The 33rd Annual Symposium on Arabic Linguistics

المؤتمر السنوي الثالث والثلاثون للسانيات العربية

University of Toronto
April 5-7, 2019

Ontario Institute for Studies in Education - Room 2214
252 Bloor Street West, Toronto, Ontario M5S1V6

Table of Contents

Welcome

Dear Participants,

We are very happy to welcome you to the 33rd Annual Symposium on Arabic Linguistics (ASAL33) at The University of Toronto. This is the first time the conference is held in Canada and we hope it will open the door to future Arabic Linguistics events. We are grateful to our sponsors for enabling us to bring ASAL33 to the University of Toronto, and to our respective department chairs, administrative staff and students for helping us to make it happen.

We are fortunate to have three plenary keynote speakers this year: Dr. Enam Al-Wer, Professor of Sociolinguistics at the University of Essex, Dr. Hamid Ouali, Associate Professor of Syntax at the University of Wisconsin-Milwaukee, and Dr. Islam Youssef, Associate Professor of Phonology at the University of South-Eastern Norway.

We wish to extend special thanks to our abstract reviewers for helping us navigate the large number of abstracts we had received and select submisions of the highest quality. In keeping with ASAL tradition, there are no parallel sessions. ASAL33 has eight single sessions featuring 27 paper presentations and seven poster presentations. Please note that the prize for best student abstract will be recognized at the Arabic Linguistics Society's Business Lunch Meeting on Saturday.

ASAL33 Banquet Dinner will be held in one of the most iconic buildings at the University of Toronto: Hart House. Known for its Collegiate Gothic architectural design, Hart House was built in the early 1900s and was inspired by the medieval colleges of Oxford and Cambridge. The dinner will convene in the Music Room, located in the second floor at 7 Hart House Circle. We hope that you will be able to join us. To purchase tickets please visit the conference website:
https://nmc.utoronto.ca/33rd-annual-symposium-on-arabic-linguistics/

All University of Toronto buildings have accessibility ramps, and if there is anything else we can do to make your stay comfortable please don't hesitate to let us know by emailing asal33rd@gmail.com.
You may also find information on the conference website.

Finally, we wish to thank the executive director of the Arabic Linguistics Society, Dr. Hamid Ouali, for answering our questions and sharing his extensive experience with us, and we look forward to sharing ours with ASAL34 organizers.

Enjoy the conference and the city of Toronto!

ASAL33 Organizers

Abdel-Khalig Ali
Department of Near and Middle Eastern Civilizations, St. George

Atiqa Hachimi
Department of Linguistics, St. George
Department of Historical and Cultural Studies, Scarborough

Acknowledgments

Special thanks to the following organizations for their generous support:

Arabic Linguistics Society
Canadian Linguistics Association
Centre for French and Linguistics, UTSC
Department of French Studies
Department of Historical and Cultural Studies, UTSC
Department of Language Studies, UTM
Department of Linguistics
Department of Near and Middle Eastern Civilizations
Department of Spanish and Portuguese
Faculty of Arts and Science
Institute of Islamic Studies
Jackman Humanities Institute
Office of the Vice-Principal Research, UTSC

Special thanks to our abstract referees:

Abdulkafi Albirini	*Utah State University*
Mohammad Alhawary	*University of Michigan*
Ahmad Alqassas	*Georgetown University*
Mahmoud Azaz	*The University of Arizona*
Stuart Davis	*Indiana University*
Derek Denis	*University of Toronto*
Samir Diouny	*Chouaib Doukkali University*
Youssef Haddad	*University of Florida*
Nancy Hall	*California State University Long Beach*
Peter Hallman	*Austrian Research Institute for Artificial Intelligence*
Yoonjung Kang	*University of Toronto*
Amel Khalfaoui	*University of Oklahoma*
Reem Khamis-Dakwar	*Adelphi University*
Christopher Lucas	*SOAS University of London*
Safieh Moghaddam	*University of Toronto*
Mustafa Mughazy	*Western Michigan University*
Naomi Nagy	*University of Toronto*
Juvenal Ndayiragije	*University of Toronto*
Jamal Ouhalla	*University College Dublin*
Alejandro Paz	*University of Toronto*
Lotfi Sayahi	*University of Albany, SUNY*
Usama Soltan	*Middlebury College*
Keith Walters	*Portland State University*
Islam Youssef	*University of South-Eastern Norway*

Special thanks to the following for their contributions and support:

St. George Campus
Department of Near and Middle Eastern Civilizations
Department Chair: Tim Harrison
Administrative Staff: Carly Whitfield and David Sousa
Business Officer: Maria Leonor Vivona
Communications (website): Ahmad Khawaja

Department of Linguistics
Department Chairs: Sali Tagliamonte (2018-present) and Keren Rice
Administrative Staff: Mary Hsu and Jennifer M^{c}Callum

Scarborough Campus
Department of Historical and Cultural Studies
Administrative Staff: Kamal Hassan, Monica Hretsina, Urooj Khan
Business Officer: Minda Nessia

Graduate Students
Lucy El-Sherif, OISE
Robert Prazeres, Department of Linguistics
Lex Konnelly, Department of Linguistics
Lisa Schlegel, Department of Linguistics

Tri-Campus Undergraduate Volunteers

St. George	**UTSC**	**UTM**
Jose Dizon	Susan Khan	Sarah Khan
Hella Karem	Priscilla Kasimos	
Sarah Mcmillan	Alyssa Kew	
Oswa Shafei	Nadya Lim-Douglas	
Zubaida Taupan	Husna Raghe	
Simon Whitby	Carly Sahagian	

ASAL33 Session Chairs

Ahmad Alqassas	Yoonjung Kang
Mahmoud Azaz	Amel Khalfaoui
Youssef Haddad	Naomi Nagy
Bruno Herin	Usama Soltan

Keynote Speakers Introductions
Stuart Davis
Reem Khamis-Dakwar
Usama Soltan

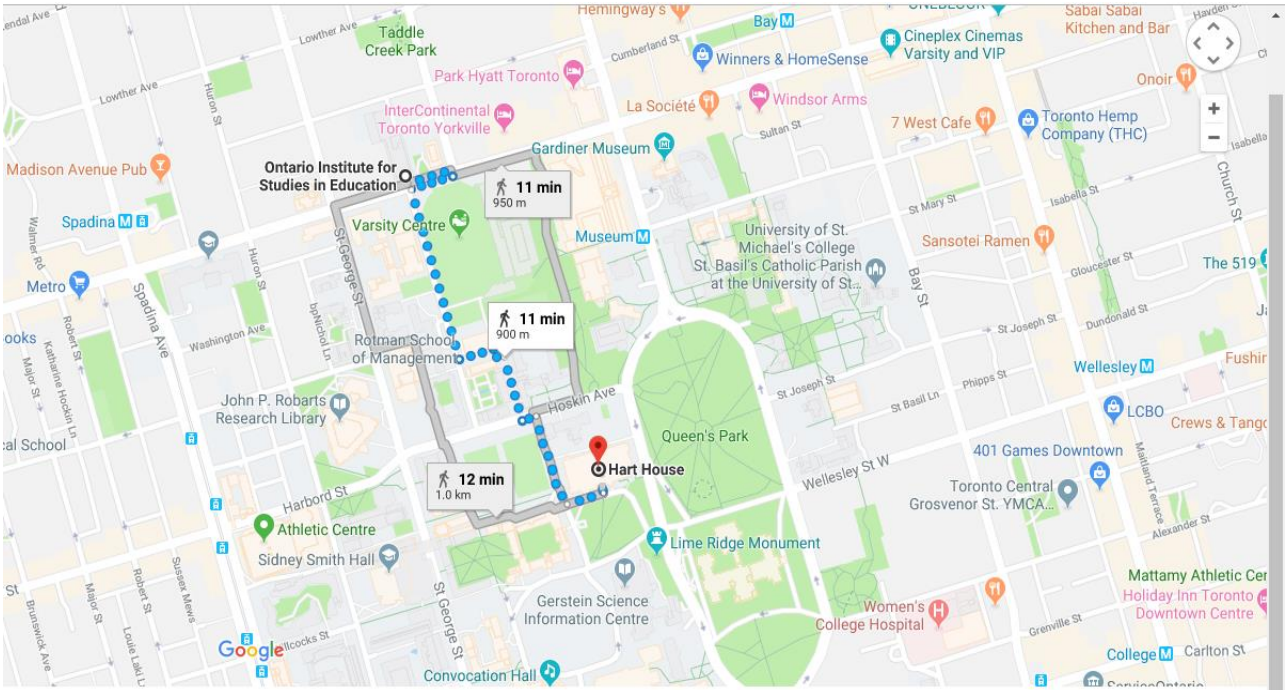
This booklet has been prepared by Atiqa Hachimi with the assistance of Robert Prazeres.

Getting Around

ASAL33 is held in the St. George (Downtown) Campus, which is located just north of the downtown core of the city. It will convene in the Ontario Institute for Studies in Education (OISE), in the second floor in Room 2214. The street address is 252 Bloor Street West, Toronto, Ontario M5S1V6. To know your bearings please visit http://map.utoronto.ca/

Eating around OISE: There are plenty of restaurants and places to eat around the conference venue. For all dietary restrictions (Halal, Kosher, Vegetarian, Vegan, Gluten free, etc.) please visit this link http://map.utoronto.ca/building/123# and click on Food on the right hand side to view all nearby eateries.

To get from OISE to the Hart House for the BANQUET DINNER on Saturday, see the map below. If you are coming from elsewhere, here is the complete address: 7 Hart House Circle, Toronto, ON M5S 3H3. Once there, there will be signs to guide you to the Music Room on the 2nd floor.



Pre-Conference Seminar

Thursday, April 4 - Humanities Wing – Room 525C
University of Toronto Scarborough

The UTSC Language, Mobility and Social Justice Working Group and the Department of Historical and Cultural Studies Interactions Seminar Series are pleased to host a pre-conference seminar by Dr. Enam Al-Wer, Professor of Sociolinguistics at the University of Essex and the keynote speaker for Sociolinguistics at the conference, and Dr. Maria Fanis, Associate professor of Political Science and International Studies at Ohio University, and one of the conference presenters.

Convener: Atiqa Hachimi
Department of Linguistics, St. George
Department of Historical and Cultural Studies, UTSC

The Commercialisation of Linguistic Expertise in the Asylum Vetting Process

Enam Al-Wer, University of Essex
Maria Fanis, Ohio University

One procedure that has been followed in several countries around the world since the 1990s is that of vetting origins of, mostly, undocumented asylum seekers by commissioning a linguistic analysis of the applicant's speech. The linguistic analysis, which may be commissioned directly through a state agency or through a private entity franchised by the state, is usually based on empirical data obtained through an interview in the language of the asylum seeker. The purpose of the interview is twofold: to obtain a sample of the applicant's speech, which is akin to the procedures followed in sociolinguistic research, and to vet the applicant's general knowledge of the locality in which they were socialised. The recorded interview is then analysed by a linguist who is normally an expert in the dialects of the region or country that the applicant alleges to be their origin. This expert linguist is asked to write a linguistic report and to assess, on the basis of the analysis of the recorded interview, how likely it is that the applicant was socialised in the country they claim as their origin. The linguistic report is usually used by the border agencies as part of the evidence for the vetting of the application.

In this talk, we examine the effects of commercialisation on the process of asylum vetting in general. With a focus on a specific asylum appeals case in the UK, we illustrate how the privatisation of the linguistic forensic services in this process has a negative effect on the use of language for the determination of the asylum seekers' place of origin. Using the epistemic communities as a theoretical framework, it is argued that the commercialisation of the expert knowledge of the linguists involved in asylum vetting has detrimental consequences on the use of expert knowledge for the public good.

Lunch will be served. Please RSVP to ahachimi@utsc.utoronto.ca

Conference Schedule

Friday, April 5 (OISE 2214)

8:00-16:00 **Registration and Coffee**
8:45-9:00 **Opening Remarks**
Pamela Klassen, Vice-Dean, Faculty of Arts and Science, University of Toronto

PHONOLOGY **(Chair: Dr. Yoonjung Kang)**

9:00-9:30 **Abdullah Alfaifi and Stuart Davis (Indiana University)**
On the Realization of Emphatic Fricatives in Faifi Arabic
9:30-10:00 **Laura Faircloth (The University of Texas at Austin)**
Categorical Perception of Emphatic Consonants in Palestinian Arabic
10:00-11:00 ***Keynote***
Islam Youssef (University of South-Eastern Norway)
The Phonology and Typology of Arabic R

11:00-11:15 Coffee Break

SOCIOLINGUISTICS **(Chair: Dr. Amel Khalfaoui)**

11:15-11:45 **Maria Fanis (Ohio University), Bruno Herin (INALCO), Uri Horesh and Enam Al-Wer (University of Essex)**
Language Variation, Religion and Marginalisation in Jordan
11:45-12:15 **Yasmine Abou Taha and Stephen Levey (University of Ottawa)**
Palestinian Arabic in the Diaspora: Assessing the Case for Contact-Induced Change
12:15-12:45 **Robert Prazeres (University of Toronto)**
Variability of Nominal Genitives in Casablanca Moroccan Arabic

12:45-2:15 Lunch (on your own)

LANGUAGE ACQUSITION/PERCEPTION **(Chair: Dr. Youssef Haddad)**

2:15-2:45 **Mahmoud Azaz (University of Arizona)**
Metalinguistic Knowledge of Salient versus Unsalient Structural Features: Evidence from the Definite Arabic Construct State
2:45-3:15 **Dimitrios Ntelitheos (United Arab Emirates University)**
Tracing the Acquisition of Definiteness in Emirati Arabic
3:15-3:45 **Mahmoud Azaz and Essa Alfaifi (University of Arizona)**
Linguistic Variation in Regional Modern Standard Arabic: Exploring Native Speakers' Morphological Preferences
3:45-4:00 **Coffee Break**

SYNTAX **(Chair: Dr. Usama Soltan)**

4:00-4:30 **Faruk Akkus (University of Pennsylvania)**
A'-Movement Feeds Licensing: A View from Indirect Causatives in Sason Arabic

4:30-5:00 **Ahmad Alqassas (Georgetown University)**
The Syntax of Coordinate Complexes in Arabic

5:00-6:00 ***Keynote***
Hamid Ouali (University of Wisconsin-Milwaukee)
On the Progressive in Arabic

Saturday, April 6 (OISE 2214)

Registration Open at 8:00

SOCIOLINGUISTICS **(Chair: Dr. Naomi Nagy)**

8:30-9:00 **Jason Schroepfer (Virginia Military Institute)**
Urbanization and Sociolinguistic Variation in Aswan

9:00-9:30 **Duaa AbuAmsha (University of Calgary) and Eman AlZaanin (King Khalid University**)
The Progressive Marker in Palestinian Arabic: Development and Variation

9:30-10:30 ***Keynote***
Enam Al-Wer (University of Essex)
Probing Linguistic Change in Arabic Vernaculars: A Sociohistorical Perspective

10:30-10:45 **Coffee Break**

SYNTAX/PRAGMATICS **(Chair: Dr. Ahmad Alqassas)**

10:45-11:15 **Youssef Haddad (University of Florida)**
Optional Datives in Arabic as Applicative Adjuncts and Cyclic vs. Counter-Cyclic Merge

11:15-11:45 **Usama Soltan (Middlebury College)**
On Sluicing and its Kin in Egyptian Arabic

11:45-12:15 **Yourdanis Sedarous (University of Michigan)**
Code-Switching and the Egyptian Arabic Construct State

12:15-12:45 **Amel Khalfaoui (University of Oklahoma)**
When a Demonstrative is More Than a Referring Expression: The Case of the Tunisian Arabic *ha*

12:45-2:15 **Lunch and ALS Business Meeting (OISE 2214)**

2:15-3:30 PLENARY POSTER SESSION (OISE 2214)

Jumanah Abusulaiman (University of Ottawa)
Actuality Entailments with Makkan Arabic Perfect
Mustafa Ahmed Al-Humari (Northern Border University, KSA)
Path Encoding Variation in MSA and English: A Unified FI-Based Account
Omar Alkhonini and Steven Weinberger (George Mason University)
The Impact of Segmental and Suprasegmental Information on the Perception of Saudi Arabic Accented English
Mahmood Al Fkaiki (**The University of Texas at Austin)**
Effects of Negation on Aspectual properties in Arabic dialects
Yahya Aseri (University of Colorado at Boulder)
A Finite-State Morphological Parser and Guesser of Arabic Verbs
Rima Haddad, Linnea Öberg, Ute Bohnacker (Uppsala University)
Exploring the Lexical Abilities and Language Exposure Patterns of Arabic-Swedish TD & LI Bilingual Children (4-7) in Sweden
Karen McNeil (Georgetown University)
Māhūš yiʕāwin ('He's not helping'): Marked negation and verbal aspect in spoken Arabic

3:30-3:40 Coffee Break

PSYCHOLINGUISTICS/COMPUTATIONAL LINGUISTICS

(Chair: Dr. Mahmoud Azaz)

3:45-4:15 **Michael Grosvald, Shahed Alkhatib, Salma Abdo, Noora Al-Ansari, Dalia Ahmad, and Ali Idriss (Qatar University)**
Morphological Priming in Arabic Reading: Dissociating Effects of Consonantal Roots and Vocalic Word Patterns

4:15-4:45 **Reem Khamis-Dakwar and Karen Froud (Adelphi University)**
Diglossic Variables in Neurocognitive Phonological and Lexical Processing of Arabic

4:45-5:15 **Ali Idrissi, Dalia Ahmad, Noora Al-Ansari, Salma Abdo, Shahed Alkhatib, and Michael Grosvald (Qatar University)**
Vowel Diacritics and Orthographic Ambiguity in Arabic Word Recognition: A Priming Study

5:15-5:45 **Hossep Dolatian, Jonathan Rawski and Sadigheh Moradi (Stony Brook University)**
Computational Implementation of Templatic Morphology

BANQUET DINNER 6:00-9:00PM
7 Hart House Circle - Music Room (2nd floor)

Sunday, April 7 (OISE 2214)

(Chair: Dr. Bruno Herin)

PHONOLOGY/ SYNTAX

9:00-9:30 **Omar Alkhonini (George Mason University)**
Sonority and Najdi Arabic Onset Clusters

9:30-10:00 **Marwan Jarrah (The University of Jordan) and Ekab Shawashreh (Yarmouk University)**
Remnant-Movement Approach to Questions with Final wh-words in Jordanian Arabic

SOCIOLINGUISTICS

10:00-10:30 **Rania Habib (University of Syracuse)**
The discourse markers yaʕni and ʔinnu: in Syrian Arabic

10:30-11:00 **Sarah R. Schwartz (The University of Texas at Austin)**
Code Choice in Moroccan Slam Poetry

11:00-11:15 **Closing Remarks**

Abstracts

Palestinian Arabic in the Diaspora: Assessing the Case for Contact-Induced Change

Yasmine Abou Taha, Stephen Levey
University of Ottawa

Transnational migration offers fertile territory for exploring contact-induced change within the context of long-term interaction between different but mutually intelligible varieties of a language (Milroy 2002; Kerswill 2006; Britain 2018). Much of the research on dialect contact has focused on European languages such as English, with correspondingly less attention paid to Arabic, despite it being spoken over a vast and linguistically diverse geographical area (Al-Wer & De Jong 2018) that has witnessed large-scale migration triggered by conflict.

