NOTAS Y RESEÑAS

RESEÑAS

INGO FELDHAUSEN, JAN FLIESSBACH Y MARIA DEL MAR VANRELL (EDS.) (2018):
Methods in Prosody: A Romance Language Perspective **(Studies in Laboratory Phonology 6), Berlin, Language Science Press.**

Este libro, editado por I. Feldhausen, J. Flissbach y M.M.Vanrell, nos acerca a los métodos de investigación actuales en prosodia desde una perspectiva románica. Lo componen un total de siete capítulos a los que se suman la introducción de los editores y un prefacio de Pilar Prieto que acaba con estas palabras: "Este volumen puede leerse como una instantánea del estado actual de la técnica en el análisis prosódico, pero también como una señal para futuras direcciones en la investigación prosódica".

La primera parte, "Corpus amplios y habla espontánea", la inicia el artículo de Juan María Garrido Almiñana (Universidad Nacional de Educación a Distancia), "Using large corpora and computational tools to describe prosody: An exciting challenge for the future with some (important) pending problems to solve".

El autor aboga por el uso de grandes corpus y herramientas computacionales para la extracción de datos en los estudios de fonética y fonología, lo que constituye el denominado *enfoque del big data*. Objetivamente, si se utilizan ingentes cantidades de datos con potentes herramientas computacionales, las predicciones obtenidas de ellos, de forma más rápida y económica que con los métodos anteriores, serán mejores, a pesar de que datos incorrectos (ruido) inevitables puedan llegar a predicciones no correctas. Garrido Almiñana se plantea si actualmente es posible su aplicación en el análisis de la prosodia, en el que experimentos con gran cantidad de datos de voz de numerosos hablantes se puedan procesar automáticamente con el fin de que proporcionen resultados relevantes en la investigación.

En el cuerpo del artículo se revisan los avances en estos campos mostrando las herramientas y los métodos utilizados en el procesamiento automático del habla. Se puede realizar una recolecta conjunta de datos entre varios grupos de investigación (Glisando), bien compartiendo datos (p.e. proyecto MATE), e incluso obteniendo los datos prosódicos de internet. Otras herramientas automáticas permiten la anotación de corpus, la transcripción, la segmentación fonética (p.e. SPPAS, que proporciona la transcripción y el alineamiento en varias lenguas, o la segmentación automática de unidades prosódicas). Las mediciones y el análisis estadístico y el uso de técnicas automáticas para el estudio de la prosodia se ejemplifican en el análisis

de patrones de tono del español en habla neutra y emocional, en diálogos y en los patrones tonales en chino mandarín.

Los resultados obtenidos para el procesamiento de la entonación a través de herramientas automáticas, p.e. MelAn, son semejantes a los que se obtuvieron con técnicas manuales a pesar de que estas no se puedan desechar completamente. Disponiendo de una gran cantidad de datos de voz los resultados siempre serán más fiables. El enfoque presentado en este trabajo no está exento de problemas, por ejemplo la obtención de datos en lenguas minoritarias o la calidad de esos datos. Los avances previstos en la investigación de las tecnologías del habla proporcionarán las herramientas necesarias y precisas que mejoren la anotación de los datos.

El artículo de Andrea Pešková (Universität Osnabrück) "Intonation of pronominal subjects in Porteño Spanish: Analysis of spontaneous Speech", finaliza la primera parte del libro dedicada al habla espontánea. Su punto de partida son las realizaciones de sujetos pronominales (PS) en el español porteño (Buenos Aires) con el fin de conocer como estas funciones estructurales influyen en la información aportada por la entonación. Para el etiquetado se utiliza el sistema de anotación ToBI, de manera que también se comprueba su aplicabilidad en el habla espontánea. Se apunta que para evitar la ambigüedad en habla espontánea puede ser muy útil la separación de los dos niveles tonales, el fonético y el fonológico.

