target statements could be literal or ironic and were accompanied by different cue(s) (Context, Intonation, Intonation + Face, Context + Intonation + Face). (2) A SMG vocabulary test. (3) A general intelligence test. (4) Three socioeconomic status (SES) indicators. There were no group differences in SES or general intelligence, but monolinguals had a higher SMG vocabulary than the other groups. We found some evidence that irony is more demanding than literal meanings and is facilitated when more than one ironic markers are present. Nevertheless, there were no group differences in irony (accuracy or reaction times). We discuss these findings with respect to theories of irony and in the context of a recent proposal that bilinguals have a single, language-independent pragmatic system that develops and functions similarly to monolinguals.

The development of metonymic comprehension as the growth of context-construal ability
Muye Zhang, María Mercedes Piñango & Jisu Sheen, *Yale University*

We investigate the developmental trajectories (ages 3–12) of systematic (*"All students read Wickstrom in sixth grade"*) and circumstantial (*"The pepperoni wants more soda"*) metonymy. Both types share an underlying stand-for relation between the explicit entity (Wickstrom/pepperoni) and an implicit one (book/orderer), yet differ in the degree of contextual support each needs. Contrasting previous work, we hypothesize that children comprehend metonymy in an adult-like manner, when contextually supported, from an early age; however, what constraints children's metonymy comprehension is an immature ability to construe, in real-time, **novel** contexts to license the relation, rather than a global Theory-of-Mind deficit.

In Study 1, self-paced reading times showed that children exhibited the same procssing profiles as adults, suggesting that when supported by context, children can indeed comprehend metonymy in an adult-like fashion.

FRIDAY

In Study 2, the degree to which children were able to build metonymy-licensing contexts was predicted by their LIFE-EXPERIENCE (age) and CONTEXT-SENSITIVITY (AQ); context-construal ability improved with more life-experience as well as higher context-sensitivity, implicating language-independent and age-independent difficulties, along with experience, in the process of metonymy comprehension.

Partial Meanings

Eve V. Clark, *Stanford University*

We assume that, when speakers use language, they draw on conventional meanings shared with their interlocutors. But to communicate, people need not have identical or fully specified representations for the terms they use. They need only to *know enough* of the speaker's intended meaning to get by.

What counts as *enough*? People need to be able to identify the domain talked about, and the general type of object, action, or relation, so they can make appropriate inferences about the speaker's intention. Adults may 'know' some words for trees (e.g., *beech*, *willow*), yet be unable to identify instances of the actual trees referred to. Their meanings for these terms are only partial meanings: They have identified only the domain (trees). The same holds for many domains—birds (*linnet*, *stonechat*), sailing (*caulk*, *tack*), architecture (*corbel*, *dado*), and technical vocabulary in many other areas. And when listeners don't know and can't infer what a speaker means, they ask for clarification.

Partial meanings are typical for children just beginning to map meanings to word-forms. Acquiring the conventional meaning of a word takes extensive experience before children establish the domain as well as any relations within it as they map some meaning to each word-form.

The relationship between syntactic distributions and prosodic position

Nick Lester, *University of Zurich*
Argyro Katsika, *UC Santa Barbara*

A prominent theory of efficiency in speech production – the Smooth Signal Redundancy Hypothesis (SSRH) – suggests that lexical-syntactic redundancy (i.e., the predictability of words and syntactic units in context) is negatively correlated with prosodic redundancy (i.e., duration, Fo, etc.). Other research shows that the aggregate syntactic distributions of words are related to prosody: words that are more broadly and typically distributed across syntactic constructions have shorter durations wherever they surface. The present study asks whether these primarily lexico-syntactic effects interact with broader, primarily prosodic effects. Per the SSRH, we expect words that have longer durations for lexical reasons (high syntactic redundancy) will prefer less prominent positions in prosodic phrases (low prosodic redundancy). We test this hypothesis in a time-aligned corpus American English. Lexico-syntactic redundancy is operationalized two ways: (1) the entropy of the frequency distribution of a word across syntactic dependencies and (2) the typicality of this distribution. Results show that entropy predicts position, such that high entropy words prefer to occur in less prominent prosodic positions. Typicality affects duration, but only in prosodically less prominent positions. These results confirm the higher order trade-off between lexico-syntactic and prosodic redundancy predicted by the SSRH.

