Keio-ICU LINC 2020: Abstract booklet[*]

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[*]SK and SH share first authorship for this booklet, although SH is solely responsible for the prosody series (§4) and SK just enjoyed watching the videos. The real acknowledgement statements are found in the Foreword section.

Foreword

The Keio-ICU LINC Series is an online colloquium series that we organized during the COVID-19 pandemic to facilitate international communication between scholars in Asia and those in other parts of the world. Hoping that the contents of the lectures are useful as teaching/learning resources, all the lectures were recorded and made viewable on YouTube. This booklet lists the title and the abstract of—and YouTube link to—all the talks that were given in 2020.[1] For these series, we primarily asked scholars in their early career to give a talk, although from time to time, some exceptions were made (e.g. Barbara Partee).[2] We also contributed one talk each at the end of Season 2, with each other as the sole live audience.

We hope to continue these online colloquium series in 2021. As of December 2020, four talks are already scheduled. For updates, please check out our website at `https://sites.google.com/info.icu.ac.jp/linglab/projects/iculinc`. Once you register, you will be given automatic updates about upcoming talks.

All the videos should be viewable at ICU LINC Youtube Channel: `https://www.youtube.com/channel/UCENIXAFDRt4Jy9UlTEw8AWQ/videos`. Each abstract below comes with its own link to the YouTube video.

If you have any questions or suggestions about this event, please email us at linglab@icu.ac.jp. Nominations for speakers for the series in 2021 are also welcome.

Some videos will only be publicly available until about March 31, 2021. If you are unable to watch the video that is not publicly available, please send an email to linglab@icu.ac.jp to request for a link.

- Shin Ishihara
- Sara Myrberg
- Chikako Takahashi
- Fatima Hamlaoui

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[1]Some typographical errors may have been introduced as we converted the original abstracts into this LaTeX document. SK and SH are solely responsible for these errors. But please be forgiving. We have other things to worry about, especially during the pandemic.

[2]As aptly pointed out by Michael Becker (p.c.), however, Barbara is younger than Gottlob Frege.

We hope that you will (re-)enjoy the videos.

Happy 2021 to all of you.
Shigeto Kawahara & Seunghun J. Lee

1 ICU LINC: Current trends in the interface between phonetics and phonology

Held virtually at ICU in May 2020, organized by Seunghun J. Lee. The idea of continuing on with online events was suggested during the general discussion section.

1.1 Christian DiCanio (SUNY Buffalo)

"Beyond tonogenesis: The role of speech reduction and redundant cues in the diversification of Otomanguean tonal systems"
https://youtu.be/sPHnL771cu8

Though a growing body of research has investigated the recent evolution of incipient tones (tonogenesis), tones in Otomanguean languages continue to diversify and their conditioning environments can be synchronically observed by examining low-level variation in production in closely related language varieties. In this talk, I examine how processes of speech reduction co-occur with patterns of tonal variation within two distantly-related Mixtecan languages. In the first study, we examined the effects of prosodic boundaries on tone production in Yoloxóchitl Mixtec. We observe a process of variable tonal leveling for two of the rising tones, i.e. these tones are realized with level pitch instead of a rise. Though leveling is pervasive in tone languages (cf. Hyman 2007), for certain Yoloxóchitl Mixtec speakers this particular process applies in both reduced, durationally short contexts, which tend to disfavor rising tones (Zhang 2004), and long duration contexts, which do not impede contour tone production. The Yoloxóchitl pattern closely resembles the process by which reduced speech variants may begin to occur in non-reduced contexts, leading to sound change (cf. Parrell and Narayanan 2018).

In the second study, we examined variation in the production of the 2nd person singular (2S) clitic in a spoken corpus of texts in Itunyoso Triqui. This clitic is variably reduced in running speech. An investigation of clitic reduction in a corpus of Itunyoso Triqui speech shows the reduced clitic to be more frequent specifically in contexts where it conditions tonal changes on the preceding stem. This finding suggests that morphologically-conditioned tonal change facilitates segmental reduction. In other words, if speakers can predict the clitic from its effect on the stem's tone, reducing its segmental

content is less detrimental to interpreting the morphological content of the utterance. Together these findings demonstrate how tonal change may be induced by low-level phonetic patterns of durational contraction/reduction (c.f. Cheng & Xu 2015) and redundancy of morphological cues (multiple exponence). Tonal change continues to unfold even in already complex tonal languages and its triggers may be observed in spontaneous speech corpora.

1.2   Andries Coetzee (University of Michigan)

"Phonology in L2 Phonetics: Afrikaans-Spanish bilingualism in Patagonia, Argentina"
https://youtu.be/JFpY8cuSqBA

Languages in contact, especially if that contact is intense and prolonged, impact each other on all grammatical levels. The directionality and nature of that influence depend on many factors, including both the social setting of the contact situation, and the degree of overlap or difference between the grammars of the languages in contact. In this presentation, I consider ways in which the phonological grammars of two languages in contact determine how their phonetics impact each other. Specifically, the presentation focuses on a bilingual speech community in Patagonia, Argentina, where Afrikaans and Spanish have been in close contact for over 120 years. I show that, in this speech community, the length distinction between long and short [a] in Afrikaans is reducing, most likely under the influence of Spanish that lacks such a distinction. On the other hand, the distinction between intervocalic voiced plosives and continuants is being robustly maintained, in spite of the fact that this distinction is neutralized in Spanish by a regular process of intervocalic lenition. I argue that the difference in these two contrasts (loss/reduction of the length distinction, and maintenance of the plosive/continuant distinction) can be explained by the role of these contrasts in Afrikaans phonology. Whereas the plosive/continuant distinction has high functional load in Afrikaans and is responsible for cueing many lexical contrasts, the distinction between long and short [a] has a relatively low functional contrast. The lower functional load for the length distinction results in it being less resistant to contact-induced reduction.