Los patrones tonales L+H* y L+H*+L obtenidos en estos datos de habla espontánea coinciden con los hallados en otros trabajos previos del español argentino; en ambos patrones, L+H* resulta ser el acento tonal predominante. Por otra parte, ToBI se revela en este estudio como una herramienta imprescindible para la detección de características y patrones tonales también en habla espontánea.

La segunda parte está dedicada a los diferentes "Enfoques del análisis prosódico". El primero de sus tres capítulos corresponde a "Multimodal analyses of audio-visual information: Some methods and issues in prosody research" de Barbara Gili Fivela, (Università del Salento), en el que se discuten métodos utilizados en análisis multimodales en la prosodia. Se pretende la integración de la comunicación verbal y visual, para ello se analizan gestos que se dan en la producción, como los gestos labiales, y los que se producen durante la producción del habla, como movimientos de la cabeza o expresiones en la cara, que pueden transmitir además información lingüística, por ejemplo la modalidad. Los análisis multimodales de audiovisuales, además de explicar la relación entre las diversas fuentes de información implicadas en la comunicación, también pueden dar cuenta de la variabilidad acústica y articulatoria del habla. La existencia de prototipos y no prototipos (como ocurre en

la percepción de las categorías de entonación) se puede evaluar no solo por sus características acústicas sino por la información visual, y ser juzgado de manera diferente con esta otra información.

El capítulo de Timo Buchholz (Freie Universität Berlin) y Uli Reich (Freie Universität Berlin) "The realizational coefficient: Devising a method for empirically determining prominent positions in Conchucos Quechua", propugna la necesidad de metodologías fiables para el estudio prosódico de lenguas que se hablan en situaciones de plurilingüismo junto con otras lenguas románicas, que en este trabajo se analiza a partir de la información pragmática, las anotaciones métricas en Praat y la estadística en R. Se puede hablar de tipos ideales de sistemas prosódicos: el culminativo, el distintivo, el delimitador y el rítmico. En cada uno de ellos los eventos tonales (tonos, duración, intensidad) ocurren en un determinado lugar de la palabra o la frase; así para el sistema culminativo el evento tonal se sitúa en la sílaba prominente de la palabra, en el sistema distintivo pueden ocurrir en cualquier lugar, en el delimitador en los límites de las cadenas cuando no hay palabras con prominencia y en el rítmico se darían contornos de prominencia isocrónica. Sin embargo en las lenguas estos ideales sólo son válidos si cumplen sus objetivos comunicativos en el espacio variacional, especialmente cuando se trabaja con lenguas cuya prosodia no es muy conocida y, además, están en una situación de plurilingüismo.

Este trabajo se inscribe en el proyecto "Zweisprachige Prosodie: Metrik, Rhythmus und Intonation zwischen Spanisch und Quechua" (Prosodia bilingüe: métrica, ritmo y entonación entre español y quechua) y su objetivo es el desarrollo de una teoría prosódica del bilingüismo sobre bases empíricas. Los datos, de habla semiespontánea, se han elicitados a partir de técnicas como *nombrar imágenes, memoria, map task, volver a contar una historia* o *quién soy yo*. Su objetivo es crear una metodología que sobrepase la descripción acústica y que permita derivar que la variedad de quechua estudiada no asigna acento a nivel léxico. Los resultados obtenidos son prometedores en la medida en que apuntan a posiciones prominentes en una lengua en la que hasta el momento eran desconocidas, aunque, como afirman los autores, debe mejorarse el tamaño y el equilibrio del corpus para que las predicciones de los resultados tengan una aplicación general. Para determinar las posiciones de prominencia se necesita un corpus con muchos más enunciados en el que se anoten como límites prosódicos las reducciones que ocurren en las sílabas que presentan una mayor duración, lo que distinguiría entre prominencias primarias y secundarias y sus realizaciones.