Recognizing that the sociolinguistics of migration has been unevenly studied (Miller 2007), we initiated an investigation of the linguistic accommodation of speakers of Palestinian Arabic to their Lebanese Arabic-speaking counterparts in Beirut and its environs. Drawing on a comparative sociolinguistic approach (Poplack & Meechan 1998; Poplack & Tagliamonte 2001) combined with insights from research on dialect contact (Britain & Trudgill 2005), our linguistic focus is on a quantitatively under-studied phonological variable referred to as *'imala* (Al-Nassir 1985; Owens 2006). In the varieties we target, this feature involves the variable raising of the long vowel [a:] to [e:], giving rise to competing forms such as [ka:n] and [ke:n] '*he/ it was*' (see Hennessy 2011; Habib 2012). This variable is claimed to be traditionally absent from Palestinian Arabic, but is reported to be present in Lebanese Arabic (Hennessy 2011). Within a contact framework, it qualifies a *conflict site*, or structural difference between varieties, which can be used as a diagnostic of contact-induced change (Poplack & Meechan 1998).

Our data are based on sociolinguistic interviews recorded from 31 Palestinian Arabic speakers residing in Lebanon, and 15 Lebanese Arabic speakers constituting the Lebanese reference variety. Speakers were coded for immigrant generation (Palestinians only) in addition to age, sex and education, as well as a series of linguistic predictors (e.g., preceding and following phonological environment) hypothesized to condition word-internal *'imala*. We first demonstrate that *'imala* is used by Palestinians in Lebanon. Using constraint hierarchies generated by multivariate analysis, we then systematically compare the Lebanese and Palestinian speech data to gauge the extent to which the linguistic conditioning of *'imala* in the ambient Lebanese control variety is replicated in local Palestinian Arabic.

Based on 2344 tokens, the results turn up a number of key findings. Age exerts a powerful effect on variant choice, with the oldest Palestinians not using the raised vocalic variant at all, and the youngest using it the most, consistent with the interpretation that: (i) *'imala* is not a traditional feature of Palestinian Arabic; and (ii) it represents a change in progress in the Palestinian population sampled. Despite discrepancies in overall usage rates of *'imala* (68% in Lebanese Arabic vs. 15% in Palestinian Arabic), inspection of its fine-grained linguistic conditioning reveals that in each variety, the preceding phonological environment has a strong effect on variant selection, with gutturals, emphatics, uvulars and /r/ inhibiting the raising of [a:] to [e:].

Detailed structural correspondences shared by the comparison varieties bolster the inference that *'imala* is infiltrating Palestinian Arabic in Lebanon as the result of prolonged dialect contact. We explore the external mechanisms facilitating this change, including the nature of Palestinians' social network affiliations with Lebanese Arabic speakers, as well as attendant societal pressures to converge on Lebanese Arabic speech patterns.

The Progressive Marker in Palestinian Arabic: Development and Variation

Duaa AbuAmsha *University of Calgary*
Eman Al Zaanin *King Khalid University*

Introduction: This study is concerned with the linguistic constructions available to Palestinian Arabic (PA) speakers in Gaza City for referring to a state or event taking place at the moment of speech. The study also examines whether there is variation among speakers in the way they express 'progressive' in PA and how this variation might interact with their socio-linguistic characteristics. The analysis is framed in the context of variationist and contact-induced approaches to language change (Labov 1994, 2001, Trudgill 1986) and the principles of grammaticalization theory (cf. e.g. Bybee et al. 1994). This study of spoken Arabic will contribute to our understanding of the aspectual nature of the Arabic verbal system and whether the progressive aspect is part of it, especially as the Arabic verb has mostly been treated in terms of perfective and imperfective aspect (Goldenberg 2013, p. 203), with most earlier studies focusing on Standard Arabic. The study also examines whether the sources and paths of development of the progressive marker in PA can provide support to Bybee et al.'s (1994) finding that the use and meaning of grammatical markers of tense, aspect, and modality constitute a universal set of grammatical categories whose semantic content evolves gradually through certain well-travelled paths of development that are strikingly similar in diverse genetic and areal groups of language (p. 15). This is significant in light of the fact that Arabic was not one of the seventy-six languages that were randomly selected and cross-linguistically studied by Bybee et al. (1994).

The study: My data come from two urban dialects of PA spoken in Gaza City: the indigenous Gazan dialect and the Jaffan dialect originally spoken in the city of Jaffa and introduced to the Gazan context by Palestinian refugees who moved to Gaza City following the 1948 Arab-Israeli war. The study attempts to answer the following research questions: What grammatical means are available to PA speakers to mark 'progressive'? Is there any variation exhibited by PA speakers in their expression of 'progressive'? If so, what are the linguistic and sociolinguistic factors involved in this variation? To answer these questions, I interviewed 48 speakers, both Gazan and Jaffan female and male speakers from four different age groups in Gaza: 8-17, 18-39, 40-65, and > 66 years of age. Also, 16 female and male speakers still living in Jaffa, which is part of the current State of Israel, were interviewed, serving as the control group. Participants were presented with a set of pictures, and for each picture, I asked them to describe and report on what people in the pictures are doing.

Findings & Discussion: The data show that PA speakers use varied means to refer to situations going on at the moment of speech: 1) non-past form of the verb, which is also used by some speakers to express the present and the future, 2) the particles *ʕammal* and *ʕamm-* derived from a verb meaning 'work'+ the non-past form of the verb, and 3) the construction *ʔa:ʕid-* 'sit.ACT.PART' + the non-past form of the verb, the latter two of which developed as progressive markers through a process of grammaticalization (Bybee et al. 1994). As regards variation in marking ongoing situations, age and dialect background, but not gender, were found to be interacting with the choice of form. Older Gazan, Gaza Jaffan, and Jaffan speakers of all age groups still living in Jaffa use the same non-past form of the verb to express non-past, imperfective, and progressive meanings. Middle-aged and younger male and female speakers mainly use the complex constructions available for this purpose: *ʕammal* and *ʔa:ʕid-* + non-past form of the verb. The construction *ʕam+* non-past form of the verb only appears in the data from five younger female speakers with both Gazan and Jaffan dialect backgrounds. Though the development of the progressive markers from postural verbs, in this case from the verb meaning 'sit', is attested cross-linguistically (Bybee et al. 1994), factors such as speaker age and dialect seem to be playing a role in PA. For example, older speakers seem to be more conservative with respect to using these innovative complex forms, while younger and middle-aged speakers adopt them. To conclude, PA does not have the means to mark ongoing activities in the simple verb paradigm; rather, a number of complex structures have developed for this purpose, the use of which interacts with speaker sociolinguistic profiles.

Actuality entailments with Makkan Arabic perfect

Jumanah Abusulaiman
University of Ottawa

This paper accounts for the interaction between the perfect with the root modal *gaadir* in Makkan Arabic (MA). MA provides novel combination of the perfect with the auxiliary *ṣaar* and the root modal *gaadir*, which yields actuality entailments (AEs). This occurs contrary to the understanding that such entailments are missing with the perfect with French root modals (Hacquard, 2014). This paper also contributes to a better understanding of root modals that enter into a relationship with the perfect in MA.

My investigations show that English perfect has various interpretations, which can be identified by a context (Comrie, 1975; Klein, 1994 and Portner 2003). However, MA perfect prefers to lexically disambiguate those interpretations through auxiliaries: *kaan* and *ṣaar*. Each auxiliary invokes an independent reading such as a `resultative reading' with *ṣaar*, as in (1) or an `existential reading', as in (2). The following examples are inspired by Portner's (2003) English perfect.

(1) Mary **ṣaarat** qaariʔah Middlemarch
Mary ṣaar.3.SG.F. read.participle.3.SG.F. Middlemarch
'Mary had read Middlemarch.' (MA)

In (1), there is a state of affairs where the event of reading Middlemarch entails all current results that are true such as Mary is smart, and she understands George Eliot's style.

(2) ʔaʒraam ʕimlaaqah **kaanat** muxtariqah l-ʔarḍ
asteroids gaint.F. kaan.3SG.F. break.through.participle.3.SG.F. the-earth
'Giant asteroids had hit the Earth.' (MA)

In (2), the event of hitting the Earth refers to a fact rather than a result: there was destruction in areas where the event of hitting happened by asteroids.

When the root modal *gaadir* is preceded by *kaan* or *ṣaar*, different interpretations are obtained with respect to AEs. AEs refer to assertions about the actual completion of an event, and it is incompatible to cancel the actualization of the event afterwards, as first observed by Bhatt (1999; 2006) for Hindi-Urdu root modal with the perfective. Previous works on AEs are devoted to the interaction between the root modals and the perfective (Piñón, 2003; Hacquard, 2006; 2009; Alxatib, 2015). Perfect aspect, on the other hand, is argued to be immune from AEs in Hacqaurd's (2014) recent work on AEs with French root modals. With the root modal *gaadir*, I propose that MA perfect with *ṣaar* always yields AEs, as in (3), but MA perfect with *kaan* invokes a 'counterfactual reading', as in (4). Let us see the following minimal pairs.

(3) Mary **ṣaarat** **gaadrah** tiqraʔ Middlemarch
Mary ṣaar.3.SG.F. gaadr.3.SG.F. read.participle.3.SG.F. Middlemarch
'In view of Mary's reading abilities, she had read Middlemarch (,\#but she didn't) (MA)

(4) Mary **kaanat** **gaadrah** tiqraʔ Middlemarch
Mary kaan.3.SG.F. gaadr.3.SG.F. read.participle.3.SG.F. Middlemarch
'Mary could have read Middlemarch, but she didn't.' (MA)

Analysis: I follow Hacquard's (2006; 2009) proposal regarding the structural height between the root modal and the perfective argued for French root modals. Regarding MA perfect, I assume that the perfect is located above the participle root modal *gaadir*. Auxiliaries *ṣaar* and *kaan* are projected under the perfect. Modifying Portner's (2003) proposal for the English perfect, I propose an independent lexical entry for each auxiliary to promote an independent interpretation. For resultative perfect with *ṣaar*, I amend Hacquard's perfective to account for AEs. Like Hacquard's perfective, the perfect has a world variable pronoun as its argument. The world pronoun anchors the event and its results in the actual world, as formulated in (5).

(5) $[[\textbf{ṣaar}]]^{w,B,\leq,C} = \lambda P_{<s,t>}, \lambda t_{<i>}.\exists e_{<l>}[\ P(e)=1 \wedge \exists s:\ s \in w \ \wedge\ \text{cause}\ (e)(s)=1 \wedge \text{time}(s) \subseteq t]$

Aterwards, a pragmatic principle preserves the same properties of the event and its results in the modal world and in the actual world. This principle is called 'Preservation of Event Description' (PED) by Hacquard (2006).

For MA perfect with *kaan*, I follow Kratzer's (1998) tradition for the perfect, which matches the intuitions of *kaan* with zero references to AEs, as in (6).

(6) $[[\textbf{kaan}]]^{w,B,\leq,C} = \lambda P_{<s,t>}, \lambda t_{<i>}.\lambda w_{<s>}.\exists e_{<l>}[e \in w \wedge P(e)=1 \wedge time(e)<t]$

Path encoding variation in MSA and English: A unified FI-based account

Mustafa Ahmed Al-Humari
Northern Border University, Rafha, KSA

The paper investigates the Path encoding of motion events in Standard Arabic and English. There has been a heated discussion in literature on whether languages fit into Talmy's (1985, 1991, 1995, 2000) two-way typology of motion events or its extended version, namely Slobin's (2004) three-way typology. The issue arises due to the fact that Talmyian two-way classification of languages: Verb-framed Languages (VLs) and Satellite-framed languages (SLs), has several apparent counterexamples; some VLs like MSA can display some properties of SLs like English in terms of Path encoding and vice versa.

1. a) daxala zaid-un al-faṣl-a **MSA**
   went.INTO.3SM Zaid-nom the-classroom-acc
   'Zaid entered the classroom.'
   b) xaraja zaid-un **(min)* al-faṣl-i
   went.OUT.3SM Zaid-nom of/from the-classroom-gen
   'Zaid exited the classroom.'
2. a) John *went into* the room. **English**
   b) John *entered* the room.

The above examples show that Path in MSA is not restricted to be lexically encoded within motion verbs, but it can be expressed in separate elements (prepositions). Similarly, the Path in English is not only expressed on prepositions/particles, but also it can be lexically encoded within motion verbs. Based on the language facts, I argue that there is no fixed parametric setting for a particular language to frame up its Path element. Moreover, no typological framework is able to explain how Path encoding variation(s) within or across languages are structurally represented in the mind.

Yet, I argue that such variations within or across languages can be captured in a straightforwardly uniform fashion, following the essence of Feature Inheritance (FI) model of minimalist syntax (Chomsky (2005, 2008), Richards (2007) and namely Ouali (2008)). I argue that Path encoding in English can be nicely captured under *v-p* DONATE possibility of FI and the same can be extended to Path encoding in other putative SLs like German, Dutch and Russian. In contrast, PATH encoding in MSA can be smoothly captured under the second logical *v-p* KEEP possibility and the same can be extended to Path encoding in other putative VLs like Spanish, Italian and French. The argument that prepositional phrases display some functional properties is not novel; it has been proposed in literature (Abels (2003), Baker (2003), Bošković (2004), Botwinik-Rotem (2004), Grimshaw (2005), Hornstein, Nunes, and Grohmann (2005), Radford (1997), Svenonius (2003, 2006) and van Riemsdijk (1978)). The transfer of unvalued probing features from the Phase head *v* to the Nonphase head *p* is analogous to that of C-T where the proxy head is of functional nature and not of lexical one. The proposed FI-based analysis can neatly account for other PATH encoding related issues; Path-manner complementarity assumed to be applicable across languages, licensing of accusative/genitive cases on DP Ground complement in some languages and deriving postpositional word order in Dutch. The proposed analysis not only predicts the

empirical facts of Path encoding very neatly and simultaneously, but also adds to the way that typological variation needs to be understood in the theory of generative grammar.

A'-movement feed licensing: A view from indirect causatives in Sason Arabic

Faruk Akkuş
University of Pennsylvania

This paper demonstrates that Sason Arabic (SA) exhibits a causative construction with an embedded active VoiceP, in which the embedded agent is subject to Romance ECM-type restrictions, and cannot remain *in-situ*. The paper provides a phase-based account to explain why the embedded Voice can license the embedded theme, but cannot have a DP in its specifier. In so doing, we provide striking evidence of A'-movement feeding licensing relationships. This construction also adds to the typologies of Voice and of causatives (cf. Schäfer 2008, 2017, Alexiadou 2012, Harley 2013, Legate 2014).

It is a construction with an overt embedded theme argument, but no overt embedded agent, with the verb in gerundial/infinitival form, (1). It maintains an agentive reading where the agent is interpreted as indefinite, non-specific 'someone' or 'some people'.

(1) si-tu addil beyt-ma
made-1sg build house-a
"I made sb. build a house."

Thematic Voice. We first provide evidence for a thematic VoiceP layer in the embedded event (drawing on tests from Alexiadou et al. 2015, Bruening 2013). The evidence comes from agent-oriented adverbs associated with the causee, (2), (ii) the availability of instrument phrases modifying the embedded agent, (iii) agent-oriented comitatives, (iv) thematic subject requirement (i.e. unaccusative verbs are disallowed), (3), (v) lack of stative verbs in the embedded complement.

(2) aɣa sa [hazd haşiş bı sabır]
landlord made.3m cut.inf grass with patience
"The landlord made [sb. cut the grass patiently]."

(3) *kemal sa var mı mardivan-ad
Kemal made.3m fall from stair-pl
Int: "Kemal made [sb. fall from the stairs]."

Active Voice. We demonstrate that the VoiceP is active. (i) Sluicing: Tue embedded VoiceP behaves as active for sluicing. In SA, VP ellipsis may in some cases allow voice mismatching, whereas sluicing does not, following Merchant's (2013) generalization. (ii) Non-passivizable idioms: Certain idiomatic expressions, such as *qarf faxz le şeytan* "to get lucky; *lit.* to break the devil's leg" lose their idiomatic reading in the passive. They are allowed in the complement of "make", maintaining the idiomatic interpretation.

Theme as the grammatical object. (i) definiteness effect, (ii) CLLD facts indicate that the embedded theme is the grammatical object. Objects (but not subjects) in Arabic can be CLLD-ed, (5) (Benmamoun 2000, Aoun et al. 2010). The embedded theme in the 'make'-causative can also undergo CLLD, (4).

(4) *haşiş* ams aɣa sa hazd-*u*
grass yesterday landlord made.3m cut-3m
"*The grass*, yesterday the landlord made sb. cut *it*."

(5) a. *haşiş* ams aɣa hazad-*u*
grass yesterday landlord cut.pst-3m
"*The grass*, yesterday the landlord cut *it*."

b. *kemal* qara-**u* gaste
Kemal.m read.pst-3m newspaper.f
"*Kemal*, *he* read the newspaper."

The embedded theme is licensed by the embedded VoiceP, not the matrix VoiceP. This is because even when the matrix clause is an impersonal passive construction, the embedded theme is still licensed as a grammatical object.

Romance ECM-type restriction. The embedded agent cannot remain *in-situ* in Spec,VoiceP, similar to Romance ECM (e.g. Kayne 1984, Pesetsky 1991, Bošković 1997). (i) Reflexives, (ii) reciprocals, and (iii)

depictives are licensed in the active, but not in the passive clause. They are also not licensed by the embedded agent, (6).

(6) iya$_i$ satte addil$_k$ odav (*mışa rou$_k$/roen$_k$/bazen$_k$) / sarxoş$_{i/*k}$
she made do.inf homework for himself/themselves/each other / drunk
"She$_i$ made sb$_k$ / some people$_k$ do the homework (*for himself$_k$ themselves$_k$/each other$_k$) / drunk$_{i/*k}$."

(iv) The agent is obligatorily null, unless A'-moved (question, relativization, contrastive focusing, (7-8)).