1.3   Shigeto Kawahara (Keio University)

"Interfacing sound symbolism with formal phonology"
`https://youtu.be/kC49EI58j5I`

Sound symbolism—systematic associations between sounds and meanings—had not been a topic that was actively explored in the generative tradition. Contrary to this standard view, I argue that formal phonology can inspire research on sound symbolism, and vice versa. My argument is based on a case study of sound symbolism in Pokémon names. Maximum Entropy Harmonic Grammar, a framework that has recently been widely employed to model various linguistic patterns, makes particular predictions regarding probabilistic linguistic patterns—what Hayes (2020) refers to as "quantitative signature". I demonstrate that sound symbolic patterns instantiate quantitative signatures predicted by the Maximum Entropy model. The overall results point to an interesting parallel between formal phonological patterns and sound symbolic patterns. This research was inspired by a proposal in formal phonology, which in turn informs us how speakers take into multiple pieces of information when making linguistic decisions.

2 Keio-ICU LINC Season 1

2.1 Canaan Breiss (University of California, Los Angeles)

"Phonological markedness effects in sentence formation"
`https://youtu.be/oPEJOBTRVtQ`

Earlier research has found that phonological markedness constraints (for example, against stress clash or sibilant sequences) statistically influence speakers' choices between particular syntactic constructions and between synonymous words. I will present results from collaborative work with Bruce Hayes and more recently Tim Hunter (both UCLA) demonstrating that phonological constraints exert an influence on sentence formation not just in particular cases, but across the board. We employ a novel method that statistically models the distribution of word bigrams (consecutive two-word sequences) and how this distribution is influenced by phonological constraints. Our study of multiple corpora indicates that several phonological constraints do indeed play a statistically significant role in English sentence formation. We also show that by examining particular subsets of the corpora we can diagnose the mechanisms whereby phonologically marked sequences come to be underrepresented. We conclude by discussing modes of grammatical organization compatible with our findings, and prospects for more fully integrated and implemented models of syntax-phonology interaction in the grammar.

2.2 Ryan Bennett (University of California, Santa Cruz)

"Vowel deletion as phonologically-controlled gestural overlap in Uspanteko"
`https://youtu.be/-XoFg3cz0m0`

Uspanteko is a K'ichean-branch Mayan language spoken by 1500-4000 people in the central highlands of Guatemala. Unstressed vowels in Uspanteko often delete, though deletion is variable within and across speakers. Deletion appears to be phonological, being sensitive to phonotactics, foot structure and morphology, and being insensitive to speech style. But deletion also appears to be phonetic, being variable, gradient, insensitive to certain phonotactics, and opaque with respect to accent placement. Electroglottography data from one speaker suggests that even 'deleted' vowels may contribute

voicing to [C(V)C] intervals. We thus analyze deletion as phonologically-controlled gestural overlap (e.g. Gafos 2002).

2.3   Taylor Lampton Miller (SUNY Oswego)

"In Search of True Word-Level Recursion"
`https://youtu.be/8ZOMoA93gdw`

Recent work at the phonology-syntax interface has revived the discussion on whether recursion is present in phonological structure, and—if so—where is it permitted (e.g. Selkirk 2011, Vogel 2019). Adopting a definition of recursion which requires the nested constituents to be of the same type and demonstrate the same properties, Vogel (2019) and Miller (2020) argue that true recursion is only permitted at the Phonological Phrase and above. As recursive word analyses become more commonplace (Guekguezian 2017, Bennet 2019), I have begun collaborative work with Hannah Sande (Georgetown), in which we search in earnest for true recursion at the word-level. In this presentation, I outline our assumptions and conclusions that even very convincing cases of word-level recursion in Kaqchikel and Greek are best re-analyzed. I also discuss the ramifications of such findings for future theoretical analyses and our understanding of the interface itself.

2.4   Harim Kwon (George Mason University)

"Beyond phonotactics: Perception of Nonnative consonant clusters"
`https://youtu.be/We5cXex2EFw`

In this talk, I will present a study that examines the role of native phonetic patterns in the perception of word-initial consonant clusters. Specifically, we ask how native listeners of Georgian and French perceive onset CC clusters produced with atypical inter-consonant timing patterns. Georgian permits more varied onset clusters than French, and Georgian onset clusters are produced with a longer inter-consonant lag than those in French. The listeners heard the onset clusters in CCV-CVCV pairs that were produced by a Georgian native speaker and a French native speaker with their own respective native phonetic patterns. Their task was to determine whether the two sequences (e.g. CCV and CVCV) were the same or different. The results show that (1) French listeners confused Georgian CCV with Georgian CVCV even

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when the clusters were phonotactically licit in French, and (2) some Georgian listeners confused French CCV with French CVCV although all French clusters were licit in Georgian. These findings suggest the perception of nonnative consonant clusters is guided not only by native phonotactics but also by preferred inter-consonant timing patterns of the listeners' native language.

2.5   Barbara Partee (University Massachusetts, Amherst) [PLENARY]

"The Intertwining Influences of Linguistics, Logic, and Philosophy in the History of Formal Semantics"
https://youtu.be/Is6Qq_5eI-Y

Formal semantics as it has developed over the last 50 years has been shaped by fruitful interdisciplinary collaboration among linguists, philosophers, and logicians, involving developments in linguistic theory, philosophy, cognitive science, and computational linguistics. Before the birth of formal semantics in the late 1960's, linguists and logicians were mostly agreed, for different reasons, that logical tools could not be seriously applied to natural languages. Philosophers and logicians considered natural language too unruly, while linguists like Chomsky considered the work of logicians to be irrelevant. The story of formal semantics starting from the 1970's and beyond is the story of how linguists, philosophers, and logicians learned to appreciate, use, and synthesize the advances in each other's fields. In this talk, I'll trace the background and history of these developments, describing (without presupposing any specific background) some of the pivotal advances and controversies that have shaped the field. Two founding revolutions laid the groundwork—the Chomskyan revolution that established formal syntax, and the Montogovian revolution that extendedlogicians' formal semantics to natural languages. I'll talk about the context in which Montague's work occurred and other contributors to it, and how joint work by linguists, logicians, and philosophers after Montague's death led to formal semantics becoming part of linguistics. A central theme is the challenge of developing a compositional semantic theory for natural languages; that challenge has taken on different forms with different syntactic and semantic theories. And quantifiers have played a major role at some crucial turning points in the history of semantics, from the linguistic wars of the 1960s that brought an end to the "Garden of Eden" period of

Chomsky's Aspects of the Theory of Syntax, to the advances of "generalized quantifiers", to the Kamp-Heim innovations of dynamic semantics. I'll close with a very brief discussion of some very big foundational issues concerning the nature of semantic competence, issues that are crucial to the place of formal semantics in cognitive science.