Prosodic de-emphasis under non-identity: In support of a pragmatic account

Jeffrey Geiger & Ming Xiang, *University of Chicago*

Anaphoric deaccenting of constituents that do not have an identical correlate in a linguistic antecedent, but are inferable from an antecedent constituent, is widely reported in the literature. It is not clear whether this deaccenting is licensed readily by the presence of a semantic antecedent in the discourse at large, or by the more costly operation of accommodating a covert antecedent with an identical correlate. Phonetic (Experiment 1) and phonological (Experiment 2) analysis of productions of discourse-new, -inferable, and -repeated verbs showed that discourse-new and inferable verbs were produced with similar emphasis to the exclusion of repeated verbs, which were deaccented. In perception, listeners found deaccented inferable verbs as infelicitous as deaccented new verbs in out-of-the-blue contexts to the exclusion of repeated verbs (Experiment 3). With a supportive context construing the antecedent verb and the inferable target verb as pragmatically identical, the felicitousness difference between all conditions collapsed (Experiment 4). Discourse-inferable verbs are deaccented less readily in production, and judged less felicitous in perception, than is predicted by the semantic antecedence account, suggesting that the accommodation account is a stronger candidate.

Meaning-intonation mapping in flux: Navigating variability through talker-sensitive adaptation

Andrés Buxó-Lugo, *University of Maryland*
Chigusa Kurumada, *University of Rochester*

Understanding spoken language includes mapping subtle variations of intonation (e.g., pitch, duration, intensity) to meanings intended by the talker. Rising vs. falling intonation contours signaling the speaker's indented speech acts (e.g., asking a question vs. making a statement) has been widely recognized as a primary example of this intonation-meaning mapping. However, perceptible features of intonational input vary across contexts (e.g., talkers, dialects, speaking conditions) as well as syntactic constructions (e.g., polar vs. declarative questions), creating ubiquitous ambiguity in this mapping. In this talk, we propose that listeners navigate this ambiguity by drawing on their expectations about underlying distributions of acoustic features. We first present a large-scale production study (including 57 talkers) to characterize the cross-talker variability in question vs. statement intonations in English. We then demonstrate that the listener can learn to adapt their expectations about the intonation-meaning mapping for a particular talker. The adaptive mapping reflects distributional statistics of relevant acoustic cues observed in a current context as well as listeners' prior expectations about how these acoustic cues are generally distributed. We conclude that the rich and dynamic representations of intonational speech prosody allow listeners to infer the most likely meaning-intonation mapping given the characteristics of the input.

Accommodation to observed vs. expected behavior in an alien language

Gareth Roberts & Lacey Wade, *University of Pennsylvania*

Individuals converge linguistically with interlocutors, targeting not only observed, but also expected, linguistic behavior. But how do they adjust when observation contradicts expectation? We investigated this using a cooperative map task, in which 108 participants communicated in pairs using an "alien language". Each member of a pair learned a different variety of the alien language, with [p] in one variety corresponding to [f] in the other. Only one participant in each pair was told about this variation. Participants then did the map task, typing messages in the alien language to lead each other around a map. There were three phases. and participants were led to believe they had a new partner for each phase. In fact it was the same partner, but the phases varied with respect to whether expected behavior aligned with actual behavior. Expected behavior was manipulated by telling participants what species their new partner was; observed behavior was manipulated by the server. We found that participants converged to expectations, even when contradicted by observed behavior, but that observed behavior influenced the degree of convergence and informed expectations for subsequent partners. Findings are consistent with observations on natural language and contribute to our understanding of linguistic accommodation.

Behavior of homophones does not support irregular phonological change
Chelsea Sanker, *Yale University*

In addition to regular phonological processes, words can exhibit phonetic differences based on factors such as lexical frequency and part of speech. If such differences are part of the representation, they could be phonologized and produce irregular changes. So why are irregular phonological developments not more common? To address this question, I present two studies investigating the representations of homophones: an AX task and an identification task.