(7) *kemal sa cinar-ma faqz (8) cinar-ma kemal sa faqz, (mara-ma pir-e la)
kemal made.3m neighbor-a run.inf neighbor-a kemal made.3m run woman-a old-f no
"Kemal made a neighbor run." "Kemal made a neighbor run, (not an old woman)."

Notably, when the agent A'-moved, reflexive and reciprocal binding, and depictives become licit, (9-10):

(9) *ande$_k$ iya$_i$ satte addil odav (mışa roen$_k$)? (10) ande$_k$ si-t karu xanni (sarxoş$_k$)?
who she made.3m do homework for themselves who made-2sg write song drunk
"Who$_k$ did she$_i$ make do the homework for themselves$_k$?" "Who$_k$ did you make compose the song drunk$_k$."

Analysis. The SA 'make'- causative construction has the structure in (11). The absence of CP and TP layers is shown by the fact that CLLD-ed elements and *wh*-phrases cannot occur under 'make', and the complement cannot have distinct temporal modification. We argue for a phase-based account for the ECM-type restriction, in that an extra projection, FP, intervenes between 'make' and the embbedded VoiceP. The F head counts as the phase-head, and thus intervenes in the licensing of the embedded agent by the matrix 'make'. However, A'-movement (not A-mov't) makes licensing possible. We suggest that this is because F can host A'-features, and the embedded agent can raise to its edge (cf. Rezac 2013), so the agent can be licensed by 'make' in a local configuration. In fact, the specifier of FP can also host pronounced material in SA: it is the alternative landing site for the focus constituent, as such (7) becomes grammatical when the causee 'a neighbor' is contrastively-focused, which further supports the view that when the causee is *in-situ*, it is not local enough for 'make' to license it unless it undergoes A'-movement.

(11) [$_{VoiceP}$ [$_{vP}$ [$_{VP}$ [$_{V}$ make [$_{FP}$ [$_{F}$ **phase** [$_{VoiceP}$ DP$_{agent}$ [$_{Voice}$ [$_{VP}$ V DP$_{theme}$]]]]]]]]

On the Realization of Emphatic Fricatives in Faifi Arabic

Abdullah Alfaifi, Stuart Davis
Indiana University

Faifi Arabic (FA), which is spoken in the southwest corner of Saudi Arabia, is an understudied dialect that has unusual features, some of which have been reported on by Alfaifi & Behnstedt (2010). For example, they note the use of prefixal /im-/ as a definite marker and suffixal /-in/ as an indefinite marker: [ʔim-ki.taab] *'the book'*; [ki.taa.b-in] *'a book'*, as well as the preservation of the final vowel on verb forms such as [ka.ta.bah] '*he wrote*' as in Classical Arabic (CA). While the occurrence of these phenomena alone in the dialect makes it unique, one of the more interesting aspects of the dialect that has not been thoroughly studied is the realization of emphatic fricatives. FA has three phonemic emphatic consonants: /tˤ/, /sˤ/, and /ðˤ/, the latter of which is cognate to CA /ðˤ/ and /dˤ/. The emphatic stop /tˤ/ is realized very similarly to what is found in other dialects. The allophones of /sˤ/, and /ðˤ/, however, are unique and include the allophonic pronunciation of [st] for /sˤ/, and [θ] and [f] for /ðˤ/. The description and distribution of the allophones of the emphatic fricatives will be the focus of this paper. We will also propose that the allophone of [f], which only occurs in words where it would be cognate with CA /dˤ/, can be understood if such words were originally pronounced with the emphatic lateral fricative cognate of /dˤ/, found in surrounding dialects.

Based on the intuitions of one of the authors (a native-speaker linguist of FA), we first consider the emphatic /sˤ/, which is often realized as the sequence [st]. This [st]-sequence can constitute a complex onset as in [stab.rin] *'patience'* from underlying /sˤabr-in/; it can constitute a complex coda as in [wast.lah] *'he arrived'* from /wasˤlah/, or it can constitute a heterosyllabic sequence [s.t] as in [bas.ta.lin] *'an onion'* from /basˤal-in/ or

[was.ta.lah] *'he delivered*' from /wasˤsˤalah/. For phonotactic reasons, this emphatic fricative is realized faithfully as [sˤ] in certain contexts as in /jit-sˤajjad/ → [jit.sˤaj.jad] ⇏ *[jit.staj.jad] *'he hunts'*; this form can be contrasted with [sta:dah] *'he hunted'* which has the same underlying root consonants.

The FA emphatic fricative /ðˤ/ is often realized as [ðˤ], but when it is the first consonant of a root it can be pronounced as a voiceless [θ] in some cases and as the voiceless emphatic [θˤ] in other cases. These voiceless interdental realizations only occur with FA words where /ðˤ/ is cognate with CA /ðˤ/. The general observation is that non-emphatic voiceless [θ] is the realization of /ðˤ/ when the nucleus of the syllable (or following syllable) is the short high front vowel [i]: /ðˤifr-in/ → [θif.rin] *'a fingernail',* /ðˤahr-in/ → [θah.rin] *'a back'*, suggesting that there is a process of de-emphasization triggered by the high vowel nucleus of the syllable where the emphatic is in or by the high vowel of the following syllable. Emphatic [θˤ], on the other hand, occurs only when the following syllable has [aa] or [a] as the nucleus: /ʔaðˤfaar-in/ → [ʔaθˤ.faa.rin] *'fingernails'*, /ðˤamaaj-in/ → [θˤa.maa.jin] *'thirst'*. When /ðˤ/ is not the first root-consonant it is resistant to these alternations, as in /maħfaðˤ-ah/ → [maħ.fa.ðˤah] ⇏*[maħ.fa.θˤah] *'a wallet'*.

Instances of root-initial FA /ðˤ/ that are cognate with CA /dˤ/ can be pronounced in many instances as a depharyngealized [f], exactly like the realization of the phoneme /f/. The [f] allophone of this /ðˤ/ can occur as the first member of an onset at the beginning of a word as in /ðˤabʕ-in/ → [fab.ʕin] *'a hyena'* and /ðˤaħʃah/ → [faħ.ʃah] *'he laughed'*, as a second member of an onset as in /m-ðˤiliʕ/ → [mfi.liʕ] *'the rib'*, or as a coda of the first syllable as in /m-aðˤlaaʕ/ → [maf.laaʕ] *'the ribs'*. In cases when the FA /ðˤ/ that is cognate with CA /dˤ/ is not root-initial, it is always realized as [ðˤ] as exemplified by /gaaðˤ-in/ → [gaa.ðˤin] ⇏ *[gaa.fin] *'a judge'*. Thus, while the distinction between historical /ðˤ/ and /dˤ/ have neutralized to [ðˤ] in FA in non root-initial position, the distinction is maintained in root-initial position where words with historical /ðˤ/ can have a devoiced interdental as a reflex (but not [f]), while words with historical /dˤ/ can have [f] as a reflex (but not a devoiced interdental). One interesting question concerns the source of FA [f] that is the reflex of historical Ḍād. Al-Wer & Al-Qahtani (2016) observe that in areas near where FA is spoken, the pronunciation of the historical /dˤ/ is an emphatic lateral fricative [ɮˤ]. Given that /ðˤ/ undergoes devoicing (and de-emphasis) in FA, we suggest that in older FA, historical /dˤ/ was pronounced as [ɮˤ] and underwent devoicing that transformed it into a voiceless lateral fricative; because of the perceptual similarity between a voiceless lateral fricative and labiodental [f], listeners heard it as the FA phoneme [f]. This paper thus constitutes the first detailed description of the complex distribution of allophones of FA emphatic fricatives.

Effects of Negation on Aspectual Properties in Arabic Dialects

Mahmood Al Fkaiki
The University of Texas at Austin

This paper explores how negation affects aspect in Arabic dialects. In the literature, the interaction of negation with aspect has recently received a great deal of attention. Scholars such as Bennett and Partee (1972), Dowty (1972 and 1986), Karttunen (1974), Krifka (1989), Smith (1991), Verkuyl (1993), De Swart (1996), De Swart and Molendijk (1999), Mittwoch (2000), Partee (2008), Partee and Borschev (2002, and 2009) suggest that negation changes aspect from non-stative to be stative. According to this hypothesis, negation turns an existential perfect into a universal reading which occurs with a durative adverbial. For example, negated phrases typically pass the '*until* [X amount of time]' test while the unnegated phrases do not. This test suggests that negation turns event descriptions into state descriptions, and the state predicate is true at all subintervals of the *until* interval. Others such as Kamp and Reyle (1993), Giannakidou 2002, Csirmaz (2006), and Macdonald and ÜrÖgdib (2011) point out that negation often retains the aspectual properties of the phrase to which applies. They account for "negative sentences as the absence of an event, rather than the state of something not happening" (De Swart 1996). On this view there is no difference in aspect between an affirmative clause and its negative counterpart. Both of the theories in the literature are insufficient to explain the interactions between negation and aspect.

In this paper, I argue that negation in Arabic does not only turn aspectual properties from event descriptions into state descriptions, but also from state descriptions into event descriptions. In this regard, I provide the for-

adverbial test 'for [X amount of time]' in order to support this point. My data shows that negated verbs with durative adverbials in Iraqi Arabic (1a) and Egyptian Arabic (1b) express a universal perfect reading (understood here as "continued relevance," Brustad 2000:182). The existence of the relevant event inside the perfect time span is negated. The existence of the event in the perfect time span is part of the assertion. When there is a temporal adverbial like *min xams sni:n* 'for five years' in (1a) and *min yomin* 'for two days' in (1b) , a conversational implicature raises that conveys that events of reading and driving took place prior the perfect span time before utterance time.

(1) a. *ani ma: qri-t ʔayy ektab min xams sni:n*
I not opened-I any book from five years
"I have not opened any book for five years."
b. *ana ma:-suʔ-t-ʃ el-ʕarabiyya min yomin*
I not-drove-I-not the-car from two days
"I haven't driven a car for two days."

Conversely, negation can change a state description into an event description, as the following example from Iraqi Arabic demonstrates:

(2) *lamma howa qa:l haða, hija ma: tkalima-t kam laħdˁah, baʕadha hija qa:la-t bʃikil*
When he said this, she not spoke-3SF several seconds, then she said-3SF in terms
wa:dˁiħʔ anu hija ma: ʃaf-t-ah marah tha:nyya
plain that she not saw-she-him time second
"When he said that, she didn't speak for several seconds. Then she told him in plain terms that she would never see him again."

The sentence *hija ma: tkalima-t* 'she did not speak' with *kam laħdˁah* 'for several seconds' shows that an anaphoric expression locates the temporal interval it denotes (an interval lasting several seconds) as starting at the end of the event described by the preceding clause (the event of him saying that). The durative operator 'for several seconds' measures out a period of time that starts at the end of the event and ends several seconds later. In this case the input description to 'for several seconds' – that is: the phrase 'not speak' – should be a state description, as the 'for an hour' test requires. The result of applying 'for several seconds' to this – i.e. the phrase 'not speak for several seconds' – must then be understood as the description of a kind of event, a 'maximal state event', whose duration is the total period over which the state described by the input description to 'for several seconds' lasts. According to this analysis, 'for several seconds' does two things: (i) it turns the state description 'not speak for several seconds' into a kind of event description, and (ii) it locates the event described by this description immediately after the event introduced by the 'when'-clause. I propose the following semantic representation to explain the facts in (1) and (2).

(3) $\begin{bmatrix} t < n\,; t = dur(s); t'adv = dur(s) \\ \neg\,(e \subseteq t = dur(s)) \end{bmatrix}$

The semantic representation in (3) asserts that the events *e* in (1) and (2) do not hold in the perfect span time at some point in the past into the utterance time *n* through the durative adverbial *dur(s)* 'for [X amount of time] which stretches negated event ¬ *e* at some point in the past into the utterance time in the present. It is sufficient to capture the truth conditional content of (1) and (2).

Sonority and Najdi Arabic Onset Clusters

Omar Alkhonini
George Mason University

Classical Arabic (CA) does not allow clusters in the onset (Kiparsky, 2003), and hence, the traditional wisdom has been that Arabic in general disallows onset clusters (Akashah, 2007). Nonetheless, scholars have found that some dialects of Arabic, unlike CA, do allow clusters in the onset, such as the Arabic spoken in Damascus (Cowell, 1964; Grotzfeld, 1965; Kiparsky, 2003), Morocco (Boudlal, 2001; Shaw, Gafos, Hoole, & Zeroual, 2011), and Amman (Daana, 2009). Abboud (1979) claimed biconsonantal clusters could be found in

Najdi Arabic (NA) in word-initial position. The present study proposes that NA does allow onset clusters, but only a restricted set, based on sonority profile. There is some confusion between CA and NA forms caused by discussing NA while relying on CA as a base. This study seeks to avoid this potential problem, and therefore CA is entirely ignored in the analysis and discussion.

The hypothesis was tested using a constrained set of onset clusters in NA by recording 10 native speakers producing lexical items containing onset clusters in NA. Only words and phrases were chosen that contained onsets in their underlying forms in NA. The stimulus consisted of a list of 107 items, which were used once as individual words and then again in a carrier phrase preceded by a word ending in a consonant. The selected items were based on the Sonority Sequencing Principle (Steriade, 1982; Selkirk, 1984) and the sonority distance (Selkirk, 1982) between members of their onsets. That is, rising (e.g., [trab] 'sand'), falling (e.g., [rfuf] 'shelves'), and plateau (e.g., [ħsˤan] 'horse') sonority were taken into consideration when collecting the data. Participants were asked to read the list slowly with a brief pause between each word or phrase. Using PsychoPy (Peirce, 2007), every word or phrase from the stimulus was set to last four seconds for the participants to read.

To investigate the significance of the results, logit mixed-effects model analyses (e.g., Jaeger, 2008) were performed in R with the lme4 package (Bates, Maechler, Bolker, & Walker, 2014). Results showed that speakers of NA allowed only rising sonority clusters but disallowed plateau and falling sonority clusters (see Figure 1). Moreover, the greater the sonority distance in rising clusters, the fewer simplifications were found, whereas the greater the sonority distance in falling clusters, the more simplifications were found. Three types of observed simplifications were used by participants: prothesis (1,202 times, 95%), anaptyxis (54 times, 4%), and deletion (five times, less than 1%). The data also showed that lexical items produced after a consonant contained more simplifications than lexical items produced as individual words. The current study suggests that NA does have clusters, but they are constrained by sonority profile.

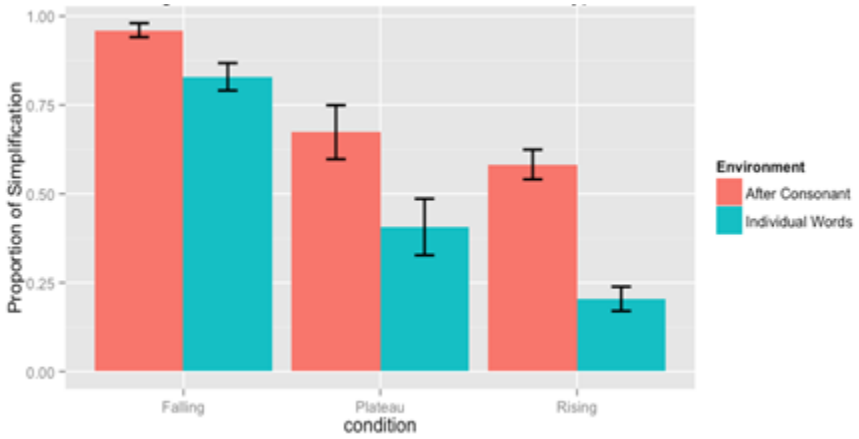


Figure 1. Results for the three onset cluster types.

The Impact of Segmental and Suprasegmental Information on the Perception of Saudi Arabic Accented English

Omar Alkhonini, Steven Weinberger
George Mason University

This paper investigates the effects of segments and suprasegments on Saudi Arabic accented English and seeks to determine which contributes more to a foreign accent. Some studies have suggested suprasegmental information has more influence on foreign accentedness (e.g., Anderson-Hsieh & Koehler, 1988; Munro & Derwing, 1999), while others have proposed segmental information has more influence (e.g., Jilka, 2000; Quené & van Delft, 2010; Sereno, Lammers, & Jongman, 2016). In addition, several studies have looked at accentedness alongside other variables, such as comprehensibility or intelligibility, which adds complexity to the analysis (e.g., Sereno et al., 2016). Studies such as Munro and Derwing (1995) have tested the contribution of

both segmental and suprasegmental information on accentedness without separating these factors in their speech samples during testing or offering a clear view of which was more important. Still other studies (e.g., Anderson-Hsieh, Johnson, & Koehler, 1992) have tested the accentedness of speakers from different language backgrounds, i.e., different L1s. The current study is one of the few to avoid these methodological issues by separating accentedness from other variables, separating segmental from suprasegmental information during testing, and focusing on participants that share the same L1.

In the current study, six phrases produced by different Saudi Arabic native speakers—three accented speakers for each phrase—were rated by American English native speakers. These phrases were taken from the Speech Accent Archive (Weinberger, 2015), which were part of a passage the participants were asked to read. Four phrases only have segmental accent cues and two only have suprasegmental accent cues. The first two phrases with segmental cues ("snow **p**eas" and "the sto**r**e") had consonantal cues; namely, the /p/ was voiced and the /ɹ/ was trilled. The second two phrases ("ask h**er**" and "r**e**d bags") had vowel cues, which consisted of lengthening the short vowel /ə/ to /eɪ/ and fronting the low vowel /ɛ/ to /ɪ/. Furthermore, the two phrases with suprasegmental cues were "blue cheese" and "train station." The first had a rising tone that was changed to a falling tone by the accented speakers, and the second had a falling tone they produced as rising.

The accentedness of these samples were rated by 47 native English speakers on a 9-point scale. To investigate the significance of the results, linear mixed-effects model analyses (see Jaeger, 2008) were performed in R with the lme4 package (see Bates, Maechler, Bolker, & Walker, 2014). Results showed that L1 raters judged the phrases with only segmental accent cues as significantly more accented than the phrases with only suprasegmental accent cues. Within the segmental group of phrases, consonants contributed to foreign accentedness more than vowels (see Figure 1).

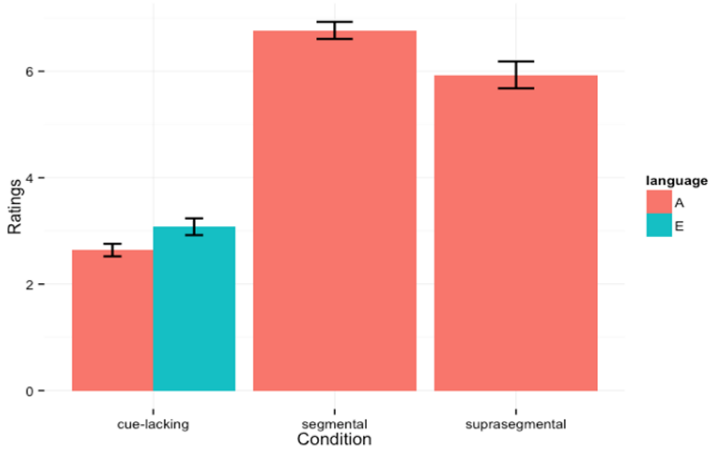


Figure 1. Results for the three types of phrases.