2.6   Misaki Kato (University of Oregon)

"Acoustic characteristics of foreign accent in L2 Japanese: A cross-sectional study"
https://youtu.be/VBCMe6qc7_Y

Previous studies report that adult second language (L2) learners retain a discernible foreign accent. The presence of a foreign accent can lead listeners to think that the speaker is not understandable and/or less credible, even when the message is accurately conveyed. However, it is much less well-understood what the acoustic sources of a foreign accent are. In the current study, we report an exploratory analysis, examining which acoustic features impact perception of a foreign accent the most, and whether they vary for the speech produced by learners of different proficiency levels. Japanese speech samples were collected from native Japanese speakers and native English learners of Japanese across different instructional levels and learning backgrounds. We measured 27 acoustic variables in the samples, including segmental features, rhythm features, fluency features, and tonal features. Native Japanese listeners rated the speech samples for foreign accentedness. We used random forests, a data mining procedure, to explore which acoustic variables are most important in predicting accent rating. While pitch accent, articulation rate, and vowel duration influenced perceived accentedness of the speech samples in general, the relative importance of these acoustic features varied across speaker groups. Specifically, prosodic features were most predictive of beginning to intermediate late learners' accents, whereas vowel features were most predictive of early bilinguals. The current results shed light on issues related to the development of second language speech, and the perceptual relevance of the development as perceived by listeners.

2.7 Claire Moore-Cantwell (University of California, Los Angeles)

"Learning a 'crazy rule': Final vowels and stress in English"
https://youtu.be/H6ZHQ_GI7A0

English speakers exhibit productive phonological knowledge of a complex, phonetically unmotivated trend in the lexicon of English. Most long words of English vary in stress, taking either penultimate ('vanílla') or antepenultimate ('cínema'), but words ending in the high front vowel [i] strongly tend to take antepenultimate stress. Words like 'cánopy' are much more common than words like 'spaghétti' (Moore-Cantwell, 2016; Moore-Cantwell and Sanders, 2018, Hayes 1984). In this talk I will discuss how this 'crazy' pattern should be analyzed, and implications of that analysis for the acquisition process. I will discuss two main possibilities: (1) a constraint cloning analysis, in which learners can clone existing constraints (in this case NonFinality) during the acquisition process to account for patterns their universal constraint set may not be able to capture, and (2) a parochial constraint analysis, in which learners can induce simple constraints during the acquisition process. These two analyses make different predictions for a type of word not found in the lexicon of English: words with heavy penultimate syllables that also end in [i]. I present wug-test results including these type of words, demonstrating that they align with the parochial constraint analysis rather than the cloning analysis.

2.8 Jiseung Kim (University of Michigan)

"Individual differences in the production and perception of prosodic boundaries in American English"
https://youtu.be/oc5RfhXrzi4

We investigate the hypothesis that individual participants vary in their production and perception of prosodic boundaries, and that the acoustic properties they use to encode prosodic contrasts are closely related to the properties used to perceive those contrasts. An acoustic study examined 32 native speakers' production of sentences containing Intonational Phrase (IP) and word boundaries. Twenty participants returned and participated in an eye-tracking study where they listened to stimuli that were manipulated to

include different combinations of the acoustic properties associated with IP boundaries. The results indicate large variability in both production and perception, and provide limited evidence for production of the boundary cues influencing the same individuals' perception.

2.9 Sang-Im Lee-Kim (National Chiao Tung University)

"Interaction between linguistic and extra-grammatical factors in merger-in-progress: the case of sibilant merger in Taiwan Mandarin"
https://youtu.be/ibnQ34R7V4g

Sound change led by men is scarce and often limited to relatively isolated patterns (Labov 1990, 1994). It is not yet well understood how linguistic and extra-grammatical factors interact to drive such changes-in-progress. In this talk, I present empirical evidence from production, perception, and imitation paradigms to shed light on the nature of the alveolar-retroflex sibilant merger in Taiwan Mandarin (TM). This sibilant merger in TM is implemented through deretroflexion of the retroflex category and is socially stigmatized to some degree. I will first show that young men employ the merger more often than age-matched women in a reading task, but both groups carry clear contrasts when disambiguation of lexical contrasts are necessary in a conversational setting. A perception study will show how speakers with the merger differ from non-mergers in terms of the extent to which social cues are incorporated into perceptual judgments. Specifically, speakers of the merger associated particular TM dialects with deretroflexion more strongly than non-mergers. A spontaneous imitation study provides further evidence for an association between deretroflexion and Taiwanese identity; mergers were more resistant to imitating a model talker carrying extreme sibilant contrasts. The bigger picture arising from these experiments is that deretroflexion has newly emerged among young TM speakers as a means of expressing positive orientation toward their speech community.

3 Keio-ICU LINC Season 2

3.1 Kathryn Franich (University of Delaware)

"Rhythmic Alignment in Medʉmba Language and Song: The Role of Metrical Foot Structure"
https://youtu.be/TrTKJX5WFik

Across many different languages and musical traditions of the world, metrical structure has been found to play a role in the rhythmic mapping of speech to music. Many African tone languages lack clear evidence of metrical stress, despite often showing phonological patterns which are consistent with the existence of foot structure. Whether feet are truly rhythmic in nature in these languages remains a question of some debate, however. This talk presents evidence from Medʉmba, a Grassfields Bantu language, that foot heads are, indeed, rhythmically prominent in the language. I draw on evidence from a speech production task as well as from text-setting patterns in two traditional songs that foot heads, which tend to align with the left edge of word stems, play a role in rhythmic coordination akin to stressed syllables in languages like English. I show that, while the precise alignment of metrically-prominent syllables in music is culturally-dependent, distributional patterns nonetheless evidence a common rhythmic function of metrically-prominent syllables in music across languages and cultures.