En el capítulo 5, "On the role of prosody in disambiguating wh-exclamatives and wh-interrogatives in Cosenza Italian", los autores Olga Kellert (Georg-August-Universität Göttingen), Daniele Panizza (Georg-August-Universität Göttingen) y Caterina Petrone (Laboratoire Parole et Langage, Aix-Marselle Université) pretenden mostrar que la información prosódica presente en el final de la emisión de las exclamativas y las interrogativas con partícula *wh-* inicial, oraciones que son idénticas sintácticamente en el italiano de Cosenza, es la que determina su correcta identificación. Frente a la información nuclear de la oración, también se examina la información prenuclear, como hipótesis de que la identificación de la modalidad oracional se haría desde el inicio y si la información prosódica identificada es diferente en los dos tipos de oraciones, en concreto que la entonación de las exclamativas *wh-* se procesa y por tanto se identifica más rápidamente que la de las interrogativas *wh-*. Utilizan una tarea de identificación en la que, además, se miden los tiempos de reacción de los oyentes como respuesta a estímulos naturales. Se parte de la hipótesis de que sí existen diferencias de procesamiento entre ambas modalidades oracionales y que la entonación de las exclamativas *wh-* se procesará e identificará en menos tiempo que la de las interrogativas *wh-*. Los resultados demuestran que, efectivamente, los oyentes distinguen estos dos tipos de frases, ya que dieron respuestas tempranas para ambas y también que la información que utilizan los oyentes para la desambiguación se halla al final de la frase y como se había supuesto, las exclamativas se procesan más rápido que las interrogativas; sin embargo este efecto desaparece cuando se incluye la duración segmental.

La tercera parte, dedicada a los "Métodos de Elicitación", se inicia con el capítulo 6, "The Discourse Completion Task in Romance prosody research: Status quo and outlook", de Maria del Mar Vanrell (Universitat de les Illes Balears), Ingo Feldhausen (Goethe-Universität Frankfurt am Main) y Lluïsa Astruc (The Open University).

Los autores plantean la mejora del método del *Discourse Completion Task* (DCT), y para ello tratan de evaluar las fortalezas y debilidades de este método, que proviene de la pragmática pero que ha sido ampliamente utilizado en estudios de prosodia. El DCT fue diseñado para la evaluación, en forma de encuesta o cuestionario, de estudiantes de idiomas, donde juegan un importante papel la producción y la comprensión pragmáticas. En la prosodia, en especial de las lenguas románicas, el DCT se utiliza como instrumento de elicitación para obtener habla semiespontánea, datos de discurso espontáneo comparables en hablantes y variedades, incluso si se trata de personas mayores o analfabetas, con la posibilidad de controlar el contexto pragmático o de cortesía y la oración deseada, tanto en hablantes bilingües como monolingües, lo que permite la espontaneidad en las respuestas. Frente a estas

fortalezas, los autores también señalan algunas debilidades del DCT, como que los oyentes no comprendan bien la tarea, que los patrones tonales no coincidan con otros obtenidos con diferente método, que algunos datos sean más difíciles de obtener, que influyan diferencias culturales o sociales, que a través de las situaciones propuestas no se pueda representar todas las reales, que no se obtenga la respuesta esperada. Para superar estas debilidades se proponen algunas mejoras al DCT: elaborar cuidadosamente los escenarios a través de contextos breves y concisos, invertir el esfuerzo para que el participante se sienta implicado en la tarea, conocer las posibles diferencias culturales, psicológicas o sociales para que no interfieran en las respuestas, reducir el posible sesgo de la tarea a través de la triangulación y definir sin lugar a dudas los actos de habla de que se trate. La flexibilidad del DCT, como se ha reflejado en este capítulo, lo hace un método adecuado para la investigación de la prosodia, que por supuesto no está exento de mejoras y refinamientos.