The syntax of coordinate complexes in Arabic: bare argument ellipsis in disjunction and not in conjunction complexes

Ahmad Alqassas
Georgetown University

Coordinate complexes (e.g. conjoined or disjoined DPs, CPs…etc.) display a variety of empirical puzzles that challenge our standard assumptions about the nature of syntactic categories, syntactic operations and structural configurations available in narrow syntax. The theoretical debates diverge on whether coordinate complexes have a special syntactic status necessitating the addition of syntactic categories, operations or configurations. A specific debate is whether the clause structure of coordinated DPs with closest conjunct agreement (CCA) involves phrasal or clausal coordination at LF (Munn, 1999; Aoun, Benmamoun, and Sportiche, 1999; Soltan, 2007; Larson, 2013). The categorical status of the coordination phrase is also debatable,

with some studies proposing a special category (e.g. &P/JunctionP in den Dikken 2006) while others arguing for a primitive lexical category determined by the external member of the coordination complex. A less debatable issue is the phrase structure of coordinate complexes, with most studies supporting a configuration where the internal conjunct is a complement of the coordination head while the external conjunct is its specifier. Building on previous research I did in (-- 2017) arguing for analysing Arabic coordinate complexes as conjuncts/disjuncts in a Specifier-Head-Complement configuration, I argue that certain cases of DP coordination—namely disjoined DPs with CCA, involve clausal coordination with Bare Argument Ellipsis (BAE). BAE is a phenomenon whereby all the elements of a clause are elided except for the argument of the verb (Hudson 1976; Moltmann 1992; Schwarz 1999; Depiante 2000; Kolokonte 2006; Culicover & Jackendoff 2007).

(1) John bought a book yesterday, and ~~he bought~~ a newspaper ~~yesterday~~. (Zhang 2010: 24)

This talk deploys two tests to identify cases of CCA that involve BAE in Arabic. BAE is *incompatible* with (1) collective predicates and (2) grammatical gender mismatches in DP coordination. These tests exclude number agreement mismatches due to its unreliability as a test for BAE. This unreliability is clear in cases of partial agreement in Standard Arabic (SA), where the verb does not agree with the plural subject in number, and there is no evidence of BAE.

(2) a. ya-drus-u Zayd-un wa Layla
3MS-study.IMPERF-IND Zayd-NOM and Layla
'Zayd and Layla are studying.'

Conjoined and disjoined DPs, which are external arguments in a Subject-Verb clause, both can trigger plural agreement on the verb in Jordanian Arabic (JA). Only disjoined DPs, however, allow singular agreement in this context:

(3) a. [DP laa Zeed wala ʕomar [TP šaaf-u-na/ šaaf-na (Disjunction)
neither Zeed nor Omar saw-3MP-us/ saw-3MS-us
'Neither Zeed nor Omar saw us.'
b. [DP Zeed wa-ʕomar [TP šaaf-u-na/ *šaaf-na (Conjunction)
Zeed and-Omar saw-3MP-us/ saw-3MS-us
'Zeed and Omar saw us.'

This dichotomy can also be explained if disjoined DPs are CPs with BAE in the external disjunct; whereas conjoined DPs are genuine DPs with no BAE. The evidence for this can be found in the following contrasts from JA:

(4) a. laa Zeed wala layla (*šaafat-na)/ (*šaaf-na) (DP with mixed gender)
neither Zeed nor Layla saw.3FS-us/ saw.3MS-us
Intended meaning: 'Neither Zeed nor Layla saw us.'
b. *maa ltaga laa l-ustaað wala l-tˁullaab (Collective predicate)
neg met neither the-teacher nor the-students
Intended meaning: 'Neither the teacher nor the students met.'
c. ltaga l-ustaað wa l-tˁullaab
met the-teacher and the-students
'The teacher and the students met.'

I argue that these empirical contrasts suggest that the categorical status of the coordination phrase is determined by the category of the conjuncts or disjuncts (e.g. DP, CP), and no special &P/ JunctionP is warranted. I show that disjoined DPs are dominated by a DP projection specified for the functional feature of *number* and *negation*. The distribution of case in disjoined DPs in SA supports this. Furthermore, the talk will contrast conjoined and disjoined DPs in preverbal and postverbal positions.

Probing Linguistic Change in Arabic Vernaculars: A Sociohistorical Perspective

Plenary Keynote

Enam Al-Wer
University of Essex

Several features in present-day Arabic dialects are undergoing change. Some of the ongoing changes appear to reverse historical processes of change within the same dialect, while others give rise to new features, triggered by dialect contact for the most part. The features that are undergoing change include the following:

- depalatalisation of affricates (originating in velar stops), and spirantisation of /ʤ/ in some Peninsula and Levantine varieties
- lowering of pausal feminine ending /a/, and unrounding of /ɒː/ in some central and east Arabian dialects
- syncope and resyllabification in Medini
- restructuring of the phonology of the feminine ending in Amman
- conjugation of the imperfect of the verbs *ʔakal* and *ʔaxað* in Amman
- feature loss (dark /l/) in Horani Jordanian dialects

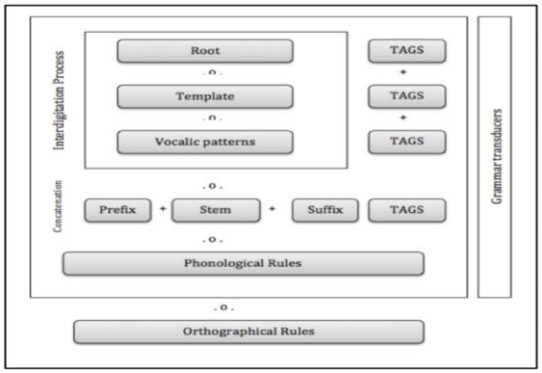
The change affecting these features sometimes aligns with universal tendencies, e.g. lenition of /ʤ/, and in such cases we find areal and social factors motivating the change in the same direction. In other cases, however, the development reverses a historical change that was itself internally motivated (system-based), most notable in the depalatalisation of velar stops in front vowel environment. The actuation of such developments must therefore lie in the realm of the community, i.e. they are speaker-based, which can take the form of an abrupt replacement without intermediate stages.

On the basis of empirical findings from research conducted over the past few years, I aim to present a sociohistorical account of some of the changes taking place in dialects of the Peninsula and Jordan, and a closer examination of the social predictors that govern the progression of the change across social groups.

A Finite-State Morphological Parser and Guesser of Arabic Verbs

Yahya Aseri
University of Colorado at Boulder

Problem and Previous Work*:* Morphological parsing represents an important component for natural language processing (NLP) and its applications. One of the most common and widely used methods is finite-state technology, which allows for both analysis and generation. This technology has been adopted by many Arabic morphological parsers available in the field (Attia et al. 2011; Beesley, 1996, 1998a,b; Habash et al. 2005, 2006; Jaber et al. 2008; Kiraz 2000). Since the existence of a lexical database is a core component of any finite-state morphological parser, the quality and coverage of the lexical component significantly affect the efficiency of the parser. The problem is that expanding the coverage of the lexicon associated with the morphological parsers requires a great amount of human effort. In addition, when it comes to Arabic verbs, the so-called derived verbs are often predictable and therefore not listed in the dictionaries. Hence, this abstract describes an implementation that not only analyzes Arabic verbs whose lemmas are listed in the lexicon, but also predicts the lemma/stem and morphological information of unseen verbs.



Implementation*:* the system presented here makes use of the *Foma* compiler developed by Hulden (2009), which is an open-source finite-state toolkit that implements Xerox *xfst* utilities. The following steps outline the computational design. The **first step** *is building a root-and-pattern-based morphological parser* using a computational method called *composition* (symbolized as *.o.* in finite-state) that allows for dealing with discontinuous morphology and handling both the interdigitation and concatenation processes in *five* incremental compositional phases. As shown in figure [1],the first two compositions deal with the interdigitation process by inserting 2100 roots in the predefined templates, and then inserting vowels to produce the stem. The tags (i.e., root, template, aspect and voice) were added to the analysis (output) of the first and second transitions. The third phase manipulates concatenative morphology by adding prefixes, suffixes, and circumfixes. The last two compositions deal phonological and orthographical rules. To handle unseen verbs/roots that are not listed in the lexicon, **the second step** in this implementation is to *build a morphological guesser* that predicts the lemma and provides morphological analyses of such unseen verbs. Using the same method shown in figure [1], a separate morphological guesser was built. The process of adding a morphological guesser to the system results, however, in an overgeneration of the analysis. For instance, *kataba* 'to write' will have two analyses; one of them is produced by the *Guesse*r while the other is provided by the primer parser that contains the actual root 'ktb'. Thus, **as a last step** in the design, the outputs were filtered using *negation operation* available in finite-state calculus, which allows for restricting the analysis produced by the *Guesser* only to unknown verbs. Again, the *composition* operation as a powerful tool for customizing lexical transducers was used for filtering known verbs from unknown. That is, if S_1 stands for the system that analyzes known verbs and S_2 represents the system that analyzes unknown verbs/roots, filtering the outputs is done by composing the complement of $S_1.u$ i.e $\sim S_1.u$, on the top of the transducers so that the system accepts, as a GUESS, only upper strings that do not contain the actual roots.

Evaluation*:* the performance of the system was evaluated on vocalized, conjugated verbs. Two things were taken into account in this evaluation:1) the percentage of inputs that have been recognized/analyzed by the system; and 2) the percentage of the recognized verbs that were analyzed correctly. The results show that 85.7% of the tested verbs were recognized by the system and 96% of these inputs were analyzed correctly. The drop in percentage of the recognized verbs is attributed to the fact that some of the inputs did not match the predefined templates. To improve the system, more verbal patterns should be included.

Metalinguistic knowledge of salient versus unsalient structural features: Evidence from the definite Arabic construct state

Mahmoud Azaz
University of Arizona

Metalinguistic knowledge refers to learners' conscious/explicit knowledge of grammatical forms (DeKeyser, 2009). The role of this knowledge when second language (L2) learners perform language tasks that target these grammatical forms has been controversial. Three positions are taken. The first postulates that L2 learners' performance is not affected by explicit knowledge of grammatical forms, but by unconscious/implicit knowledge (Elder et al. 1999). The second establishes direct links between metalinguistic knowledge and L2 learners' task performance (Hu, 2011; Roehr, 2006, 2007). The third position establishes indirect links, stipulating that metalinguistic knowledge plays a role only when it is automatized through practice (DeKeyser, 1998; R. Ellis, 1994). These controversies have motivated common lines of inquiry, including the effects of certain pedagogical techniques and language task demands. Less investigated is how L2 learners develop metalinguistic knowledge of grammatical forms that exhibit variable inherent characteristics (Hu, 2002; Xu & Lyster, 2014). Two important characteristics are salience (whether the grammatical form is easy to notice in the input due to being prominent) and complexity (whether the surface form entails several transformational steps) (DeKeyser, 2003; Gass, Spinner & Behney, 2017; N. Ellis, 2006; R. Ellis, 2006).

This present study focused only on salience. It examined whether L2 learners developed varied manifestations of metalinguistic knowledge of a salient and unsalient feature in Arabic. Also, it explored the link between these manifestations and successful task performance. This link did not receive attention in existing L2 Arabic studies (Alhawary, 2009; Ryding, 2013). The construction under investigation is the definite Arabic construct state (e.g., *qamiiṣ al-walad*, 'the boy's shirt'), which is the hallmark of the Arabic noun phrase structure (Benmamoun, 2000). The analysis of this construction shows two complementary structural components: head-complement ordering and definiteness placement. For head-complement ordering, the head (*al-muḍaaf*) surfaces first followed by the complement (*al-muḍaaf ʔilayhi*). For definiteness placement, the definite article (*al-)* is prefixed/cliticized *only* to the complement (both **al-qamiiṣ al-walad,* **al-qamiiṣ walad* are ungrammatical). These two structural components vary in salience. In line with Goldschneider and DeKeyser (2001), head-complement ordering is more salient than definiteness. This is because the head and the complement inherently have more phones and syllables. Additionally, the fact that head-complement ordering is canonical (i.e., *al-muḍaaf* must surface first) contributes to its salience. The definite article (*al-*) is a monosyllabic clitic that never occurs independently in writing. Also, it is assimilated in certain phonological contexts in speaking.

The present study addressed two questions: (1) to what extent do beginning and intermediate English-speaking learners demonstrate varied manifestations of metalinguistic knowledge of the two structural features of the definite Arabic construct state? and (2) to what extent are the learners' varied manifestations associated with item resolution in a multiple-choice task? The study used a quantitative-qualitative method that employed a form-focused multiple-choice task and a retrospective think-aloud interview. A beginning ($n = 20$) and an intermediate-proficiency group ($n = 18$) of English-speaking learners of Arabic, who were explicitly exposed to the Arabic construct state, completed a multiple-choice task in which the head-complement ordering and definiteness placement were manipulated in three choices. A retrospective think-aloud interview was conducted with 10 participants from each group to discuss their answers to capture the manifestations of their metalinguistic knowledge. In line with Wrembel (2015) and Roehr (2006), learners' metalinguistic knowledge was conceptualized in terms of their ability to (a) selectively focus attention; (b) provide explicit explanation; and (c) and use relevant metalanguage (technical grammar terms). The learners' verbal comments about these three categories were transcribed and coded either *evidenced* or *unevidenced*.

In regard to the *first* research question, the qualitative analysis revealed both groups exhibited sophisticated and comparable knowledge of head-complement ordering in the Arabic construct state and how it differed from English equivalent constructions. However, they did not show the same level of knowledge of definiteness placement. For *focused attention*, an independent-samples *t*-test (factor: *Group*) was used to compare between

the two groups. It yielded an insignificant difference between the average of comments that showed successful focus of attention on head-complement ordering: $t(18) = -1.505$, $p = 0.946$, but returned a significant difference between the average of comments that showed successful focus of attention on definiteness placement: $t(18) = -4.558$, $p = 0.008$. For *explicit explanation*, the *t*-test returned no difference between the means of the correct explanations of head-complement ordering for both groups: $t(18) = -1.338$, $p = 0.274$, but it returned a significant difference (but somewhat marginal) between the means of the correct explanations of definiteness: $t(18) = -8.826$, $p = 0.028$. For the use of *metalanguage*, the analyses of the interviews showed that learners in both groups were not aware of the key technical terms of *al-muḍaaf* (head) and *al-muḍaaf ʔilayhi* (complement). However, this did not impede them from expressing the semantic relations (possession, modification or determination) between the head and the complement. For the *second* research question, a follow-up correlation test showed positive connection between manifestations of metalinguistic knowledge and response type distribution in the choice task.

These findings contribute to the literature in important ways. First, they provide quantitative and qualitative evidence that suggests that L2 learners develop variable metalinguistic knowledge of salient and unsalient features. Second, the utilization of metalinguistic knowledge in task performance may not be conditioned by the use of highly technical language. Rather, L2 learners develop their own representations of the structural properties in question and the relationships among them. Third, the positive correlation reported implies a connection between varied manifestations of metalinguistic knowledge and successful task performance. Pedagogical implications that relate to planned focus-on-form and metalinguistic instruction are presented. Also, implications that speak to the role of salience in L2 acquisition theory (see Gass, Spinner & Behney, 2017) are discussed.

Linguistic variation in regional Modern Standard Arabic: Exploring native speakers' morphological preferences

Mahmoud Azaz, Essa Alfaifi
University of Arizona

Research in Arabic linguistic variation has primarily focused on Arabic dialects (Abd-El-Jawad, 1987; Farwaneh, 2009; Kiparsky, 2003; Watson, 2002, among others). Not only does this research assume that a considerable amount of variation exists among Arabic dialects, but it also tends to posit that Modern Standard Arabic (MSA) is comparatively a uniform variety (Versteegh, 2014). The earlier call of Van Mol (2003: 1) that "Until now there are, as far as we know, no empirical studies that prove the possible uniformity or regional variation within the MSA" has motivated a single (but comprehensive) study by Ibrahim (2009) that examines lexical variation in Egyptian, Lebanese, and Moroccan regional MSA. However, in charting out variation in regional MSA in these countries, Ibrahim conflates two categories of lexical variation: *lexical* preference in which two surface forms that do not share the root are used with a preference towards one in each country (e.g., *qayduum* in Moroccan MSA and *ʕamiid* in Egyptian MSA, both mean 'dean') and *morphological* preference in which the two surface forms share the root with a preference towards one in each country (e.g., *kulfa* in Lebanese MSA and *taklifa* in Egyptian MSA, both share the root *k-l-f* and mean 'expense').

Motivated by the dearth of research on linguistic variation in regional MSA, this present study focuses exclusively on morphological preference in which the two surface forms share the root. It extends the focus to Egyptian and Saudi Arabian MSA (e.g., *ḥawaaʔiṭ* in Egyptian MSA and *ḥiyyṭaan* in Saudi MSA, 'walls'). This language pair was not the focus in Ibrahim's work (2009). Two specific research questions were addressed. *First:* are educated Saudi native speakers aware of the morphological preference in regional MSA in Egypt and Saudi Arabia? *Second*: to what extent does this awareness influence their selection of regional morphological variants. A total of thirty-three educated Saudi speakers—including males and females, all at a comparable educational level— participated in the study using the online Qualtrics questionnaire software. The materials consisted of thirty morphological variants that were excerpted with their original contexts/paragraphs from a widely-spread daily Egyptian newspaper. These variants were distributed among verbs, nouns, adjectives, and

adverbs. Two contextualized tasks were used: (1) an *acceptability* judgment task that asked the Saudi participants to evaluate their acceptability of the underlined Egyptian morphological variants on a six-point scale (ranging from 0 'word/variant is completely unacceptable' to 5 'word/variant is completely acceptable') and (2) *a forced-choice* task that requested the Saudi participants to choose between the Saudi and Egyptian variants to fill out the gaps in the excerpted contexts. Responses of the participants to the acceptability task were divided into Low (0,1, or 2 on the scale), Med (3) or High (4 and 5). Responses to the choice task were categorized either target (if selected the variant used in Saudi Arabian MSA, given a value of 1) or non-target (if selected the variant used in Egypt instead, given a value of 0).