3.2 Laura McPherson (University of Dartmouth)

"Grammatical tone and its segmental correlates: Insights for analysis"
https://youtu.be/SBEX1iZv6r8

About half of the world's languages are tonal, i.e. pitch is used to differentiate lexical meaning of at least some morphemes. While this lexical tone receives the most attention and is the most familiar, the vast majority of tone languages also display "grammatical tone", i.e. pitch used or triggered by the morphosyntax. Despite its prevalence, grammatical tone remains understudied and undertheorized. This talk provides a general overview of the varied forms that grammatical tone can take, from clear tonal morphemes to tone changes triggered by syntactic structure without seeming to contribute any independent meaning. Parallels are drawn between these kinds of gram-

matical tone and better known phenomena in segmental morphology, serving both to demystify grammatical tone and to suggest avenues for theoretical analysis. I show that the category "grammatical tone" encompasses a diverse set of phenomena and defies any unitary analysis. Like Hyman (2007) famously put it, tone can do everything segmental morphology and phonology can do—and more.

3.3   Timo Roettger (University of Osnabrück)

"Grammar shaped by melody—A tune-driven pathway to morphology"
`https://youtu.be/PGGXHD1-9aQ`

Human speech has multiple information channels that can simultaneously signal different levels of meaning. One such channel consists of consonants and vowels organized into metrical structures, referred to as the text. Largely independent of these structures, there are suprasegmental modulations superimposed on the text, most notably intonation, referred to as the tune.

The text and the tune are often conceived of as separate levels of phonological representation. These levels, however, exhibit a fundamental interdependence which is rooted in the nature of the speech transmission process. For intonation to be produced, voiced segmental material is needed to enable the vocal folds to vibrate; for intonation to be perceived, it is important for the segmental material to have periodic energy with a rich harmonic structure

I will show that when segmental material does not allow for vocal fold modulation, or is not sufficiently sonorous to allow for optimal perceptual retrieval of pitch, languages adjust the text to provide an adequate carrier signal for intonational meaning. I will present evidence from a wide variety of languages which exhibit prosodically conditioned insertion of non-lexical vowels, suppression of otherwise regular vowel devoicing, or lengthening of existing vowels in order to accommodate the requirement to realize communicatively relevant tones. I will further show that this variation might even be morphologized in some contexts. I will discuss vocative constructions which commonly co-occur with particular tunes. Using a cross-linguistic corpus, I show that vocative morphology is particularly tune-friendly.

The available evidence suggest that intonation poses functional pressure on its segmental hosts, leading to the temporal adjustment and preservation of existing elements or the insertion of new elements, so as to ensure the realization of intonational events. I will argue that these interactions can lead

to re-occurring segmental alternations and shape grammatical morphemes.

3.4   Adam Chong (Queen Mary University of London)

"Derived-environment effects: A view from learning"
`https://youtu.be/NDk8sWY66wI`

Morphologically derived-environment effects (MDEEs) are well-known examples in which static phonotactic patterns in the lexicon do not accord with what is allowed at morphological boundaries (phonological alternations). In this talk, I examine these patterns from two complementary perspectives. First, I consider what consequences these patterns have for phonological learning. Using an artificial grammar learning experiment, I show that alternation learning involving MDEEs is impeded. This provides support for current models of phonological learning in which the phonotactic learning supports alternation learning. I then present corpus and phonotactic modeling results examining the status of the phonotactic patterns in the lexicon of two well-known MDEE cases: Korean palatalization and Turkish Velar Deletion. I show that in both languages the reported mismatches between phonotactics and alternations are superficial. This undermines existing analytic assumptions in previous analyses of these patterns. I discuss the implications of these findings for a theory of MDEEs, as well as for the relationship between phonotactics and alternations in learning and the grammar.

3.5   Donca Steriade (MIT) [PLENARY]

"Cyclicity Generalized"[3]
`https://youtu.be/G1DjHmukOBw`

This talk presents evidence for a modification of the phonological cycle, to allow it to extend to new patterns of stem identity. The cycle (Chomsky, Halle and Lukoff 1956) is a mechanism that generates phonological similarities between pairs of related expressions. The stress identity between the verb *fít* and its prefixed form *refítis* an example. The original conception of the cycle is that this is an inheritance mechanism designed just for the case

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[3]This event was co-hosted by the Phonetic Society of Japan, courtesy of Prof. Haruo Kubozono.

in which a complex form(*refít*)inherits its properties from an expression it immediately contains(*fít*). The formalization of inheritance is implemented in different ways with rules vs. constraints, but the restriction of cyclic inheritance to pairs of nested forms is shared by all frameworks. I refer to this propertyas *C(yclic)-Containment*: the Base contains the Derivative as an immediate morpho-syntactic constituent.

In addition to C-Containment, cyclic inheritance has the properties of *Directionality* (or *Base Priority*), which refers to the asymmetry between a base expression (like *fít*) and its derivative (*refit*) in how they satisfy Markedness; the transmission of *predictable properties*, like stress, from base to derivative; and *Recursiveness*, the fact that the derivative in one pair can be the base in another(e.g. *re-re-fít*).

The talk will outline new evidence showing that all these properties, except *C-Containment*, are present in other phenomena that promote stem identity or distinctness between related words. The following is a partial list of such phenomena:

1. "Pseudo-cyclic inheritance": stem similarity between derivatives and related words not contained within them (Steriade 2008, Steriade and Yanovich 2015, Steriade and Stanton 2020).

2. "Paradigm uniformity": stem similarity between different cells of an inflectional paradigm.(Albright 2011)

3. "Paradigmcontrast": required distinctness between cells in inflectional paradigms(Ito and Mester 2004, Kenstowicz 2005)

Like the cycle, the patterns in (1-3) can be shown to be directional, recursive and to transmit predictable properties. Further patterns of stem identity share these properties. However, C-Containment does not generally hold in any of the patterns in (1-3).