En el último capítulo, "Describing the intonation of speech acts in Brazilian Portuguese: Methodological aspects", João Antônio de Moraes (Universidade Federal do Rio de Janeiro, CNPq), y Albert Rilliard (LIMSI, CNRS, Université Paris-Saclay) examinan los aspectos metodógicos de producción y percepción de la entonación de los actos de habla en portugués brasileño (BP). En los actos de habla la prosodia ha sido ignorada en la mayor parte de los casos, si bien la fuerza ilocutiva de un enunciado también hace uso de la entonación. En BP se pueden distinguir por medio de la entonación algunos actos *directivos*, aquellos en los que el hablante pretende inducir una acción del oyente. A través de un total de siete actos de habla se constatan tres tipos de contornos melódicos: con un solo pico en el acento, con un pico antes del acento final o bien con dos picos. La validación perceptiva realizada pone de manifiesto la importancia relativa del tono frente a la intensidad y duración así como la de cada punto de inflexión en los contornos estilizados de tono, resultados que sustentan la necesidad de tres niveles de tono para la descripción fonológica de los actos de habla en BP.

Lourdes Romera Barrios
Universitat de Barcelona
lromera@ub.edu

WHITNEY CHAPPELL (ED.) (2019): *Recent Advances in the Study of Spanish Sociophonetic Perception,* **Amsterdam/Philadelphia, John Benjamins.**

Chappell's (2019) *Recent Advances in the Study of Spanish Sociophonetic Perception* is an edited research volume which brings together the contributions of fifteen different researchers that together explore the perception of multiple sociolinguistic variables across the Spanish-speaking world. Its focus on how listeners perceive and assign social meaning to phonetic variables offers an innovative contrast to previous research in the field, which has traditionally been concerned with how speakers of different social groups produce variable features. Although production studies have been invaluable in providing data regarding the stratification of a wide variety of sociolinguistic variables across Spanish-speaking communities, they may not always be able to account for the motivations that speakers may have in producing those variables. As such, perception research in general (and this volume in particular) has a unique ability to complement previous studies in the field; understanding how listeners use phonetic cues to make assumptions about speakers may aid researchers in understanding how, why, and to what extent individuals or groups of people may be driven to produce certain sociophonetic variants over others.

Previous research in phonetic perception reveal that it is not uncommon for listeners to associate certain social qualities and stereotypes with different language varieties or even make assumptions about an individual based on one isolated sound (Giles & Billings, 2004). For example, listeners can make judgments about speakers' social grouping (race, gender, age, sexual orientation, etc.), personality traits (intelligence, articulateness, street credibility, etc.), and interactional stances (annoyance, cooperation, politeness, etc.) simply based on acoustic properties of the speech signal (Eckert, 2008). Often times, these judgements have real-life ramifications. For example, individuals who sound African-American or Hispanic over the phone have been denied the same housing opportunities available to speakers who sound white (Purnell, Idsardi, & Baugh, 1999). Students who speak non-standard varieties of English have been excluded from options offered to their counterparts who use more standardized language, such as advanced-track classes or the ability to enter charter schools (Chin, 2010). Because much of the research in linguistic prejudice has been carried out in English, this volume plays an important role in extending our understanding of such topics to Spanish-speaking contexts.

Previous studies in Spanish sociophonetic perception have been limited and mainly have been interested in perceptions toward sibilants (Chappell, 2016; 2019; Mack & Munson, 2012; Walker, García, Cortés, and Campbell-Kibler, 2014). This volume, however, discusses a wide variety of sociophonetic variables characteristic of Spain

(Asturias, Catalonia, and Andalusia), Ecuador, Colombia, Argentina, Chile, Mexico, and the United States, thereby extending our understanding of social meaning of phonetic variation across monolingual and contact varieties of Spanish-speaking communities in Europe and the Americas.

The volume is available in a hardcover print edition and an electronic version of 344 pages. It contains an introduction by the editor, twelve main chapters, and an index. The twelve main chapters are split into four sections: Chapters 1-3 discuss sociophonetic perception in Spain, Chapters 4-7 are dedicated to sociophonetic perception in South America, Chapters 8-10 to that in North America, and Chapters 11-12 explore theoretical implications and future directions for sociophonetic perception research.