The results showed a complex pattern. In the *acceptability* task, the Saudi speakers generally disfavored the Egyptian variants. The majority of these variants (n = 23/30) received low acceptability rates (0, 1 and 2 on the scale). However, their dispreference varied according to the item at hand. Certain variants received less acceptability than others. Interestingly, very few variants (n = 4/30) exhibited an opposite pattern of preference; receiving more acceptance than rejection. To statistically confirm the low tendency of the Saudi speakers, we compared the average tendency score (across all the items) against the values of 4 and 5 on the continuum in a one samples *t*-test. The values of 4 and 5 were selected because if we assume that Saudi and Egyptian variants are similarly acceptable, one may expect Saudi participants to tend to assign these high values on the continuum. The average low tendency score was significantly different from 4 ($t(32)$,-9.291, $p = 0.000$) and 5 ($t(32)$,-14.605, $p = 0.000$). Results of the *forced-choice* task clearly confirmed the main pattern of findings in the acceptability task: Saudi speakers decisively leaned toward the Saudi variants and were less tolerant of the Egyptian variants. In the majority of the items (n = 27/30), the majority of the Saudi participants preferred the Saudi variant over the Egyptian variant. In very few items (n = 3/30), all the Saudi participants preferred the Egyptian variants. To determine whether this tendency is statistically significant, the average of the Saudi participants was compared to chance (0.5) in a one samples *t*-test. This is because if we assume that Saudi and Egyptian variants are similarly acceptable, one may expect Saudi participants to exhibit 50% tendency toward the Saudi variant. The test yielded a robust statistical difference: ($t(32)$,10.522, $p = 0.000$).

The results of the two tasks, when put together, suggest that morphological preference in regional MSA is real. The statistically significant tendencies reported cannot be explained by chance. Educated native speakers of MSA show significant tendency toward the morphological variants in their respective regional varieties of MSA. This finding is complementary to the results of Ibrahim (2009). A number of factors are speculated to account for this morphological preference. They include frequency of certain variants in written discourses, access to media in different regions, semantic expansion or narrowing of certain variants, and the influence of the vernaculars. The study concludes that linguistic variation in MSA is better conceived of as a continuum in which items vary in terms of their acceptability. It also concludes that MSA is really a dynamic, versatile, and instable variety that keeps changing over time. This opens up the question of whether MSA is really a monocentric variety. It also poses important questions about its susceptibility to change over time. Further issues of language contact and change in regional MSA are discussed.

Categorical Perception of Emphatic Consonants in Palestinian Arabic

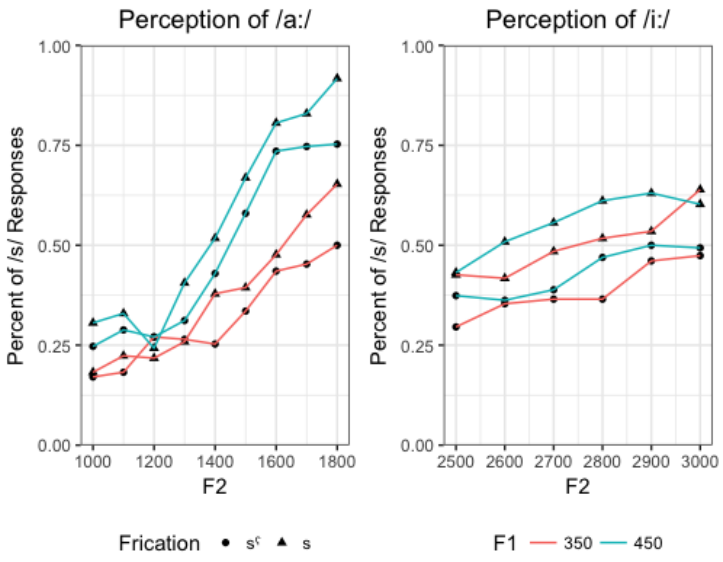
Laura Rose Faircloth
University of Texas at Austin

INTRODUCTION: Emphatic coronal consonants in Arabic are associated with a higher first formant (F1) (Zawaydeh, 1997) and a lower second formant (F2) in adjacent low /a/ (Al-Masri and Jongman, 2004). One study found a difference in the center of gravity (CoG) of plain /s/ and emphatic /sˤ/ (Norlin, 1983), while other studies found no difference (Jongman et al, 2011). The differences in high vowels are less well understood, and there is limited evidence of how these acoustic correlates affect perception of emphatic consonants (Jongman et al, 2011). This perception study explores how differences in CoG, F1, and F2 affect the perception of emphatic consonants adjacent to low /aː/ and high front /iː/ in Palestinian Arabic.

METHODS: The experiment had two parts: one for /i/ and one for /a/. The subjects listened to stimuli and had to identify if the sequence was /saː/ or /sˤaː/ (/siː/ or /sˤiː/ for i) by pressing buttons corresponding to the

orthography. The stimuli were consonant-vowel sequences synthesized from frication and vowel measurements from a pilot speaker. The frication came from plain /s/ or emphatic /sˤ/. For /a/, F1 was 700 or 900 Hz and F2 varied in 100 Hz intervals from 1000 to 1800 Hz. For /i/, F1 was 350 or 450 Hz and F2 varied in 100 Hz intervals from 2500 to 3000 Hz. The stimuli were repeated ten times per subject. 17 native speakers of Palestinian Arabic from Nazareth, Israel, participated in the experiment. The results were analyzed in a mixed-effects linear regression.

RESULTS: As F2 increased, the rate of plain /s/ responses increased for /a/ and /i/. The plain frication also increased the number of plain /s/ responses. It was expected that high F1 values would decrease the rate of plain /s/ responses because vowels adjacent to emphatic consonants often have higher F1 values. However, participants perceived the stimuli with low F1 as emphatic. The categorical curve pattern primarily occurred with low /a/, which also had significant interactions of F2 and F1 ($\chi^2(1)= 38.1$, $p < 0.001$) and F2 and frication ($\chi^2(1)= 10.9$, $p < 0.001$). There were no interactions in high front /i/, where subjects had less clear perception of plain /s/ and emphatic /sˤ/.



DISCUSSION: Listeners used lower F2 values as an indicator of emphatic consonants, as would be expected based on the consistency of low F2 values in vowels adjacent to emphatic consonants. The frication of the consonant also affected the perception of emphasis, suggesting that there are cues to emphasis within the consonant in this dialect, contrasting with Jongman et al (2011). Subjects also associated a lower F1 with emphasis, which was unexpected given that F1 has been found to be higher, not lower, adjacent to emphatic consonants. This research demonstrates that produced correlates and perceptual cues may be used different by listeners, as well as providing a framework for exploring non-local emphasis spread (Watson, 2007).

Morphological priming in Arabic reading: Dissociating effects of consonantal roots and vocalic word patterns

Michael Grosvald, Shahed Alkhatib, Salma Abdo, Noora Al-Ansari, Dalia Ahmad, Ali Idrissi
Qatar University

Efforts to elucidate the role of consonantal roots and vocalic word patterns in lexical representation, access, and retrieval have included a number of priming experiments. Such work has been conducted in Arabic varieties including Modern Standard Arabic (MSA; Boudelaa & Marslen-Wilson 2004, 2005; Mahfoudhi 2007), Moroccan (Schluter 2013), Tunisian (Boudelaa & Marslen-Wilson 2013), Emirati (Al-Kaabi 2015), and Maltese (Twist 2006; Ussishkin et al. 2015). Results so obtained have been inconsistent and do not provide robust evidence for the cognitive-psychological reality or independent morphemic status of the alleged abstract root and word pattern morphemes (see Idrissi 2018 for a review). For example, while Boudelaa and Marslen-Wilson (2004, 2005, 2013) report both root and word pattern priming, Abu-Rabia and Awwad (2004) ran visual masked priming experiments to test the role of roots and word patterns in MSA and found no priming in either case. Similarly, in one experiment on Moroccan Arabic, Schluter (2013) found that not all words activate their morphological relatives despite shared roots. In other cases, vocalic pattern priming was reported only for verbs (Boudelaa & Marslen-Wilson 2004, 2005) or for nouns with productive roots (Boudelaa & Marslen-Wilson

2011). This inconsistency in the priming results remains of serious concern to readers of the priming literature, calling for carefully designed experiments to explore these issues.

In the present study we conducted two lexical decision experiments with native Arabic speakers, using masked priming to separately investigate root and word pattern priming in MSA. The first of these explored priming related to consonantal roots; targets were preceded by primes of five types: identical to target, shared root, shared phonology (having a root with the same three consonants as the target's root but in a different order), shared semantics (related meaning but morphologically unrelated form as in the pair "doctor-nurse"), and a completely unrelated form (a control condition). The second experiment explored priming related to vocalic word patterns; targets were broken plurals preceded by primes of five types: identical to target, broken plural with the same vocalic pattern as the target (e.g. *rijaal* "men"- *rifaaq* "friends"), "different broken pattern" (broken plural with a different vocalic pattern), sound plural, and an unrelated control condition. In all cases, the primes preceding the targets were shown for 60 ms.

The results of the two experiments provide an interesting contrast. For root priming, we found a number of significant effects; in particular, primes with the same root as the target showed priming that was of essentially equal strength to the priming provided by primes with related semantics but unrelated morphology. In contrast, other than the identity condition, *none* of the conditions in the vocalic word pattern priming experiment yielded significant priming effects relative to the unrelated control condition. These results have several interesting implications.

Because shared roots led to the same amount of priming as shared semantics without shared roots, word roots might not have a status independent of meaning; earlier priming results for roots may simply have been due to shared semantics. In other words, despite what has been argued in the literature, our findings may cast doubt on the central role of roots as an independent unit in lexical representation and organization. In addition, the complete absence of priming effects for vocalic patterns adds further support to the overall picture emerging from previous studies, in which word patterns have not systematically exhibited priming effects.

The discourse markers *yaʕni* and *ʔinnu*: in Syrian Arabic

Rania Habib
Syracuse University

Studies of discourse markers (DMs) in Arabic mainly offer description of the pragmatic and semantic functions of DMs (e.g. Mughazy, 2003). Limited studies examined only the syntactic and/or pragmatic functions of the discourse markers *yaʕni* and *ʔinnu:* 'I mean, that is' (1a&b) (Owens and Rockwood, 2008; Germanos, 2010; Rieschild, 2011). This study examines the linguistic and social distributions and uses of these two DMs in the speech of 72 speakers from the village of Oyoun Al-Wadi in Syria. The study seeks to answer the following two questions: (I) Is there a change towards the use of *ʔinnu:*, although the verb *yaʕni* is the traditional form of *I mean* (2) (although grammaticalization towards being a DM is possibly occurring), whereas the particle *ʔinnu:* has other meanings and syntactic functions (complementizer (3), relative pronoun, pronoun, and emphatic)? (II) Are these DMs used increasingly by the younger generation?

(1) *yaʕni* and *ʔinnu:* functioning as DM

(a) bitʔillna:, *ʔinnu:*, skito:
She tells us, that is/I mean, shut up
'She tells us, DM, shut up.'

(b) bass, *yiʕni*, ʔana: mu: biħke: maʕon kti:r
But, that is/I mean, I don't talk with them a lot
'But, DM, I don't talk with them a lot.'

(2) *yaʕni* functioning as verb

nsi:t kill ʃe:; *yiʕni* ma: ʕa:d ʔitzakkor wa-la: kilmi
I forgot everything; I mean no longer I remember any word
'I forgot everything; I mean I no longer remember any word.'

(3) *ʔinnu:* functioning as complementizer

ʔe:,	tʔillna:	*ʔinnu:*	niħna:	bala:	ʔadab
Yes.	she tells us	that	we are	without	manners

'Yes. She tells us that we are without manners.'

The naturally occurring speech of 22 adults (ages 29-57) and 50 children (ages 6-18) constitutes the data set. Gender among adults and children and age among children (four age groups 6-8, 9-11, 12-14, 15-18) are considered in the quantitative analysis. *yaʕni* and *ʔinnu:* occur almost equally in the corpus of all speakers. However, *ʔinnu:* is more frequent among children. The age group 9-11 uses more *ʔinnu:* than *yaʕni*. The two older age groups use *ʔinnu:* and *yaʕni* almost equally. However, disparities between children and adults and between males and females in both children and adults are evident. Both girls and boys use more *ʔinnu:* than *yaʕni*, whereas adults show a reverse pattern. Girls use *ʔinnu:* and *yaʕni* much more than boys. Similarly, women use more *yaʕni* and *ʔinnu:* than men. This similarity between girls and women points to gender effect regarding the use of these DMs: females use more DMs than males in general, although older females differ in which DM they use more. The disparity between males and females is higher among the children than it is among the adults.

In conclusion, the apparent time data show that there is a change in progress towards the use of *ʔinnu:*. This change is led by females. Women use it more than double its use by men. This use is advanced by girls who show almost double its use by the women. The boys' use is close to the women's use, which aligns with the theory that males are always one generation behind females during a change in progress led by females (Labov, 2010). The data also show a kind of incomplete shift towards the use of *ʔinnu:* among the younger generation. This shift is led by the age group 9-11. The higher frequency of the DMs among the younger generation indicates that children in this study are linguistically behaving in a similar way to other young speakers in other regions of the world regarding DMs (e.g. Tagliamonte & D'Arcy, 2004). The gender effect observed in this study enforces the communicative behavior difference among males and females in relation to the use of DMs (Coates, 1989).

Exploring the lexical abilities and language exposure patterns of Arabic-Swedish TD bilingual children (4-7) in Sweden

Rima Haddad, Linnéa Öberg, Ute Bohnacker
Uppsala University

Children growing up bilingually are exposed to two languages; hence, the amount of exposure to each language is generally less than the amount of language exposure that a monolingual child receives. This may lead to a smaller lexicon in one or both of a bilingual child's languages (Bialystok et al., 2010). Language exposure patterns affected by certain environmental factors, socio-economic status and age effects, further impact the development of a bilingual child's lexical ability. Not taking these factors into consideration might lead to falsely diagnosing the child with Language Impairment (LI). Children who do have LI, however, often show a slower rate of vocabulary growth; furthermore, their lexicon is believed to be less diverse than that of same-age peers (Leonard & Deevy, 2004).

Since the language characteristics of bilingual children in Sweden have not been fully explored, our **aim** is to analyze data from a large group of Arabic-Swedish bilingual children in order to identify what typical language development looks like and at later stages be able to tease apart the lexical characteristics of bilingualism from language impairment.

We present first results on the lexical knowledge of 100 TD Arabic-Swedish speaking children (4-7). The LITMUS Cross-linguistic Lexical Tasks (CLT) (Haman et al., 2015) is used to measure lexical ability. CLT is a picture-based vocabulary task that assesses the bilingual child's comprehension and production of nouns and verbs, allowing a comparison of lexical abilities in Arabic and Swedish. We have carefully accustomed the CLT target words to match the children's spoken Arabic variety. We also investigate how the children's lexical performance is affected by age and language exposure measures using background information from parental

questionnaires. Preliminary results from 67 children show that speaking Arabic at home significantly boosts the TD children's lexical knowledge in Arabic while not decreasing their lexical knowledge in Swedish.

Optional Datives in Arabic as Applicative Adjuncts and Cyclic vs. Counter-Cyclic Merge

Youssef A. Haddad
University of Florida

Overview: It has been argued that adjunction as pair merge, unlike substitution or set merge, may or even must occur counter-cyclically. I present evidence from optional datives in Levantine Arabic (aka Attitude Datives), a category of pronouns that merge as applicative adjuncts, to show that adjunction, like set merge, may give priority to cyclicity. I show that Attitude Datives as applicative adjuncts must merge cyclically; they only opt for counter-cyclic merge as a last resort.

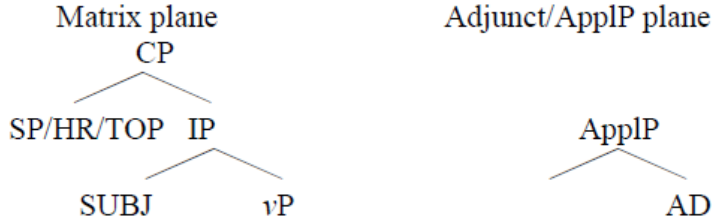
Attitude Datives: Levantine Arabic varieties license a category of optional dative pronominal enclitics known as Attitude Datives or ADs (Haddad 2014). These datives are interpersonal pragmatic markers that may be added to utterances without altering their truth conditions. Four types of ADs are licensed in Levantine Arabic. These are Speaker-Oriented or SP-ADs, Subject-Oriented or SUBJ-ADs, Hearer-Oriented or HR-ADs as in (2), and Topic/Affectee or TOP/AFF-ADs. (1) and (2) are examples of SP-AD and SUBJ-AD constructions, taken from a TV show and a play respectively. ADs are in red boldface.

1. Context: A mother learns from her daughter that her son, Raad, uses Facebook. She says:
   yaʕni: ha:da: raʕed , ga:ʕed biʃamʃim-**li:** ʔaxba:r l-na:s mitl l-nasa:wi:n ?!
   this.mean this Raad , sitting sniff-**me.D** news the-people like the-women ?!
   'Do you mean to tell me that this Raad of mine spends his time sniffing **[me]** other people's news the way women do?!'
2. Context: Two men are gossiping about a rich acquaintance who keeps on buying houses for women he intends to seduce. Eventually, one of them says:
   law byiftaħ-**lo** ʃi be:t laʔil-i w-laʔil-ak , ʃu: ke:n ʕa-be:l-na !
   if.only he.open-**him.D** some house for-me and-for-you , what was on-mind-our !
   'If only he bought **[him]** a house for me and a house for you, that would be wonderful!'

Problem: Each type of the above ADs makes distinct pragmatic contributions. And while the same AD may serve multiple or alternative functions (e.g., the same AD may be a SP-AD or a TOP/AFF AD), if an AD refers to the subject, it may only be interpreted as a SUBJ-AD, even if the subject happens to coincide with the speaker or hearer. The SUBJ-AD reading rules out other readings. The question is why?

Previous Analysis: Haddad (2014) analyzes ADs as high applicatives. Drawing on Uriagereka (2003), he argue there that ADs as ApplPs merge as adjuncts in a separate plane, (3). They start out with a valued discourse feature (e.g., SP, SUBJ) and unvalued phi features. This is followed by sideward movement and feature valuation. Finally, the two planes collapse. Importantly, the adjunct merges counter-cyclically.

3.



This approach has advantages but it fails to explain why an AD that references the subject must be interpreted as a SUBJ-AD and may not be alternatively interpreted as a SP-AD?