This question then is how to analyze the cycle and the patterns in (1-3) in ways that do justice to the properties they all share, while also restricting C-Containment to the cycle.

I will argue that one part of the solution is to rethink the property of C-Containment, which restricts cyclic inheritance to nested pairs of expressions, as a violable constraint. Making C-Containment violable allows us to provide parallel analyses for all stem identity and stem distinctness phenomena, including those in(1-3). In addition, this allows unified analyses

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of standard cyclic and pseudo-cyclic inheritance (item (1)) within a single system: English stress will be shown to be a case in point.

3.6 Oriana Kilbourn-Ceron (Northwestern University)

"Phonological variation in connected speech as a window on speech production planning (and vice versa)"
https://youtu.be/eYmsBP4HN7U

Words in connected speech can differ substantially from their "citation" forms, and it is often difficult to predict exactly how they will be pronounced with complete certainty. One thing that is clear is that phonological context plays an important role, but does not always fully determine the outcome, leading to phonological variation—a situation where multiple phonetic outcomes are possible within the same context. My research investigates the use of context-specific allophones (e.g. flap in English, devoiced high vowels in Japanese) in relation to speech production planning. I propose that limitations on advance planning during word form encoding have consequences for patterns of phonological variation. I will present results from both corpus and experimental studies which show that context-specific allophones are less likely to be used when the upcoming word is more difficult to plan, which limits the degree of advance planning and blocks the availability of upcoming phonological contexts. This provides both a new insight into patterns of phonological variation, and a new tool for investigating the extent of advance planning during speech production.

3.7 Samuel Tilsen (Cornell University)

"The emergence of non-local phonological patterns in the Selection-coordination-intention framework"
https://youtu.be/o6FXUOhOZ4s

In this talk I will present some of my recent ideas on how non-local phonological patterns can emerge in a gestural framework (see Tilsen 2019, *Motoric mechanisms for the emergence of non-local phonological patterns*). Some patterns—e.g. vowel harmonies, nasal harmonies—can be readily analyzed to arise from temporal extension of articulatory gestures (i.e. spreading); such patterns can be viewed as articulatorily local. However, there are other

patterns—e.g. nasal consonant harmony, laryngeal feature harmony—which cannot be analyzed as spreading; instead these patterns appear to enforce agreement between features of similar segments without affecting intervening segments, an apparent form of action-at-a-distance. Indeed, there are numerous typological differences between spreading harmonies and agreement harmonies. This suggests that there is a mechanistic difference in the ways that spreading and agreement harmonies arise. I argue that in order to satisfactorily understand spreading and agreement patterns, the gestural framework of Articulatory Phonology must be enriched with respect to how targets of the vocal tract are controlled in planning and production. Specifically, it is proposed that production models should distinguish between excitatory and inhibitory articulatory gestures, and that gestures which are below a selection threshold can influence the state of the vocal tract, despite not being active. This idea is applied to provide two distinct mechanisms for the emergence of non-local phonological patterns.

3.8   Chikako Takahashi (Stony Brook University))

"Phonetic interaction between late Japanese-English bilinguals' L1 and L2 vowels"
https://youtu.be/SDCxF0uuIEQ

In this talk, I will present my work on the phonetic interaction between late Japanese-English bilinguals' L1 and L2 vowels, where I investigate how learning a new L2 English vowel influences the perception and production of their L1 vowels. Specifically I focus on how production and perception of their L1 vowels are influenced by relative L1:L2 dominance factors as well as their L2 production and perceptual ability. The study recruited 65 late L1-Japanese learners of L2 English whose L1 Japanese and L2 English perception and production of target vowels were compared to monolingual control groups (Japanese and English). Our data show L1 vowel drift in both perception and production, supporting the view that late L2 learners' L1:L2 phonetic systems are dynamic and malleable. We identified L2 production acuity as a major factor associated with L1 assimilatory drift and also demonstrated a complex interplay between L2 production acuity, L2 perceptual ability, and L2 dominance that together appear to influence the nature of the L1 drift.

3.9 Jianjing Kuang (University of Pennsylvania)

"Tone acquisition beyond f0"
https://youtu.be/xzyloracGVY

Traditionally, tone is defined by a single dimension of the voice source: fundamental frequency, or F0. However, as demonstrated in my research, effective tone production and perception in fact integrates other articulatory and acoustic dimensions in the voice source (i.e. voice quality cues). Previous studies on tone acquisition and development mostly focus on f0 cues, and little is known how voice quality cues become integrated in the tone production and perception. In this talk, as the first step to answer this question, I will present evidence from computational modeling of tonal productions from Mandarin-speaking children and adults, showing that cue integration of f0 and voice quality cues in the tonal contrasts exhibits a developmental curve for Mandarin-speaking children. These findings support the multidimensional tone model proposed by Kuang (2013), and provide important new insights for tone acquisition.

3.10 Shigeto Kawahara (Keio University)

"Pokémonastics: what we are doing and why we are doing it"
https://youtu.be/fcEE5aaVRcA

Pokémonastics is a research paradigm in which researchers explore the nature of sound symbolism in human languages using Pokémon names. In this talk, I am going to review (1) how it began, (2) why it is a useful research strategy, (3) what we have found so far, and (4) what more needs to be done. The results of this research are summarized on this website (http://user.keio.ac.jp/~kawahara/research.html).