In the introduction, Chappell (University of Texas at San Antonio) presents the motivation for the volume, providing satisfying justification as to the importance and timeliness of studying Spanish sociophonetic perception. She explains that although these types of studies have been limited in the past, there has been a surge of interest in the field, as evidenced by an increase of sociophonetic perception presentations and panels at well-respected conferences on Hispanic Linguistics and Language Variation and Change. In the introduction, Chappell also synthesizes the findings of previous research in this field, such as the indication that exposure to variation is necessary to perceive and form indexical fields related to phonetic variants (Schmidt, 2013), that language dominance can change how variants are perceived (Ramírez & Simonet, 2017), and that the manipulation of a single phone can alter listeners' perceptions of a speaker (Barnes, 2015; Chappell, 2016a, 2019; Mack & Munson, 2012; Walker, García, Cortés, & Campbell-Kibler, 2014).

In Chapter 1, "The role of social cues in the perception of final vowel contrasts in Asturian Spanish," Sonia Barnes (Marquette University) explores how visual cues influence the vowel perception in a region of northern Spain where Spanish is in contact with Asturian. Speakers of Asturian Spanish vary in their production of word-final back vowels in the masculine singular morpheme -*o*, with realizations that range from Spanish [o] (/pero/) to Asturian [u] (/peru/). Building upon her own previous research (Barnes, 2015) which found that [u] indexed rural identities and lower status than [o], she used a binary forced-choice identification task combined with sociolinguistic priming to explore the effect of the physical appearance of the speaker on how their vowels were perceived. Barnes presented three groups of listeners with no picture, a picture of a rural speaker, and a picture of an urban speaker, respectively. Participants heard gradient vowel realizations ranging from Spanish [o] to Asturian [u] and identified the vowel they perceived. The results

indicate that that when participants were shown visuals of an urban speaker, the vowels were more likely to be identified as Spanish /-o/, but only when listeners were in favor of Asturian attaining co-official status. Barnes suggests that this may be because those who are in favor of Asturian attaining co-official status may be more likely to employ word-final [u] (and other Asturian features), and therefore may be more sensitive to the "existence of a more robust association between the two vowels and the relevant social categories" (p. 32). The chapter contributes to our understanding of how visual cues and ideologies toward language policies affect our mapping of phonetic information.

In Chapter 2, "Covert and overt attitudes towards Catalonian Spanish laterals and intervocalic fricatives", Justin Davidson (University of California, Berkeley) uses matched guise methodology (cf. Lambert, 1967; Lambert, Hodgson, Gardner, & Fillenbaum, 1960), to empirically analyze covert attitudes (vis-à-vis ratings of solidarity, power, accent, rurality, and bilingualism) toward two phonetic variables characteristic of Catalonian Spanish: lateral velarization (/l/ realized as [ɫ]) and intervocalic sibilant voicing (/s/ realized as [z]). All of the rating categories except for power were found to be associated with one or both phenomena. Specifically, the bilingual listeners afforded higher solidarity ratings to the Catalonian Spanish variants ([ɫ] and [z]), whereas Madrid listeners rated the alveolar lateral [l] higher than the velar counterpart and did not evaluate [s] and [z] differently. Davidson interprets the increased solidarity judgments for Catalonian Spanish variants on the part of Catalonian listeners as demonstrative of a positive outlook toward their Catalonian identity and concludes the chapter by proposing that the distinct social values associated with each variant can account for their varied use and evaluation in bilingual communities of Catalonia.