Homophone mates uttered within sentences exhibit some phonetic differences; while greater phonetic distance increases response times in AX tasks, listeners still perceive homophone mates as being the same. Moreover, these phonetic differences are absent when the same words are produced in isolation, suggesting that the differences are due to the production context and are not part of the representation. In identification, listeners were only slightly above chance for discriminating between homophone mates extracted from sentences, suggesting weak associations based on experience hearing words in context, and were entirely unable to discriminate between homophone mates produced in isolation.

These results suggest that acoustic details within homophones do not enter the phonological representation, although they may have a small impact on lexical retrieval, so they are unlikely to result in lexically specific phonological changes.

Negation in flux: A negative concord stage in child English
Kathryn Davidson, *Harvard University*

Children are typically considered to acquire negation-sensitive words like English any early and accurately. I argue here based on corpus data and pilot experimental data that this is almost true, except I hypothesize that prior to their adult-like interpretation of any as a negative polarity item, children take any to be a negative quantifier (roughly: none) that combines with sentential negation (when it appears) in a concord-like relationship. That children have a bias toward interpreting two negative items as concord over "double negation" readings has been shown for straightforwardly negative elements in English (Thornton, Notley, Moscati, & Crain 2016) and in languages that allow both possibilities in the adult grammar, like Japanese (Sano, Shimada, & Kato 2009), so this fits into a known acquisition pattern. It also provides a possible acquisition explanation behind a well-known pattern of historical changes known as "Jespersen's Cycle" in which sentential negation and a constituent in its scope become reanalyzed so that the second element becomes a new marker of sentential negation. I will also discuss possibilities for generalization about children's tendency toward concord over double interpretations in the case of other double markings/ repeating morphemes with similar meaning (more bigger, have boughten).

SATURDAY

Does a communicative partner's behavior affect children's informativeness?

Myrto Grigoroglou & Patricia Genea, *University of Toronto*

Communication is a collaborative effort governed by rational expectations. However, in everyday interactions, speakers often violate these expectations (e.g., by offering less information than required). Although children, as comprehenders, are sensitive to such violations, how they would respond to them in a reciprocal conversational setting is currently unknown. Here, we ask whether children tailor their own informativeness based on the informativeness of an interlocutor in a prior interaction. In an informativeness rating task, 4-and 5-year-old children were asked to locate hidden stickers by following two puppets' instructions (one puppet always gave informative instructions; the other always under-informative instructions), and rate each puppet's helpfulness. Then, in a referential communication task, roles were reversed, and children helped either the informative or the under-informative puppet uniquely identify a target object from a contrastive set by using the appropriate modifier (e.g., blue vs. yellow backpack). Preliminary results, similarly to prior research, show that children's ratings are sensitive to each puppet's informativeness. Furthermore, children mention modifiers more frequently when they interact with the informative than the under-informative puppet. Our findings demonstrate that children are not only sensitive to violations of informativeness but also use this partner-specific information to guide their own linguistic behavior.

Meaning in the moment
Herbert Clark, *Stanford University*

What a speaker means by an utterance in situ, I argue, is anchored to various entities in the speaker and addressees' current common ground. These entities typically include not just the utterance itself, but the identities of the speaker and addressee, the place and time of the utterance, and the speaker's purpose in producing the utterance there and then. This view is needed to account for a speaker's meaning in the moment. In the first part of my talk, I consider novel uses of conventional words, deictic expressions, and performed depictions, and in the second part, the meaning of actions in the speaker's and addressees' co-production of an utterance. The idea is that what a speaker means on a specific occasion cannot be reduced to the conventional meanings, if any, of the expressions the speaker produces.

Genericity and (in)definiteness: A cross-linguistic perspective
Veneeta Dayal, *Yale University*

Our views of genericity, a universal semantic concept, are largely shaped by English, the language in which genericity was first studied. Our views on (in)definiteness, also a universal concept, are also influenced by English where the study of the indefinite-definite distinction has its roots. While these concepts are universal, their expression is subject to significant cross-linguistic variation. In this talk, genericity and (in)definiteness are considered from the perspective of languages different from English. We look at languages without articles and establish that, appearances notwithstanding, bare NPs in such languages are not bona fide indefinites. Their indefinite readings are derivative on their kind-level meanings, except in specific syntactic positions such as the direct object position. We also look at languages in which kind-terms are obligatorily or optionally definite, not only in the singular but also in the plural. We focus on the well-known fact that such NPs differ from English bare plurals in not having indefinite readings in episodic contexts. Both phenomena highlight the difference between overt exponents of genericity or (in)definiteness versus covert options that achieve the same or similar results.