Solution: I posit that applicative adjuncts give priority to cyclic merge in accordance with the Extension Condition and opt for counter-cyclic merge only as a last resort. The AD in the adjunct plane has a discourse feature valued as [SP] and phi features that need to be valued. Unlike in Haddad's (2014) analysis, the AD does not wait till all structure building takes place in the matrix plane in order to undergo merge. Instead, the AD starts scanning the computational workspace the moment matrix *v*P is complete and the ApplP is eligible for merge. This is so because ADs are non-argument participants that are not eligible for merge in the thematic domain. Once a matching discourse feature (in this case, SP) is detected, sideward movement takes place, the AD's phi features are valued, and ApplP merges cyclically. An AD merges counter-cyclically only if it is not able to find a matching discourse feature early enough in the derivation to merge cyclically.

Language variation, religion and marginalisation in Jordan

Maria Fanis	***Bruno Herin***	***Uri Horesh***	***Enam Al-Wer***
Ohio University	*INALCO*	*University of Essex*	*University of Essex*

Building on existing findings which suggest that religion is emerging as a salient factor in dialect differentiation in Jordan, the current paper provides additional evidence to buttress the causal relation between religious affiliation and dialect differentiation. We propose a comprehensive approach to such social grouping, which posits that alignment with traditional dialectal features is tied to a complex set of social factors, involving religion and regionality, insofar as such factors can be correlated with societal and geographical marginalisation. Our previous sociolinguistic research showed that Christians were usually 'broader' in their dialect than Muslims; we now refine and advance our thesis on this sociolinguistic phenomenon.

Our recent field research in the villages of Ḥuṣun, Ḥuwwāra and Kufur Yūba in the north of Jordan finds that traditional Jordanian dialectal features are used extensively by both Christians and Muslims.
Some of the traditional features found amongst different speakers include:

1. 'dark *l*' [ɬ] in words such as *šaġła* 'thing'
2. emphatic interdental /ðˁ/ in words like *barðˁo* 'also', *rafaðˁ* 'he refused', *ʾanaðˁðˁif* 'I clean', *haðˁōl* 'these'.
3. /u/ in specific templates, e.g. *gamuḥ* 'wheat' (cf. *gamiḥ* elsewhere), *xubuz* 'bread' (cf. *xubiz*), *gabul* 'before' (cf. *gabil*)
4. the nominal/adjectival template CaCīC, e.g. *kabīr* 'big' (cf. *kbīr*)
5. the verb *baga* as an auxiliary to denote the continuous past
6. preservation of gender distinction in plural suffixes, e.g., *axaðˁ-hin* 'he took them (f)'

While in other work, based on conversations recorded in communities around the capital Amman (Salt and Fuhais), we found these features much more frequently amongst Christian speakers. Our current research shows that in less heterogeneous, rural areas, with weaker ties to major urban centres, Muslim speakers in fact pattern with Christians in their dialectal behaviour.

Religion itself in Jordan is, for all practical purposes, a binary distinction: one is either Muslim or Christian. In this sense, 'religion' is very similar to 'sex' (as a biological category), which is a dominant component in the social construction of 'gender', but the concept of 'gender' is more complex than 'sex' alone. By the same token, based on sociolinguistic evidence, we develop our argument about language and religion and demonstrate that 'religion' as a social category should be analysed in combination with other salient social factors. Regional variation, as well as variation on the basis of community norms (e.g. urban vs rural) also play a role in determining adherence to traditional Jordanian dialectal features.

This line of argumentation allows us to see the larger picture, that of language variation within the context of the evolving socio-political milieu in which it resides. In this vein, we see that significant dialect changes map nicely onto the political transformation of Jordanian society, whereby new political behaviours are emerging that are antithetical to the foundational political norms of Jordan. We argue that this new political reality and the discourse related to it serve as conduits for the sociolinguistic phenomena detailed above. The systematic erasure of norms and institutions once responsible for political inclusion in the nation, e.g. clan

identification and loyalty, which had made the religiously heterogeneous political body feel national unity and purpose, forces marginalised Jordanians to reposition themselves in society through religion for the purpose of national belonging and for a sense of security. Adherence to traditional dialectal features assists in aligning marginalised communities and religious groups more closely with Jordanian identity.

Computational implementation of templatic morphology

Dolatian Hossep, Jonathan Rawski, Moradi Sadigheh
University of Stony Brook New York

Introduction & Contribution: Non-concatenative morphology in Semitic languages has been mod- eled with different types of computational machinery (Kiraz, 2001) with unclear differences in power. Here, we analyze the representational and computational properties of root-and-pattern morphology and determine the minimal computational power needed. We show that templatic morphology is largely a local process when using richer computational structures, i.e. multi-tape transducers:

Type	Example	Expressivity
1-1 Match	*ku.tib*	MT-1-ISL
Final spread	*ka.tab*	MT-2-ISL
Medial spread	*kat.tab*	MT-2-ISL *or* composition of MT-1-ISL and 4-ISL
Pre-association	*ta-kat.tab*	MT-1-ISL with enriched template

Background: In many Semitic languages, a word can consist of three morphological items (Mc- Carthy, 1981, 1993; McCarthy and Prince, 1993, 1990a,b): an abstract root *R=ktb*, a vocalism *V=ui*, and a template *T=CVCVC*. The number of templates is fixed in a language. Some templates involve spreading within the template (*kut.tib)*, others at the edge of the template (*ka.tab*), while some involve preassociated segments (*ta-CVCCVC)*.

Finite-state morphology: Morphological patterns and processes can be modeled using finite-state automata and transducers, meaning the regular class of languages and functions provides a suf- ficient computational upper-bound (Roark and Sproat, 2007). However, many processes don't require the full power of regular transductions, and can be captured by subclasses of finite-state machines. Most *CONCATENATIVE morphology* requires only the simplest subclass of transducers: Input- Strictly-Local (ISL) functions (Chandlee, 2017) A function is ISL-*k* if at position *i* in the input, it only needs to keep track of the last *k*-1 input symbols in order to output some symbol *o*. For exam- ple, adding a suffix *-ed* is ISL-1 because it only needs to know where the final word-edge boundary is. Functions can likewise operate over a linear string of segments on one input tape, or over multiple strings on multiple tapes as in autosegmental phonology. For non-concatenative morphology, finite-state functions are again *sufficient*, but little is known about what proper subclass of regular languages/functions is *NECESSARY*. We use subregular morphophonology (Chandlee, 2017; Heinz, 2011a,b) to fill this gap. Depending on the input and output representations, we determine the minimal computational requirements of root-and-pattern morphology and template filling.

Results & Conclusion: The above table summarizes our results. Depending on the template, the function will be a local process when using multi-tape transducers. Multi-tape automata have been a frequent model for Semitic templates. Our results reinforce the fact that these enriched computational structures make the process of template filling be a computationally limited process. This computational result opens doors to understanding how root-and-pattern morphology can be learned and cognitively processed, and it provides a computational typology of Semitic morphology which we will expand in future work.

Vowel diacritics and orthographic ambiguity in Arabic word recognition: A priming study

Ali Idrissi, Dalia Ahmad, Noora Al-Ansari, Salma Abdo, Shahed Alkhatib, Michael Grosvald
Qatar University

In the Arabic writing system, short vowels are indicated with small diacritics above and beneath the consonant letters, and are typically omitted. Thus, in addition to the challenge of retrieving the correct vowel pattern for a given word, readers may have to choose from a number of orthographically ambiguous words associated with a word-form written with short vowel symbols omitted. For example, the word-form written with the three root consonants *r-k-b* has multiple readings, including [rakib] 'to ride,' [rukib] 'to be ridden,' and [rukab] 'knees.' The cognitive representation of diacritics and their role in the recognition of written words in Arabic has begun drawing significant attention (e.g. Bourisly et al, 2013; Mountaj et al, 2015; Hermana et al, 2015). However, the contribution of vowel diacritics to the processing of orthographically ambiguous word-forms presented in isolation has not been thoroughly investigated. The present study was designed to elucidate the role that diacritics play in such a context.

In the first part of our study, 45 Arabic native speakers performed a lexical decision task. Stimuli were 40 pseudo-words and 40 real words; half of the words were ambiguous (i.e. have multiple readings when written without vowel diacritics) and half were non-ambiguous. Each stimulus could be presented with or without diacritics with a 50% probability. The presence of vowel diacritics significantly slowed subjects' response times (RTs), consistent with findings from previous imaging and eye-tracking studies suggesting that the presence of vowel diacritics results in a visual crowding effect. There was no facilitatory effect of the vowel diacritics on the accessing of ambiguous words, suggesting that when faced with orthographic ambiguity, readers tend to fall back on the default reading without paying substantial attention to the diacritics.

The second part of this study probed this issue further through the use of orthographic priming. Here, a different group of 43 readers performed a lexical decision task as they were shown a series of target stimuli. Targets were shown without diacritics but were otherwise the same as in part one. Each target was preceded by a prime shown on-screen for 100 ms. Primes were of four kinds -- identical to target (also without diacritics), target accompanied by "default" diacritics (the most common reading of an ambiguous word, the only reading of a non-ambiguous word, or arbitrary voweling for a pseudo-word), target accompanied by "rare" diacritics (a less-frequent reading for an ambiguous word target), and unrelated (i.e. a control condition).

The data show that for unambiguous word targets, the voweled and unvoweled primes imparted a significant facilitatory effect on subjects' RTs; the magnitude of this priming was the same in both cases. In contrast, for ambiguous word targets, only the primes with the "default" vowel diacritic pattern were associated with the greatest degree of facilitation; primes bearing the "rare" diacritic pattern also facilitated target recognition, but to a significantly weaker degree than for the "default" primes. In addition, ambiguous word targets were accessed faster than unambiguous ones, presumably by virtue of the bigger size of their orthographic family.

A number of conclusions can be drawn from these two sets of findings, including the following. First, the presence of vowel diacritics tends to slow down access to words presented in isolation. Second, although they influence the speed at which a given word is recognized, vowel diacritics cannot be considered mere visual noise. Rather, they are read and do contribute to lexical retrieval, but this contribution is modulated by the size of a word's orthographic neighborhood.

Remnant-movement approach to questions with final wh-words in Jordanian Arabic

Marwan Jarrah
The University of Jordan

Ekab Al-Shawashreh
Yarmouk University

Jordanian Arabic (JA) is a wh-movement language where wh-words/phrases move to the left periphery in narrow syntax (i.e. before the spell-out point) (Yasin 2012 and Jarrah 2017):

(1) a. miin ʃaaf ʔisˁ-sˁabi
who saw.3SG.M the-boy
'Who saw the boy?'

b. eeʃ/ʃuu ʔimħammad laga b-l-mizraʕah ʕind ʔil-karum
what Mohamamd found.3SG.M in-the-farm next to the-vineyard
'What did Mohamamd find in the farm, next to the vineyard?'

c. mata dʒaab-u ʔis-sijjaarah min ʔil-ħurrah
when brought-3PL.M the-car from the-free (zone)
'When did they bring the car from the free (zone)?'

On the other hand, JA exhibits a special type of questions where the wh-word appears question-finally, as shown in the following examples:

(2) a. ʃaaf ʔisˁ-sˁabi miin
saw the-boy who
'Who saw the boy?'

b. ʔimħammad laga b-l-mizraʕah ʕind ʔil-karum eeʃ/ʃuu
Mohamamd found.3SG.M in-the-farm next to the-vineyard what
'What did Mohamamd find in the farm next to the vineyard?'

c. dʒaab-u ʔis-sijjaarah min ʔil-ħurrah mata
brought-3PL.M the-car from the free (zone) when
'When did they bring the car from the free (zone)?'

The property that distinguishes such questions from normal questions (with initial wh-words) is their 'emphatic' nature. The background information of such questions being reasserted by the speaker is treated as already present in the discourse. This situation requires the hearer to answer the question in light of the reasserted background information (which acts here as a specific orientation for the hearer), something that makes less room for the hearer to manoeuvre (e.g. not to ask the question as expected by the speaker). Such questions are normally used as a repetition of questions which the hearer pretends to mishear or misunderstand. Given that the whole material of the question (apart from the wh-word) is taken as a background, we propose the wh-word/phrase in such questions stand for new information that is associated with a narrow focus interpretation. That is because the hearer is forced to partition the utterance into presupposed and asserted parts. Note also that such questions are typically not associated with utterances in out-of-the-blue contexts (see Kidwai 1999 for discussion on the relationship between narrow focus and its impossibility to occur in out-of-the-blue contexts).

We propose that questions in (2) are syntactically derived first by the movement of the wh-word/phrase to the left periphery as is the case with normal wh-questions in JA. Second, the movement of wh-word to the left periphery is followed by the remnant movement of the whole material of the question to a higher position, within the same left periphery of the relevant question (i.e. to the specifier position of a higher Topic Phrase). These two movements ends up in a situation that the wh-word/phrase surfaces question finally. One piece of empirical evidence that, we think, supports this syntactic account of questions in (2) comes mainly from the observation that (sub-) extraction of any word (of the remnant material) is not allowed. Consider the following examples:

(3) a. *ʔis-ˁsˁabi ʃaaf miin
the-boy saw.3SG.M who
Intended: 'Who saw the boy?'

b. *b-l-mizraʕah ʔimħammad laga ʕind ʔil-karum eeʃ/ʃuu
in-the-farm Mohamamd found.3SG.M next to the vineyard what
Intended: 'What did Mohamamd find in the farm?'

c. *min ʔil-ħurrah dʒaabu ʔissijjaarah mata
from the free (zone) brought the car when
Intended: 'When did they bring the car from the free (zone)?'

According to Wexler and Culicover's (1980) Freezing Principle, there is no sub-extraction out of a previously moved domain (see also Stepanov 2001). ʔisˁsˁabi 'the boy', blmizraʕah 'in the farm', and min ʔilħurrah 'from the free zone' are sub-extracted from the previously moved domain which is here TP, hence the ungrammaticality of the examples in (3). On the other hand, the ungrammaticality of examples in (3) is difficult to account for under the approach where the wh-word is right-dislocated, an operation which is itself widely criticized (and even disconfirmed) in the relevant literature (see, e.g., Kayne 1994 and much subsequent work).

When a demonstrative is more than a referring expression: The case of the Tunisian Arabic *ha-*

Amel Khalfaoui
University of Oklahoma

Previous accounts of the two Tunisian Arabic proximate demonstratives *ha* and *haða* identified a use in which both forms introduce an activated entity in the discourse (Khalfaoui 2007; Gundel et. al 2010), but did not provide an explanation for further restrictions that guide the choice of which one of the two forms to use. Based on a corpus analysis supported by native speakers' felicity judgments, this study argues that what distinguishes *ha* from *haða* is that the former is a highly marked expressive demonstrative. In doing so, this study supports a growing body of research which argues for the existence of a class of expressive demonstratives (Lakoff 1974; Bowdle and Ward 1995; Naruoka 2008; Potts and Schwarz 2010; Davis and Potts 2010). In order to give evidence for expressive use, the corpus analysis examined the two demonstrative forms in terms of correlation with evaluative language (e.g., exclamation marks, sarcasm, and evaluative adjectives) and expressive use. Results show that all occurrences of *ha* were used for expressive use. On the other hand, the majority of the tokens of *haða* occurred in neutral non-expressive utterances and only a small number (12%) was chosen by the speakers to express an emotion or an attitude. Additionally, results show that the correlation between demonstrative use and evaluative language is much higher for *ha* than *haða* (78% vs. 12%), further supporting the expressivity claim made in this study. However, an examination of all the examples where expressive use is identified indicates that *ha* does not necessarily occur with evaluative language, while all the expressive occurrences of *haða* included evaluative language in the utterance. The contrast between the two demonstratives is illustrated in the example in (1).

(1) a. rī-t ha-l-wasat l-xāmiʒ/ *l-wasat l-xāmiʒ haða* ja madām
see-PST.2SG this-the-environment the-dirty/the environment the dirty this VOC madam
'Did you see this toxic environment madam?'

b. rī-t ha-l-wasat / # l-wasat haða ja madām
see-PST.2SG this-the-environment / the environment this VOC madam
'Did you see this environment madam?'

In the example in (1) from a play script, the speaker intends to express his opinion about his family environment. As shown in the example, the demonstrative *ha* is felicitous both in (a) and also in (b) where the evaluative adjective *l-xāmiʒ* (toxic, literally: filthy) is removed. This is because *ha* encodes a

procedure (inferential route) which instructs the hearer to achieve an expressive interpretation. The unmarked demonstrative *haða*, on the other hand, is felicitous only in (a) where it occurs with the evaluative adjective. Note that after removing the evaluative adjective in (b) the expressive meaning disappears and the utterance becomes infelicitous. This is because the expressive meaning comes from the evaluative language and not from the demonstrative *haða* itself.

The corpus analysis also provided evidence for the markedness of *ha* by examining it in terms of three criteria: frequency of distribution, cognitive complexity, and formal complexity (Givón 1991). First, the distribution of both forms in the data indicate that the number of tokens of *ha* identified in the data is significantly lower than that of *haða* (64 vs 147). Second, by signaling an extra expressive meaning in addition to its referring function, *ha* imposes extra cognitive effort on the hearer. Third, the analysis revealed that when *ha* is mentioned in subject position in a nominal (i.e., verbless) sentence, the subject must be postposed. In the questionnaire study participants were asked to choose between *ha* and *haða* to place in blank space in six neutral non-expressive contexts. Questionnaire results further support the findings of the corpus analysis that *ha* is not acceptable in neutral non-expressive contexts.

Diglossic variables in neurocognitive phonological and lexical processing of Arabic

Reem Khamis-Dakwar
Adelphi University

Karen Froud
Teachers College, Columbia University

Arabic diglossia is a sociolinguistic phenomenon in which complementary social functions are distributed between formal and spoken varieties of a language. However, little is understood about the underlying neural representations associated with lexical processing in diglossia. Integrating neurophysiological measures into diglossia research has the potential to elucidate brain activations associated with processing the two language varieties. In this paper we will present current neuroscientific research related to phonological and lexical representation and processing in Arabic diglossia.

We will present on the advantages of utilizing electroencephalography (EEG) to investigate linguistic processing and provide a general overview of neurophysiological investigations of lexical and phonological diglossic codeswitching in Arabic (e.g. Froud & Khamis-Dakwar, 2018). Based on this review, we describe a current investigation designed to investigate processing of Arabic phonemic contrasts and lexical judgments while controlling for the degree of overlap between spoken and standard representations of each examined feature. Study participants included seven students and affiliates of American universities, all native speakers of Levantine Arabic (who pronounce the classical Arabic Tha /θ/ as the alveolar stop /t/), with no history of neurological or psychological disorder, normal hearing and corrected-to-normal vision. All participants learned MSA at school in their homeland from first grade.