3.11 Seunghun J. Lee (International Christian University & University of Venda)

"Phonological representation of voiceless nasals in Drenjongke (Bhutia)"
https://www.youtube.com/watch?v=23AVJpzMbKg

Drenjongke (Bhutia) is a Tibeto-Burman language spoken in Sikkim, In-

dia, whose phonological and phonetic properties are understudied. Previous impressionistic descriptions of the Drenjongke phonological inventory report that the language has eight nasal phonemes that contrast in terms of voicing /m, n, ɲ, ŋ/ and /m̥, n̥, ɲ̥, ŋ̥/ (e.g. /má/ 'mother' and /má/ 'wound' vs. /m̥a/ 'down', Yliniemi 2019, George van Driem p.c.). This study presents findings from the acoustics of voiceless nasals and explores how voiceless nasals can be phonologically represented. The data obtained from our recordings suggests that there is no unique phonetic realization of the voiceless nasal but at least four different patterns: (1) a voiceless nasal, (2) a nasal without voicelessness (i.e. [n, m, ɲ, ŋ]), (3) aspiration but no nasality in the consonant (i.e. [h]). In the case of (3), nasality is absent in the consonant target but still realized, although differently: preceding or following vowels are nasalized. Lastly, a variant of (3), and the most common pattern we observed, is (4) a metathesis in the consonant portion. Instead of what was expected for voiceless nasals based on previous phonemic descriptions, that is voicelessness followed by voicing (e.g. [n̥n], Yliniemi 2019), we observed a voiced nasal first followed by aspiration. The metathesis resulted in a resyllabification so that the voiced nasal portion becomes the coda of the preceding word, and the target stimulus onset is an [h]. What all these four patterns seem to have in common is that speakers still maintain the use of nasality, even if it does not match the expected consonant but appears in a coda or a vowel. Phonologically there is a target, but phonetically the target is not uniformed. Although the realization of the voiceless nasal shows variability, nasality is maintained. This result is similar to what can be observed for the vowel length contrast in Drenjongke: phonemic length has various phonetic realizations (Lee et al. 2019, Guillemot et al. 2019). [Collaborative work with Cèleste Guillemot]

4 ICU LINC Prosody Series

Organized by Seunghun J. Lee. Shigeto enjoyed the videos.

4.1 Sara Myrberg (Lund University)

"Two-peakedness in South Swedish: implications for the Scandinavian tone accent typology"
`https://youtu.be/cCJtlIdPmvk`

In this talk, I present production data from two South Swedish dialects, which have interesting implications for the prosodic typology of Swedish and Norwegian. Swedish and Norwegian are well-known to have a binary lexical distinction between so-called tone accent 1 and tone accent 2. The tonal representation of the accents varies between dialects, and a long line of research has studied the prosodic typology of these dialects (e.g. Gårding 1977; Bruce 1977, 2007; Kristoffersen 2000; Riad 2006, 2018). One of the most fundamental parameters for understanding the Scandinavian tone accent typology has been a distinction between so called one-peak dialects, which have one tonal peak in words with tone accent 2, versus two peak-dialects, which have two tonal peaks in words with tone accent 2 (all dialects have a single peak in words with tone accent 1). South Swedish has been unanimously categorized as a one-peak dialect, and has thereby been assumed to have a profoundly different type of prosodic system than the two-peak dialects of Stockholm Swedish or Oslo Norwegian.

However, previous categorizations have been based on studies of short utterances or spontaneous speech. The present production experiment uses longer sentences, and therefore reveals that South Swedish exhibits two-peak contours in non-final positions. These two-peak contours are characterized by so-called drifting of the second peak, which has also been reported from nuclear accent contours in Oslo Norwegian (e.g. Fretheim 1987; Kristoffersen 2000) and Gothenburg Swedish (e.g. Bruce 2007). Drifting has also been reported from a special type of prenuclear accent in Stockholm Swedish (initiality accent, Myrberg 2010, 2013). However, opposed to other dialects, South Swedish also exhibits truncation of the tonal peak in phrase-final position.

I will argue that the South Swedish data implies that the distinction between one- and two-peaked dialects is not binary. Instead, dialects place

themselves on a scale from more to less two-peaked. The extent to which the dialects allow drifting of tonal peaks and truncation determine their place on this scale. Allowing more drifting and truncation makes a dialect more one-peaked, whereas restrictive or no application of these phonological processes makes a dialect more two-peaked.

4.2 Lena Borise (Research Institute for Linguistics at the Hungarian Academy of Sciences & Harvard University)

"Verb height, prosodic phrasing, and the flexible ι-mapping hypothesis: evidence from Iron Ossetic (joint work with David Erschler, Ben Gurion University of the Negev)"
`https://youtu.be/jrNo_Ckffxg`

This paper provides novel evidence in favor of flexible mapping between an Intonational Phrase (ι) (Nespor & Vogel 1986) and syntactic constituents. In the existing accounts, ι is assumed to map onto a syntactic clause, but a 'clause' in the syntax-prosody literature may be defined as a TP (Zerbian 2006), CP (Truckenbrodt 2005, Henderson 2012), or the complement of Force0 and C0 (Selkirk 2011). Hamlaoui & Szendrői (2015, 2017) propose that ι is flexible and corresponds to the highest projection that hosts verbal material, together with its specifier (HVP, 'highest verbal projection'), and, therefore, provide a unified, syntax-based account of cross-linguistic variation in ι-size. A prediction that it makes is that ι-size is also determined by HVP in a language where the height of the verb depends on utterance type. Iron Ossetic (East Iranian), with several projections available for verb raising, is a uniquely suitable testing ground for this prediction. We adopt the flexible ι-mapping approach and, using experimental prosodic data, show that the HVP indeed determines the size of ι in Iron Ossetic. Specifically, we demonstrate that the prosodic phrasing obtained in clauses that contain narrow foci and negative indefinites directly follows from the flexible ι-mapping hypothesis. We also show how the flexible ι-mapping hypothesis interacts with phonological (i.e. independent from syntax) markedness constrains on prosodic phrasing in wh-questions and neutral SOV clauses. Overall, this paper provides further support to flexible ι-mapping, based on a new language type, while also showing that the surface prosodic facts of Iron Ossetic

result from the interaction of factors rooted both in syntax and phonology. It also contributes to documenting the prosodic properties of an understudied language.