This cross-linguistic perspective is used to probe the triptych of overt/null/expletive determiners that are used in current theory to establish reference to individuals and kinds. It also probes the role of covert type shift versus null/overt lexical exponents of the same to probe presuppositions associated with such reference.

When meaning changes reflect conceptual change; the possibility (and actuality) of episodes of conceptual construction over time
Susan Carey, *Harvard University*

One premise of the Meaning in Flux workshop is "the connections between meanings and pronunciations vary within a speech community and change systematically in time." I endorse this premise and will address the question of how meanings mapped to a single lexical item may vary. I provide arguments for, and evidence for, episodes of two kinds of radical change over time, each of which result in representational resources that can express meanings that were not expressible at the outset of the change. That is, I distinguish between meaning fluxes that involve changes in mappings between antecedently available concepts and pronunciations, on the one hand, from meaning fluxes which involve building new systems of meanings, on the other. I illustrate with examples from mathematical language (concepts of integers and fractions that result in increases of expressive power), and within theory changes (concepts within intuitive biology that involve incommensurability).

PLENARY TALKS

The listener's dilemma: Interpreting speaker meaning from prosody under variable encoding
Jennifer Cole, *Northwestern University*

In English, and certain other languages such as German and Dutch, meaning related to information structure (including alternatives-focus and discourse-givenness) is conveyed through acoustic prominence and pitch accenting. A standard account is that a focused word is assigned a high-rising pitch accent as the rightmost ("nuclear") accent in the prosodic phrase, while in sentences without a focused word, the final content word in the prosodic phrase is assigned a high pitch accent if it is discourse-new, and a low or falling pitch accent if it is given or inferable from the discourse context. Additional prenuclear accents are optional and are described as "ornamental" and unrelated to information structure. While example sentences illustrating these pitch accent patterns can be constructed, experimental validation of these patterns of pitch accenting has been elusive. The findings from prosody production experiments in my lab and elsewhere show a weak-to-moderate probabilistic encoding of information structure through pitch accenting and gradient prominence. This talk considers how variation in the prosodic encoding of information structure affects listeners' interpretation of sentence meaning. I discuss three recent studies from my lab that examine listeners' comprehension of information structure in relation to pitch accenting and acoustic prominence in American English.

The findings reveal (i) striking listener uncertainty in interpreting prominence and pitch accent in the absence of a constraining discourse context; (ii) delayed or failed processing of pre-nuclear pitch accents as cues to information structure meaning; (iii) flexible interpretation of pitch accent depending on which meaning dimensions are salient in the discourse. Together, these findings suggest that listeners interpret prosody variably, as a joint function of prior experience and the local communication setting or discourse context. Considering implications from these findings for a theory of prosodic meaning, I propose that the core function of pitch accents in American English lies not in the direct encoding of information structure meaning, but rather as an attentional device, marking local peaks in acoustic prominence on words that are local (phrase-and utterance-level) information peaks, as determined by the speaker.

The phonetic expression of a prominence peak depends on its linear sentence position and the prominence scaling of other words in the phrase, and when the discourse context of an utterance is not explicit, listeners have wide latitude in whether and how to interpret prominence in relation to information structure meaning. I end on a speculative note, considering the conditions by which a more narrowly specified, grammatically fixed meaning function of pitch accent may emerge from the core attentional function proposed here.

DESIGN

Justin Moore (Yale College '15, Linguistics)

Justin currently works as a product designer and Spanish-language copyeditor at Amplify Education and freelances in translation and graphic design, most recently having worked with the NYU Development Office, Rizzoli Books, and SpanishDict.com.

His update to the mark for the conference, which continues to draw inspiration from the black-and-white illustrations of Italian constructivist Franco Grignani, reflects the ever-fluctuating nature of language and semantic change.