The study includes two experiments. The first uses EEG to target the mismatch negativity (MMN), an Event-Related Potential (ERP) that can be elicited in the absence of attentional processing. MMN studies have shown speech perception to be based on language-specific phoneme traces, with MMN elicited only when pre-existing traces are activated (e.g., Näätänen et al., 1997). Utilizing a passive-listening oddball paradigm, we presented participants with two syllables in two conditions: 1) an MSA-distinct contrast (the emphatic [t̪æ] contrasted with variable [θæ]); 2) a contrast that is evidenced in both the spoken dialect and MSA (emphatic [t̪æ] contrasted with the non-emphatic voiceless alveolar stop). High-density EEG recordings were simultaneously acquired, and continuous recordings were subjected to time-locked averaging and montaging to derive ERPs. The differences in brain responses to the two conditions were statistically significant ($F(1,6) = 6.141$, $p = 0.047$). The MMN was evident in both conditions (shared contrast condition: $t(6) = 4.527$, $p = 0.004$; non-overlapping contrast condition: $t(6) = 2.704$, $p = 0.035$), with a significantly enhanced MMN amplitude in response to the shared phonemic contrasts. These findings suggest that the switch between varieties has neurophysiological consequences over and above phonemic category change.

The second experiment in this study investigated aspects of lexical processing, and targets the N400, an ERP signature of lexical-semantic processing (e.g., Kutas & Hillyard, 1984). The same participants

were presented with Arabic words in four conditions: 1) 25 real words that are shared between MSA and the Levantine dialect; 2) 25 lexical pseudowords; 3) 25 phonological pseudowords; and 4) 25 MSA words that are present as lexical cognates in the Levantine dialect. All words were presented auditorily in random order, and participants were asked to judge whether each stimulus represented a real word or a nonword in Arabic. As before, high density EEG recordings were obtained during the task, and ERPs were derived from the continuous recordings through time-locked averaging of epochs starting at the onset of each presented word. As expected, a significant N400 was observed in response to the lexical pseudowords, though this was absent for phonological pseudoword presentations. Instead, there was a positive-going ERP response to the phonological pseudowords, suggesting that these were not processed lexically. Separating the data based on participant proficiency and the documented amount of current use of MSA also revealed differences in the N400 presentation: MSA users showed a delayed negativity in response to MSA words, but no N400; while non-users of MSA showed a positive-going response to MSA cognates.

Together, these findings point to future directions for neurophysiological investigations to elucidate the neural representation of aspects of language processing, language learning, and/or language varieties, in studies of diglossia and bilingualism. Such studies highlight the need to control for diglossic features and levels of MSA exposure, use and proficiency in the study of linguistic representation and processing in Arabic diglossia.

Māhūš yiʕāwin ('He's not helping'): Marked negation and verbal aspect in spoken Arabic

Karen McNeil
Georgetown University

In spoken Arabic 'verbal negation' is generally used when negating verbs and 'nominal negation', is used when negating non-verbal predicates like nouns and adjectives. However, this unmarked system of negation is joined by a marked system, in which nominal negation is used in verbal sentences and vice versa. This kind of marked negation has been noted in many varieties of spoken Arabic, and is typically pragmatically motivated. However, using a large corpus of Tunisian Arabic (McNeil 2019), I describe a hitherto unattested *aspectual* use of marked negation: verbal sentences that are progressive in meaning are negated with nominal negation. For example:

qul-t-l-ek	*ne-lʕab*	*fī*	*l-bīs*	*manīš*	*n-ṭalfaḥ*
said-1S-to-you	1S-play	PROG	the-marbles	NEG.1S	1S-loiter

'I told you, I was playing marbles, I wasn't loitering!'

The second clause here (*manīš n-ṭalfaḥ*), though it contains no explicit progressive markers, is given a progressive meaning by the use of 'nominal' negation in a verbal clause (marked negation).

Kristen Brustad has described the pragmatic function of marked negation, noting that though verbs usually require verbal negation, her data contains many examples of "marked negation patterns that violate these 'rules'" (2000:282). She determines that this marked negation is pragmatically motivated: for instance, negating a presupposition. Other works (cf. Chatar-Moumni 2008 for Moroccan dialect) have described the use of marked negation to signal metanegation, where the emphasis rather than the truth of a statement is being negated (e.g. 'He didn't buy a house, he bought a *castle*!').

While Tunisian uses marked negation for pragmatic reasons as well, these uses do not explain many of the examples of marked negation in my data. The fact that the difference is an *aspectual* one is shown in the following minimum pair:

mā	*yi-ʕāwin-š*	*ḥattā*	*ṭarf*		*mā-hū-š*	*yi-ʕāwin*	*ḥattā*	*ṭarf*
NEG	3S-helps-NEG	even	bit		NEG-3S-NEG	3S-helps	even	bit
'He doesn't help at all' (verbal negation)					'He is not helping at all' (nominal negation)			

Here, changing the negation form from the verbal circumfix (*mā___š*) to nominal construction (*mahūš* + verb) changes the aspect of the sentence from habitual to progressive. In this way, nominal negation with verbal sentences can itself be considered a marker of the progressive aspect.

This is a usage that has not previously been described in the literature on negation or aspect in spoken Arabic and has diverse implications for the study of the syntax of spoken Arabic. If one considers that the circumfix verbal negator *mā___š* as a single discontinuous morpheme that merges with the verb, this usage in Tunisian Arabic suggests a covert progressive marker which prevents the merger of negation with the verb. Its alternative merger with a nominal element (either pronominal as in *māhūš* or ø in *muš*) lend further evidence that the nominal and verbal negation markers in spoken Arabic are different manifestations of a single negative element (Benmamoun 2000).

Tracing the Acquisition of Definiteness in Emirati Arabic

Dimitrios Ntelitheos
United Arab Emirates University

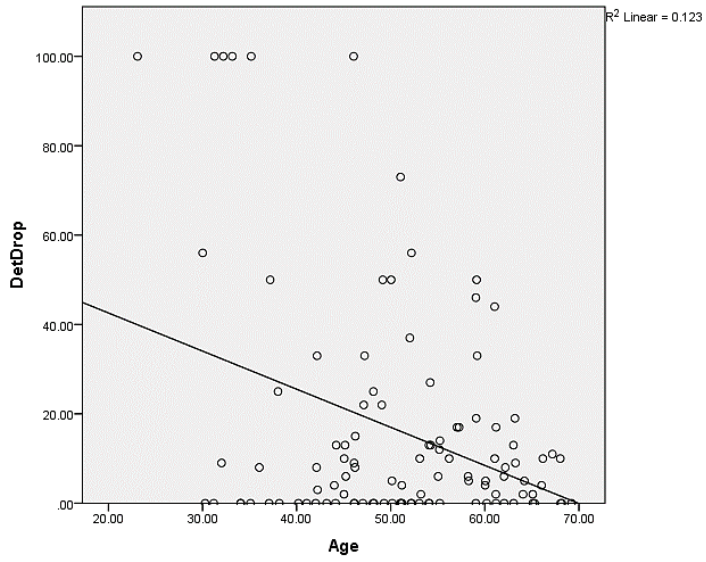
While work on the acquisition of Arabic morphosyntactic structures exists (see Albirini 2017 for a review), there has been no systematic work on the acquisition of definite determiners in any of the Arabic dialects. This paper addresses this gap and contributes to the general discussion on the acquisition of definiteness markers crosslinguistically, based on data from Emirati Arabic. It is shown that Emirati children follow a maturational process producing fully inflected DPs early on but frequently dropping determiners in obligatory contexts. Crosslinguistic studies on the acquisition of referring expressions have shown that children frequently omit definite determiners in early stages of language acquisition. This has been tied to either a lack of higher nominal functional layers that host determiners (Radford 1990, Rizzi's 1994), or the underspecification of these layers due to pragmatic reasons (Hoekstra & Hyams 1996; Schaeffer 1997). We examine the above proposals in the light of data drawn from Emirati Arabic, a language which exhibits a slightly different distribution of definiteness markers than English (see also Avram and Armon-Lotem 2005 for Hebrew). Definiteness in Emirati Arabic, as in other Arabic dialects, is expressed by attaching the definite determiner prefix *əl-* to the noun (*əl- kufji* in (1)). With coronal consonant initial nouns, the definite determiner fully assimilates to the coronal, resulting in gemination (*ətʃ-tʃaji* in (1)). Definiteness is additionally expressed by the series of possessive suffixes in the language (2):

(1) əl- kufji ʔɜgwa men ətʃ-tʃaji
the-coffee stronger than the-tea.
"Coffee is stronger than tea."

(2) rawat-ha sajart-i əl-jadɜda
I-showed-her car- my the-new
"I showed her my new car."

In this paper, we concentrate only on the acquisitional path of the definite prefix *əl-* and we exclude cases with word-initial gemination as the latter may be independently problematic for children in early stages. In the ambient language, definite determiner marking is obligatory in several contexts, including in the presence of demonstratives, prepositions, the construct state, in generic nouns (contrary to trends in better studied Indo-European languages), and as agreement on adjectives modifying definite nouns. We trace the acquisition of determiners by studying how Emirati children use the definite determiner prefix in these obligatory contexts. The data is drawn from the EMALAC corpus, a longitudinal study of six Emirati children, over a period of 2 years. Children use definiteness markers early on with increasing

productivity, which seems to indicate that the D-system is intact. In the early stages (18-24 months) children use mostly pronouns, demonstratives and bare nominal forms. In later stages (24-62 months) the definite marker appears in the expected contexts but is sometimes omitted. The results show significant negative correlation between the age of the children and the percentage of omitted determiners over the total number of obligatory definite contexts (Spearman's R= -.351, N(107), $p<0.01$), see scattergram on next page). While children infrequently omit determiners in obligatory syntactic contexts, (in the construct state or after demonstratives), the majority of omissions is found in contexts of previously mentioned or specific referents and more rarely generic nouns. This indicates a tension between syntactic and pragmatic factors in the acquisition of definiteness in Emirati Arabic. Typical use of the definite marker, and the use of proper names, pronouns and demonstratives supports the 'full competence hypothesis' (Hyams 1992), which assumes that children have the full set of projections from the start. On the other hand, the high rate of omission in early stages and the higher frequency of omission in referential contexts indicates that the D-projection is underspecified in early stages and children have not completely mastered the use of the marker. The paper extends the investigation of determiner drop in other contexts such as proper names and shows that children omit determiners in much smaller frequencies, indicating that the distribution of the definite marker in Arabic proper names does not have the same semantic contribution as in common noun phrases.



On the Progressive in Arabic

Plenary Keynote

Hamid Ouali
University of Wisconsin-Milwaukee

It has been noted in the literature that the imperfective verb form in Arabic is the default form (Benmamoun 2000, Aoun *et al.* 2010) and does not express any aspectual meaning on its own (Hallman 2015). The imperfective form of eventive verbs like *ʃrəb* "drink", in Moroccan Arabic (MA) can be ambiguous between a habitual/episodic and a progressive/continuous reading as in: *ka-nʃrəb lqahwwa* "I drink/am drinking coffee" and in both meanings the event is anchored in the present. Nothing in the morphology of the verb stem marks these two different aspects. Also, nothing in the verb forms marks tense. In this talk, I will present very familiar data from a variety of Arabic dialects, namely what I classify as the ka/bi-V.IMPERF dialects, e.g. MA, Jordanian Arabic (JA), Syrian Arabic (SA), and Egyptian Arabic (EA) and the V.IMPERF dialects, such as Najdi Arabic (NA), and argue that in both classes of dialects, the habitual and the progressive are not morphologically marked on the verb. In the ka/bi-V.IMPERF dialects the source of the habitual and progressive ambiguity is not the ka/bi marker, which marks mood (Brustad 2000, Holes 2004). In the V.IMPERF dialects, the source of the ambiguity is not the verb stem itself, similar in this respect to Standard Arabic. However, all the dialects seem to have grammaticalized or in the process of grammaticalizing the active participle form *gaaləs*/*gaʕid* 'sitting' of the verb *gləs/gaʕad* "sit", in MA, JA, and NA for example, and the active participle *ʕammal* "working" of the verb *ʕamal* "work" in SA for example, to mark progressive/continuous aspect. I will show that the path of grammaticalization is rather familiar especially in the case of the grammaticalization of the future marker as described in Ouhalla (2012, 2016) for Arabic and Hopper and Closs Traugott (2003) for French and English:

Content item > grammatical word > clitic > inflectional affix

In MA, JA, NA, and other dialects, the verb meaning "to sit" grammaticalizes as an aspectual durative light verb, and maybe on the same grammaticalization path as a progressive marker:

MA: *gləs* > *gləs* > *gaaləs*, JA and NA (for example): *gaʕad*> *gaʕad*> *gaaʕid*

Each of these cognate forms is still used in the dialects and each of them involves a different syntactic structure. First, the main verb *gləs/ gaʕad* meaning "to sit" is still used as in *gləs fuq lkursi* 'he sat on the chair'. Second, the aspectual light verb *gləs*/*gaʕad* "sat" as in *gləs ka-jlʕəl nhaar kaaməl* 'he kept playing all day' (and its equivalent in other dialects) is used to express durativity. Sentences with the aspectual light verb are examples of restructuring with tense, aspect, and negation transparency effects. Third, cases with the active participle, are examples of the progressive aspect. Syntactically, the active participle is the lexical Prog(ressive) Asp Operator. The Habitual Operator is always null, whereas the Prog Operator is either null or lexicalized as the active participle or its clitic form as in SA.

In SA and Northern Iraqi dialects, the grammaticalization process seems to be in the advanced stage of the following grammaticalization path: *ʕammal*> *ʕamma*> *ʕam*, for SA (see Cowell 1964 for examples of each of these cognates), and *qaaʕid* > *qad* > *qa* for Northern Iraqi dialects (see Agius and Harrak 1987). These cases show the entire change of the progressive marker from a grammatical word, to a clitic, to its final form as an inflection.

Variability of nominal genitives in Casablanca Moroccan Arabic

Robert Prazeres
University of Toronto

In many Arabic varieties, nominal genitives can be expressed in two general syntactic configurations: the construct state and the analytic genitive, illustrated below in (1) and (2), respectively, in Moroccan Arabic. This variation also exists with pronoun possessors (3)-(4).

(1) kta:b t^{ʕ}-t^{ʕ}ɑ:lɪb
book the-student
"the student's book"

(2) l-kta:b dja:l t^{ʕ}-t^{ʕ}ɑ:lɪb
the-book of the-student
"the student's book"

(3) kta:b-i
book-1SG
"my book"

(4) l-kta:b dja:l-i
the-book of-1SG
"my book"

This alternation has received significant attention in syntactic and dialectological work (e.g. Harning 1980; Brustad 2000; Heath 2002; Ouhalla 2009, 2011). One of the main claims in the literature comparing the two forms is that the construct state is generally specialized for contexts of inalienable possession (e.g. body parts, family relations) (Brustad 2000; Heath 2002; Ouhalla 2009, 2011). Dialect differences have also received comment, notably with claims that Moroccan Arabic distinguishes itself by greater usage of the analytic genitive (Harning 1980; Brustad 2000; Heath 2002; Ouhalla 2009, 2011). However, these claims have not been rigorously tested by quantitative analysis of speech data and there is a general paucity of studies on this alternation in a variationist paradigm – though some work on Moroccan Arabic (Boumans 2006) and on code-switching in Tunisian Arabic (Sayahi 2015) and Lebanese Arabic (Mourad 2016) offers avenues for further testing and comparison.

This paper fills a part of this gap by analyzing genitive variation quantitatively within a variationist sociolinguistic framework (Labov 1972) using natural speech data from sociolinguistic interviews with six Moroccan Arabic speakers in Casablanca (Hachimi 2005, 2007), with six more to be added in the near future. Three main questions are addressed: **1)** Does the analytic genitive variant dominate in Moroccan Arabic, as previously claimed?, **2)** What are the internal linguistic conditioning factors, and in particular is the construct state specially correlated with inalienable possession?, and **3)** Are there differences in the patterns of variation with pronominal possessors as compared to nominal possessors?

With the help of distributional and multivariate analyses, results from the six speakers show that the analytic genitives are more common overall in the data (at 57% of 356 tokens), which contrasts with results from Tunisian Arabic (Sayahi 2015) and supports the existing claims about its high usage in some Moroccan dialects. However, several linguistic factors condition the usage of the two variants. Notably, the construct state is strongly favoured by contexts of inalienable possession – again adding support to existing claims – as well as by noun complements – a new finding. The construct state is entirely absent with code-switched French nouns – a more categorical result than previously found – and disfavoured by longer or more complex NPs. By contrast, the analytic genitive is argued to be more versatile in that it accommodates a wider range of syntactic and semantic situations. The construct state is also more prominent with pronoun possessors; however, cross-tabulation reveals that a greater frequency of inalienable possessive contexts with pronominal possessors may play a role here.

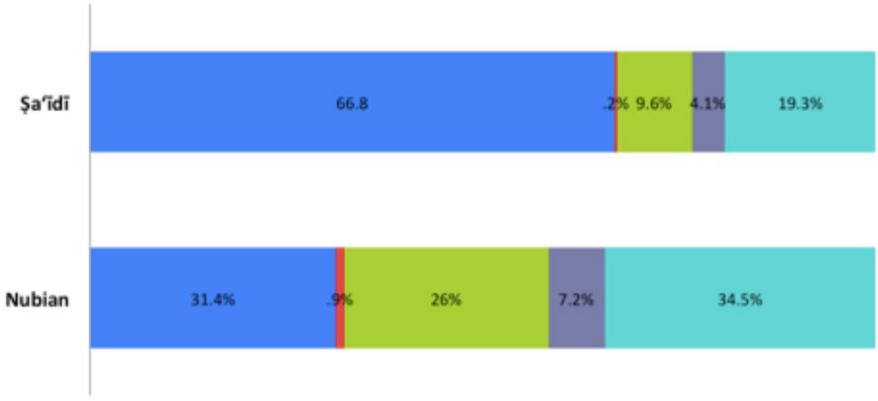
Consequently, I conclude that claims about the construct state's close association with inalienability and its relatively reduced usage in Moroccan Arabic are supported by this new quantitative data, but that discursive factors like code-switching and conversation topic should be cautiously noted during future comparisons of this variable between different datasets.

Urbanization and Sociolinguistic Variation in Aswan

Jason Schroepfer
The Virginia Military Institute

This paper shows that the socio-phonetic patterns for Old Arabic (OA) realizations of *$\widehat{dʒ}$ in Aswan Arabic helps to build on the field's understanding of urbanization as a catalyst for sociolinguistic variation. Previous scholarship has found that urbanization can attract more members of majority religious and/or ethnic groups, which in turn induces their minority counterparts to converge towards the majority variety or to even create intermediary "fudged" forms (cf. Holes 1995, Hachimi, Al-Wer 2007). This study argues that in spite of urbanization and migration Aswan, the minority Arabic-speaking Nubians of Aswan diverge in a different way from the dialect of the majority and politically dominant Ṣaʿīdis as they carve out their identity.