4.3   Frank Kügler (Goethe University Frankfurt)

"On different degrees of post-focal compression"
https://youtu.be/mQhSyl5iUEM

Prosodic focus is usually realised on the focused constituent highlighting or demarcating this constituent from other constituents. Cross-linguistically however, it remains on open issue to which extent post-focal, usually given elements and the prosodic variation found in that domain relates to the expression of focus marking. This talk explores the conditions of the variation found in post-focal prosody. Post-focal compression (PFC) is widespread among languages of the world, yet a non-universal cue to encode focus. Typologically diverse languages like Finnish, German, Greek, Hindi, and Mandarin show post-focal pitch events in a compressed pitch register. However, the degree of compression differs: partial compression is observed for instance in Finnish, Hindi and Mandarin, almost complete compression in German and Greek. In this talk, I argue for a theory of two distinct post-focal compression types. The claim is that the different degree in register compression is a consequence of the phonology of a language governing the need to express the functional load of tones or accents located in the post-focal domain. If the phonology of a given language demands a high need to maintain phonological contrasts post-focally the post-focal register compression is partial. If on the other hand the phonology demands a low need to express post-focal pitch events register compression is complete.

4.4   Nancy Kula (University of Essex)

"Pre-focus expansion and prosody-phonology mismatches"
https://youtu.be/2kGV30s2gGY

This talk will discuss some robust intonational patterns in Bemba (Central Bantu) that correlate to different kinds of declarative sentences and questions. Specific intonational features such as, final lowering, pitch range expansion and pitch register raising will be discussed to illustrate robust in-

tonational patterns in tone languages. The aim of the talk will be to make a comparison of controlled data with more spontaneous data but controlled for genre, here specifically from sermons, to see how comparable these data are given what we already know about Bemba intonation as discussed in Kula & Hamann (2017).

4.5   Shin Ishihara (Lund University)

"On the (lack of) correspondence between syntactic clauses and intonational phrases"
https://youtu.be/LR9HgY_okU8

In this talk, I will discuss the syntax–prosody mapping at the clause-level, or the potential absence thereof. The main goal of this talk is to bring up some of the empirical and theoretical questions related to the MatchClause constraint in Match Theory (Selkirk 2009, 2011), and to reexamine the validity and the necessity of the clause-level mapping principle proposed in the theory. Empirical discussion includes, among other things, a critical review of Selkirk's (2009) discussion of the wh-prosody in Fukuoka Japanese. It is shown, based on additional data from Fukuoka and Tokyo Japanese, that Selkirk's claim that Fukuoka Japanese provides empirical support for Match-Clause is untenable. The theoretical questions discussed in this paper also challenge the validity and the necessity of the clause-level mapping. An alternative model is suggested in which the intonational phrase (ι) is related to the pragmatics–prosody mapping rather than the syntax–prosody mapping.

4.6   Cédric Patin (Université de Lille)

"Domains as tools for analyzing the tone-intonation interface"
https://youtu.be/GEY2ITe7VnU

In the introduction of a paper dedicated to the prosody of Shekgalagari, a Bantu language of Botswana and Namibia, Hyman & Monaka (2011) list three main possibilities of interaction between tones and intonation: Accommodation ("peaceful coexistence") – the lexical and intonational tones have little interaction with each other; Submission ("surrender") – the intonational tones overrule the lexical tones; Avoidance ("blockade") – the lexical tones override the intonational tones. Accounting for such a diversity of sit-

uations, both in terms of representation and analysis, is far from simple. In a seminal paper, Beltzung et al. (2010) propose that ToBi-like intonational tones evolve on a separate tier from lexical tones, allowing the former and the latter to be superimposed or to follow each other, an approach that was later adopted in Downing & Rialland (2016). As interesting as it may be, it is not obvious how such an approach can account for the different configurations evoked by Hyman & Monaka (2011). Above all, it struggles to explain certain interaction phenomena: in Shingazidja (a Bantu language from the Comoros), for example, the peak of F0 associated with polar questions, which normally emerges on the penultimate syllable, is shifted to the antepenultimate when the final syllable is high-toned. In this talk, I will explain how the use of domains as developed in Optimal Domains Theory (Kisseberth 1994; Cole & Kisseberth 1994; Cassimjee & Kisseberth 1998) offers an interesting alternative for examining some of the interface phenomena between the tones and intonation of Niger-Congo languages.

4.7   Nicole Dehé (University of Konstance)

"The prosodic marking of rhetorical questions: A cross-linguistic view"
`https://youtu.be/xEpP7UbIPpk`

In this talk, I will present results from an ongoing research project on (the prosody of) rhetorical questions (RQs) as compared to neutral, information-seeking questions (ISQs). I will first present the results of a series of production experiments testing three head-prominence intonation languages (German, English, Icelandic) and one head-prominence tone language (Standard Chinese). Results for all languages show that prosody disambiguates between ISQs and RQs. Speakers of all languages use F0 (intonation languages: pitch accents, boundary tones; tone language: local and global F0 height), as well as duration and voice quality to signal rhetorical meaning (e.g. Braun et al 2019 for German; Dehé & Braun 2020b for English; Dehé & Braun 2020a for Icelandic; Zahner et al to 2020 for Standard Chinese; and work in progress). The four languages differ in the way the prosodic parameters are used (e.g. pitch accent types signal rhetorical meaning, but different ones for each language). Second, I will present results from two further studies testing German: one corpus study studying the prosodic differences between ISQs and RQs in spontaneous language (Braun et al. 2020), and one experiment focusing on the prosodic, syntactic and lexical choices that speakers make to

express rhetorical meaning (in progress).

4.8   Adam J. Chong (Queen Mary University of London)

"Singapore English intonation: An Autosegmental Metrical perspective"
`https://youtu.be/d6HgK-jepAI`

Singapore English is a nativised English variety that displays a number of systematic linguistic features that distinguish it from Western varieties (e.g. British English). In this talk, I present work in progress on Singapore English intonation, an under-examined aspect of the linguistic system. I first present a preliminary phonological model of Singapore English intonation couched in the Autosegmental Metrical framework. I then present results from two production studies that provide qualitative and quantitative support for aspects of the initial model. In particular, I will focus on evidence for the existence of a prosodic level above the word (the Accentual Phrase), as well as a preliminary examination of the relation between phrasal position, stress and tonal alignment. I end by discussing the implications of this work for our understanding of prominence and rhythm in Singapore English prosody. I also discuss the important contribution New Englishes have for prosodic typology.

4.9   Emily Elfner (York University)

"Evaluating Evidence for Covert Prosodic Structure"
`https://youtu.be/sCISskh0hhU`

Research on the syntax-prosody interface concerns the relationship between syntactic constituent structure and prosodic phrasing. A crucial aspect and challenge of this research has been the detection of prosodic boundaries, through the study of phonetic and phonological cues to phrase edges and domains. However, in much work on syntax-prosody interface, it is implicitly assumed that we may have only partial evidence for prosodic structure in a given language. For example, a language may overtly mark right edges of prosodic phrases, but leave the left edges unmarked, as assumed in the End/Edge-based approach to syntax-prosody mapping (e.g. Selkirk 1984, 1995) or in Match Theory (Selkirk 2011), yet we may presume that these

boundaries exist to do assumptions about mapping between syntactic and prosodic constituents or the well-formedness of prosodic structure. This underspecification of certain phrase boundaries is at odds with what is assumed in much of the literature on psycholinguistics or "intonation-first" approaches to prosodic structure, in which an overt phonetic/phonological cue is both a sufficient and necessary diagnostic of a prosodic boundary. In this talk, I review some of the arguments for the positing of "covert" phrase edges based on syntactic structure, and discuss a case-study from Irish, which shows an apparent mismatch between tonal prosodic cues for phrase edges and the relative strength of prosodic boundaries as determined by gradient juncture phenomena.

4.10   Natalie Weber (Yale University)

"On the misalignment of prosodic edges and syllables"
`https://youtu.be/rBzoeru21oY`

There is robust evidence from many languages that prosodic constituents may mismatch from syntactic constituents in order to satisfy prosodic well-formedness constraints (e.g. Nespor & Vogel 1986; Selkirk 1986). One such constraint requires the alignment of prosodic edges and syllables, and prosodic edges may misalign to the left or right in order to align with a syllable onset (Downing 1998). In this paper I argue that Blackfoot (Algonquian; Frantz 2017) is a language of the opposite type: syntactic and prosodic constituents are isomorphic at the expense of edge alignment. Specifically, the left edge of the Prosodic Word (PWd) often falls in the middle of a syllable, without aligning to a syllable onset. The left edge of the PWd is defined phonologically by an edge restriction against *[-cont] segments. This is an active constraint which drives multiple patterns of ✓root alternations, including a process of epenthesis at the left edge of the PWd. Independent evidence for syllable structure, as well as a regular process of vowel coalescence, indicates that a syllable can span the left edge of the PWd. The left edge of the PWd cannot align to the edge of a syllable without violating either the syntax-prosody correspondence constraints or the constraint against *[-cont] segments at the left edge. For the analysis to converge, the syntax-prosody correspondence constraints must be violated by the inclusion of prefixal material or exclusion of PWd material, but crucially not by epenthesis at the

left edge of the stem. I provide a redefined version of MatchWord(Elfner 2012; Guekguezian 2012; Selkirk 2011) which is not violated by epenthesis.

4.11   Fatima Hamlaoui (University of Toronto)

"Influence of lexical tones on calling melodies: A comparison between Metropolitan and Bàsàa-Cameroonian French"
`https://youtu.be/MfXMGU2BWjs`

In Metropolitan French, the simple vocative or chanting contour (e.g. Marina! A table! "Marina! Dinner!") consists of a F0 peak on the penultimate syllable and a sustained, mid-plateau on the final syllable of the utterance (Fagyal 1997, Di Cristo 1999, Ladd 2008). Phonologically, this contour has been represented as a LHM sequence (Dell 1984), H*H-L% (Jun & Fougeron 2000) or more recently as H+!H*!H% (Delais-Roussarie et al. 2015). In the present talk, we present the results of a discourse completion task (Arvaniti et al. 2016) whose first aim is to test whether context (here routine vs. urgent) affects contour choice in French, as recently shown for Catalan by Borràs-Comes et al. (2015). Our study involves two groups: 14 speakers (4 male) of Metropolitan French (FR) and 12 bilingual speakers (8 male) of Cameroonian French (CM) with Bàsàa (Bantu A43) as their L1. As in the latter variety proper names are lexically specified for tone, we are interested in establishing whether speakers make use of the chanting contour too. Just as in Bàsàa, CM names in isolation form present a L/H-HL contour where HL either aligns with the last or the last two syllables, e.g. [àlîs], [màgdàlénà]. As Bàsàa is a tone language in which post-lexical information has little impact on F0 (Makasso et al. 2016), a strong effect of our speakers' L1 on their L2 predicts that lexical tones should be preserved in both routine and urgent contexts. Results show that the choice of contour is strongly context dependent in FR, where speakers use three main intonational calling contours: the vocative chant, a rising (interrogative-like) contour and a falling parabolic contour. CM speakers, in contrast, show little effect of context on choice of contour and predominantly preserve lexical tones. A final rise is the second most frequent pattern and very little presence of the typical chanting contour is found. (joint work with Marzena Zygis, Jonas Engelmann and Sergio Quiroz)

4.12 Lauren Clemens (University at Albany)

"Prosodic Phrasing in Rutooro, a Bantu Language of Uganda"
`https://youtu.be/Fzklq-GZ4H0`

Rutooro is a Bantu language of Uganda that lacks lexical tone. Instead, prominence in Rutooro is marked with a High tone (H) on the penultimate syllable of the phonological phrase (ɸ-phrase). In this talk, which represents joint work with colleague Lee Bickmore, I argue that the distribution of H tones in adnominal phrases serves as a diagnostic for whether it is generated in a DP-internal or external position. Reduced object RCs with overt subjects are a special case: the relativized head bears an unexpected H tone, while the subject is all-Low despite the fact that it is a self-contained XP. Also in the realm of reduced RCs, when a relativized head is separated from the RC by an additional modifier, e.g. an adjective, that modifier is realized as all-Low even though it is phrasal. We attribute non-isomorphic phrasing to the prevention of i) ambiguity and ii) prosodic indeterminacy—when prosodic structure could be the output of more than one syntactic configuration.