Aswan's emergence as an industrial and tourism hub has not only connected it with Cairo and the world via an international airport, but it has attracted many Ṣaʿīdi workers from neighboring towns. The completion of the High Dam also increased relocations of the minority Nubians to Aswan and other neighboring areas (Rouchdy 1991). OA *$\widehat{dʒ}$ can be realized in the city of Aswan and neighboring towns as g^j, *g*, $\widehat{dʒ}$, *ʒ*, and *d* (cf. Author 2017, Behnstedt and Woidich 1985b: maps 13 and 14). The locally prestigious palatalized stop g^j is attested in Nile valley varieties in towns near Aswan (Behnstedt and Woidich 1985a: 70). $\widehat{dʒ}$ and *ʒ* for *$\widehat{dʒ}$ are also noted to be prestigious for Upper Egyptian dialects north of Aswan near Asyut (ibid). *g* for *$\widehat{dʒ}$ is the supra-local prestige form in Egypt that is linked to Cairo. The corpus for this paper consists of approximately 30 hours of sociolinguistic interviews. 20 speakers self-identified as Ṣaʿīdis, while 11 self-identified as Nubian. The author fit a mixed-effects regression model measuring auditorily-encoded token frequencies as a function of ethnicity. 25 tokens were randomly selected and a native speaker of Arabic agreed with the researcher 100% on their encodings. Lexical and speaker effects were also taken into account.



	Nubian	Ṣaʿīdī
g^j	55	1285
d	17	5
g	458	184
ʒ	126	79
$\widehat{dʒ}$	607	372

Fig. 1: Relative Ratios and Token Counts of *$\widehat{dʒ}$ Realizations by Ethnicity

The preliminary results noted in the figure above reveal that the Ṣaʿīdis overwhelmingly prefer g^j while the Nubians evenly mix g^j, $\widehat{dʒ}$, and *g*. Neither group produced many *ʒ* and *d* tokens. The results also ruled out lexical and speaker effects on the variation. The Ṣaʿīdis of Aswan identify as Arab Ṣaʿīdis and their pronunciation preferences parallel the locally prestigious form near Aswan. The minority Nubians appear to be in the process of carving their own identity as they opine that they are Nubian and African,

not Ṣaʿīdi. Their fairly even mixture of local and supra-local prestige forms runs counter to the Ṣaʿīdi majority. This implies that even with the rapid urbanization of Southern Egypt and the power differential between the ethnic groups, the minority Nubians have diverged from the majority Ṣaʿīdis with a combination of local and supra-local prestige forms.

Code Choice in Moroccan Slam Poetry

Sarah R. Schwartz
The University of Texas at Austin

This paper seeks to understand the functions of language in Moroccan slam poetry in the context of Morocco's multilingual and diglossic landscape, particularly focusing on the language attitudes of young poets and the indexical meanings of different linguistic codes poets use to construct their identities and perform them in front of an audience. It will answer the following questions: What role does slam poetry play in the construction of young Moroccans' individual and group identities? What are the differing roles of French, English, Standard Arabic, and Darija in Moroccan slam poetry?

This study answers these questions through analysis of two data sources: First, the author will discuss responses to questions about slam poetry and language attitudes from sociolinguistic interviews collected between 2016 and 2018, Second, the author will analyze the use of language in several spoken word poetry events attended from September 2017-January 2018. Preliminary analysis shows that slam poetry provides Moroccan youth with a powerful outlet for self-expression, and that, with few exceptions, Darija is the preferred vehicle for constructing both personal identity and solidarity with an audience, Standard Arabic and French are used to access literary prestige, and English is a vehicle for discussing taboo topics, as well as "coolness".

This finding is consistent with recent studies of Hip-Hop pedagogies in the United States (Gregory 2008, Gholnescar and Gonzalez 2016), which show that slam poetry allows students of color to construct an understanding of their identities and positionality within larger society by giving them the opportunity to engage with their native vernaculars, the use of which is typically penalized in other forms of literary expression. Furthermore, these findings correspond with recent research on Moroccan language attitudes and verbal art indicating that French enjoys a continual bourgeois status in Moroccan society, but that Darija benefits from covert prestige because it remains the language of the streets (Caubet 2008, Caubet and Hamma 2016, Chakrani 2011, Chakrani 2013, Mustapha Slameur 2018). Thus, this study indicates that poetic performance amongst young Moroccans is reflective of Morocco's multi-faceted linguistic identity. Following theories of performance proposed by Richard Bauman (1977) and Deborah Kapchan (1995), this further suggests that poetic performance is also a site of emergent culture – that is, practitioners of Moroccan slam poetry both reflect current sociolinguistic norms and participate in the creation of new sociolinguistic norms.

Code-switching and the Egyptian Arabic Construct State

Yourdanis Sedarous
University of Michigan

In this paper I argue that ungrammatical code-switches can shed some light on competing theories of the construct state. Specifically, I show that if we assume the theoretical model of code-switching posited by MacSwan (2013), the Phonological Interface Condition (PFIC), then ungrammatical code-switches can be used as a diagnostic for post-syntactic merger. I ultimately conclude that the elements of the construct state must be merged post-syntactically in the PF, as code-switching between the possessed nominal and the possessor phrase is unacceptable.

The construct state is a syntactic noun phrase consisting of at least two nominal members that are in a genitive relationship. On the surface, a construct state follows a possessed-possessor linear order, where the possessed nominal linearly precedes the possessor phrase, as seen in (1). The construct state requires strict adjacency between the possessed nominal and the possessor phrase, which means that intervening elements, such as adjectives, between the possessed and the possessor are not permitted.

(1) kitab el-ragil
book def-man
'the man's book'

In order to account for the possessed-possessor linear order, strict adjacency, and word-like properties of the construct state, several proposals have been put forth. One of the first proposals that attempted to account for these properties of the construct state within mainstream generative approaches to grammar was proposed by Ritter (1991) within Government and Binding Theory. In her analysis Ritter (1991) analyzed the construct state as an instance of syntactic head movement, whereby the head N, i.e the possessed element, moves to D through an intermediate functional projection, NumP (Ritter 1991). While Ritter (1991)'s proposal accounts for facts about the possessed-possessor linear order, as well as the strict adjacency between the possessed nominal and the possessor phrase, it does not account for the word-like properties that are exhibited by the construct state.

Since then, further investigations into the word-like status of the construct state have been offered. In these analyses scholars, such as Borer (1999) and Benmamoun (2000), have investigated whether the possessed nominal and the possessor phrase are merged either (i) pre-syntactically as compounds, (ii) syntactically as independent elements, or (iii) post-syntactically within the PF. While both Borer (1999) and Benmamoun (2000) reject an analysis in which the possessed nominal and the possessor phrase are merge pre-syntactically as compounds, these scholars differ on whether the members of the construct state merge syntactically or post-syntactically. Mainly, Borer (1999) proposes that the members of the construct state merge syntactically while Benmamoun (2000) proposes that they merge post-syntactically within the PF.

In this paper I tested the predictions of these two theories against the predictions of the PFIC. The PFIC is a formal approach to code-switching set within the Minimalism Program which asserts that code-switched grammars are nothing more than the union of the two or more lexicons being mixed (MacSwan 2013). The PFIC predicts that code-switched utterances are only ungrammatical when code-switching within a phonological element. According to the PFIC code-switching within the construct state is only ungrammatical if the construct state is either merged pre-syntactically or post-syntactically, since these are inputs to PF within Minimalism, However, if the construct state is merged syntactically, then code-switching between the two elements are predicted to be grammatical.

In order to test these claims I designed a 2X3 experiment in which direction of code-switch, i.e Arabic to English or English to Arabic, was the first factor with location of code-switch with respect to the construct state was the second factor. Thirty self-reported proficient Egyptian Arabic/American English bilinguals were recruited. The stimuli for this experiment consisted of 24 sets of code-switched sentences, which were counterbalanced across six lists so that each participant saw only one version of each target item, and randomly interspersed with 36 filler items of varying acceptability and length. All the stimuli was presented to the participants aurally, and participants were asked to listen to the code-switched sentences and rate their acceptability of the sentences on a -3 to 3 likert scale, where -3 indicates totally unacceptable while 3 indicated totally acceptable.

A linear mixed effects model was ran on a subset of the data, in which code-switching occurred directly between the possessed nominal and the possessor phrase both when code-switching from English into Arabic or from Arabic into English, in order to see whether there was a main result of direction or location of code-switch. The results of this linear mixed effects model showed that there was no significant effect for direction of code-switch ($p = 0.165$), meaning that code-switched sentences were rated similarly regardless of whether they were Arabic into English code-switches or English into Arabic code-switches. It also showed that there was a significant effect for location of code-switch ($p = 6.05e\text{-}07$ *), in that Egyptian Arabic/English bilinguals rated code-switched sentences that occurred directly

between the possessed nominal and the possessor phrase as being significantly less acceptable than code-switched sentences that occurred outside of the construct state.

Ultimately I conclude that, from this evidence, unacceptable code-switches give additional evidence for a post-syntactic merger analysis of the construct state.

On sluicing and its kin in Egyptian Arabic

Usama Soltan
Middlebury College

Introduction. Sluicing is an elliptical structure that has been claimed to result from wh-fronting coupled with TP-deletion (Ross 1969; Merchant 2001; Lasnik 2001), as shown in (1), where strikethrough marks deletion.

1) John bought something, but I don't know [$_{CP}$ what$_i$ [$_{\sout{TP}}$ ~~John bought t_i~~]]

Egyptian Arabic (EA), a wh-in-situ language, which also allows wh-clefting and wh-fronting under very specific conditions, provides a good testing ground for this proposed correlation between wh-fronting and sluicing. In this paper, I argue that EA exhibits genuine sluicing only when wh-fronting is allowed, but cleft-sluicing otherwise. The data and analysis presented here thus contribute to the cross-linguistic study of ellipsis and its syntactic analysis.

Wh-syntax of EA (cf. Wahba 1984; Cheng 1997) EA utilizes multiple strategies to form wh-questions. Wh-arguments may appear in situ (2) or as pivots of a cleft structure (3), but never fronted (4).

2) shuf-t **miin**?
saw-2SGM who
'Who did you see?'

3) **miin**$_i$ (huwwa) (da) ʔillii ʔinta shuf-t-uh$_i$?
who COP.SGM DEM.SGM COMP you saw-2SGM-him
'Who is it that you saw?'

4) ***miin**$_i$ shuf-t?
who saw-2SGM

Bare wh-adjuncts may appear in situ (5) or fronted (6), but never as pivots of a cleft structure (7).

5) ha-tsaafir **feen/ʔimtaa/ʔizzaay/leeh**?
FUT-travel.2SGM where/when/how/why?
'Where/when/how/why will you travel?'

6) **feen/ʔimtaa/ʔizzaay/leeh** ha-tsaafir?
where/when/how/why FUT-travel.2SGM
'Where/when/how/why will you travel?'

7) ***feen/ʔimtaa/ʔizzaay/leeh** (huwwa) ʔillii ha-tsaafir?
where/when/how/why COP.SGM COMP FUT-travel.2SGM
'Where/when/how/why is it that you will travel?'

If the correlation between wh-fronting and sluicing indeed holds, we expect bare wh-adjuncts, but not wh-arguments, to appear in EA sluicing contexts, contrary to fact, since both (8) and (9) are equally grammatical.

8) Mona ha-tsaafir bass ma-ʕraf-š **feen/ʔimtaa/ʔizzaay/leeh**
Mona FUT-travel.3SGF but NEG-know.1SG-NEG where/when/how/why
'Mona will travel, but I don't know where/when/how/why.'

9) Mona bi-tiħibb waaħid bass ma-ʕraf-š **miin**
Mona ASP-love.3SGF one but NEG-know.1SG-NEG who
'Mona loves someone, but I don't know who.'

Since wh-arguments cannot be fronted (cf. 4), (9) is unexpected. There is good empirical evidence, however, that structures like (9) are cases of **cleft-sluicing**, where the wh-phrase is a pivot of a cleft structure, whose TP undergoes deletion under semantic identity with the TP of the antecedent clause. There are several arguments in favor of this analysis. **First**, a cleft-sluicing structure may surface with a pronominal copula and/or a demonstrative (10).

10) Mona bi-tiħibb waaħid bass ma-ʕraf-š **miin** (**huwwa**) (**da**)
Mona ASP-love.3SGF one but NEG-know.1SG-NEG who COP.SGM DEM.SGM
'Mona loves someone, but I don't know who.'

Second, as in clefts, either the copula or demonstrative receives the pitch accent in SLCs. **Third**, the analysis correctly predicts that wh-PPs can appear in both sluicing and cleft-sluicing contexts, as in (11).

11) Mona bi-titkallim maʕa waaħid bass ma-ʕraf-š **miin /** **maʕa miin**
Mona ASP-talk.3SGF with one but NEG-know.1SG-NEG who / with who
'Mona is talking with someone, but I don't know who/with whom.'

Syntactic derivations of cleft-sluicing in EA To derive cleft-sluicing in EA, I assume the equative copular structure in (12), where Foc = Focus, PredP = Predicate Phrase (Bowers 1993), RP = resumptive pronoun, and FP is an optional projection in clefts that can host a (Dem)onstrative pronoun in its Spec, and is assumed to be where presupposition is encoded (cf. Eid 1983, Ouhalla 1999, Choueiri 2016, on the syntax of Arabic copular structures).

12) $[_{CP}\ [_{FocP}\ \text{Pivot}_i\ \text{Foc}\ [_{FP}\ \text{Dem}\ \text{F}\ [_{TP}\ \text{T}\ [_{PredP}\ \textit{pro}_i\ [_{Pred'}\ \text{Pred}_{COPULA}\ [_{DP}\ [_{CP}\ \text{C}_{\textit{ʔillii}}\ \ldots\ \text{RP}_i\ \ldots]]]]]]]]$

Further, following Merchant's (2001) assumption that ellipsis is triggered by an **E-feature** on a functional head, I assume that the E-feature can be hosted by either Foc or F in EA, triggering TP-deletion in both cases. Given these assumptions, the derivations of the four surface possibilities of the cleft-sluiced CP in (10) are as in (13-16). Remnants are in **boldface**; the E-feature is marked by a subscript; and strikethrough marks deletion.

13) $[_{CP}\ [_{FocP}\ \textbf{miin}_i\ \text{Foc}_E\ [_{\sout{TP}}\ \sout{\text{T}\ [_{\text{PredP}}\ \textit{pro}_i\ [_{\text{Pred}'}\ \text{Pred}_{\text{COPULA}}\ [_{\text{DP}}\ [_{\text{CP}}\ \text{C}_{\textit{ʔillii}}\ \text{Mona bi-tiħibb uh}_i]]]]]]]]$

14) $[_{CP}\ [_{FocP}\ \textbf{miin}_i\ \text{Foc}_{E\text{-}\textbf{\textit{huwwa}}}\ [_{\sout{TP}}\ \sout{\text{T}\ [_{\text{PredP}}\ \textit{pro}_i\ [_{\text{Pred}'}\ \text{Pred}_{\text{COPULA}}\ [_{\text{DP}}\ [_{\text{CP}}\ \text{C}_{\textit{ʔillii}}\ \text{Mona bi-tiħibb uh}_i]]]]]]]]$

15) $[_{CP}\ [_{FocP}\ \textbf{miin}_i\ \text{Foc}\ [_{FP}\ \textbf{Dem}_{\textbf{\textit{da}}}\ \text{F}_E\ [_{\sout{TP}}\ \sout{\text{T}\ [_{\text{PredP}}\ \textit{pro}_i\ [_{\text{Pred}'}\ \text{Pred}_{\text{COPULA}}\ [_{\text{DP}}\ [_{\text{CP}}\ \text{C}_{\textit{ʔillii}}\ \text{Mona bi-tiħibb uh}_i]]]]]]]]]$

16) $[_{CP}\ [_{FocP}\ \textbf{miin}_i\ \text{Foc}_{\textbf{\textit{-huwwa}}}\ [_{FP}\ \textbf{Dem}_{\textbf{\textit{da}}}\ \text{F}_E\ [_{\sout{TP}}\ \sout{\text{T}\ [_{\text{PredP}}\ \textit{pro}_i\ [_{\text{Pred}'}\ \text{Pred}_{\text{COPULA}}\ [_{\text{DP}}\ [_{\text{CP}}\ \text{C}_{\textit{ʔillii}}\ \text{Mona bi-tiħibb uh}_i]]]]]]]]]$

Conclusion. In sum, EA exhibits genuine sluicing only in contexts where fronting is permitted, and cleft-sluicing otherwise, in line with the wh-syntax of the language.

The Phonology and Typology of Arabic R

Plenary Keynote

Islam Youssef
University of South-Eastern Norway

While the vast majority of Arabic dialects are said to have one rhotic phoneme, often narrowed down to the alveolar tap/trill category (Shaheen 1979, Watson 2002), researchers have pointed out considerable variability in R both across and within dialects. Noted distinctions span voicing, place of articulation (alveolar, velar/uvular), manner of articulation (tap/till, fricative, approximant), and most notably one that is related to emphatic vs. non-emphatic cognates of the rhotic (see e.g. Cantineau 1960, Ghazeli 1977, Younes 1994). Some of those are contrastive distinctions; some are free variants; and others are phonetically and/or sociolinguistically conditioned variants. Questions remain as to what should be categorized as phonetic vs. phonemic; whether such categorizations hold for all dialects; and if not, what evidence can be provided for the dissimilarities.

To answer these questions, we seek evidence in the phonological behavior of R on a dialect-by-dialect basis: in minimal pair contrasts, distributional phenomena, loanword phonology, and phonological processes that target or are triggered by R. The investigation of such evidence reveals four major patterns, and hence typologizing Arabic dialects into four classes based on the nature and number of R phonemes: the split-R dialects, the plain-R dialects, the emphatic-R dialects, and the uvular-R dialects.

Assuming Modified Contrastive Specification (Dresher et al. 1994, Hall 2007, among others) and Emergent Feature Theory (Mielke 2008), the unique patterning of R in each class must also be reflected in the feature representations. We employ the minimalist, phonologically motivated, privative features of the Parallel Structures Model of feature geometry (Morén 2003) to characterize aspects of the attested R's, including coronality, backness/dorsality, emphatic-ness, and sonority. The representations demonstrate how the phonological behavior of segments can influence inventory structure and featural makeup, with the implication that distinctive features are not as rigid or phonetically determined as most models of feature geometry propose (cf. Lindau 1985, Wiese 2011, Chabot 2018).