Chapter 3 concludes the section on sociophonetic perception of Peninsular Spanish varieties. Entitled "Dialectology meets sociophonetics: The social evaluation of *ceceo* and *distinción* in Lepe, Spain", this chapter, written by Brendan Regan (Texas Tech University), analyzes the social perceptions of two phonetic phenomena of Lepe, Spain which is located in the the western part of Andalucía. In Spain, there are three idealized norms of coronal fricative realization: *ceceo*, where graphemes <s>, <z>, <ci>, and <ce> are all realized as a voiceless dental fricative /θ/, *seseo*, where the same graphemes are all realized as an alveolar /s/, and *distinción*, where speakers distinguish between the two fricatives, with orthographic <s> is realized as [s] while orthographic <z>, <ci>, or <ce> is realized as [θ]. Regan explains that the two competing norms in Lepe are *ceceo* and *distinción*, and as such, his objective is to understand how these variants are perceived by listeners from the region. Using a matched-guise experiment created by digitally manipulating spontaneous speech

from twelve speakers, varying only in realizations of syllable initial coronal fricatives, participants were asked to evaluate the speakers on a variety of characteristics such as status, education, urbanity, and formality. Regan's data indicate that listeners evaluate *distinción* and *ceceo* differently on several social attributes. Specifically, guises characterized by the national standard, *distinción*, were rated as more prestigious, as speakers were judged to be more educated, of higher socioeconomic status, more urban, more formal, and of more occupational prestige than those whose guises contained *ceceo* (although *ceceo* seems to enjoy some covert prestige especially among men). Crucially, spending time away from Lepe appears to have a significant effect on listeners' social evaluations, suggesting that language attitudes and language change (in this case, the demerger of *ceceo*) may be driven by the geographic mobility of the speakers.

Chapter 4 begins the second section of the volume which highlights sociophonetic perception in South America. In this chapter, entitled "Regional identity in Highland Ecuador: Social evaluation of intervocalic /s/ voicing", Christina García (Saint Louis University) explores the perceptions of intervocalic sibilant voicing in one coastal and three highland cities of Ecuador (Guayaquil, Quito, Cuenca, and Loja) using matched-guise methodology. García begins the chapter by explaining that intervocalic /s/ voicing is a phonetic feature of the highland region of Ecuador (as opposed to the coastal region, where weakening of coda /s/ is more common). Participants listened to stimuli of intervocalic [s] and [z] variants and evaluated the speakers based on a variety of social qualities. The results of her study indicate that intervocalic [z] is associated with lower status and younger speakers and is rated as less pleasant sounding, however, these effects are only significant when the listeners hear a female voice producing the stimuli; intervocalic [z] was not found to be associated to status or pleasantness when the speaker was male. García interprets these results as a response to listener expectation; that is, since men produce more intervocalic voicing than women (Strycharczuk, Van'T Veer, Bruil, & Linke, 2014; García, 2015; Schmidt, 2016), this feature may be less expected for female speakers, and could be "noted as something exceptional that potentially carries information about the female speaker's status, pleasantness, age, and regional origin" (p. 145). García concludes that in Ecuador, male speakers' use of intervocalic [z] does not carry as much social meaning as it does for females and that this variable may be an example of a change in progress in the Spanish of Loja.

In Chapter 5, entitled "Spanish and Palenquero: Language identification through phonological correspondences," John Lipski (The Pennsylvania State University) explores perception in the Afro-Colombian creole language, Palenquero, spoken in the community of San Basilio de Palenque. Lipski begins by explaining that in this

region, Palenquero has been in contact with its historical lexifier, Spanish, for several centuries and that while the lexicons of the two languages are more than 90% cognate, the syntax of the two languages are dissimilar. Through a combination of three experiments (a single-word identification task, a rapid-language identification task, and a processing task), Lipski examines the role of regular Palenquero-Spanish phonotactic correspondences in facilitating language identification by Palenquero-Spanish bilinguals. The results indicate that Palenquero-Spanish phonological predictability plays a key role in language identification, with greater importance for the younger L2 Palenquero speakers. These findings suggest that sociophonetic awareness can assist language learners' emergent grammatical competence. Lipski concludes by generalizing his findings to other contexts, suggesting that sociophonetic awareness can help language revitalization efforts for nondominant languages in situations where the dominant and minority languages share a highly cognate lexical system.

In Chapter 6, "The role of social networks in cross-dialectal variation in the perception of the Rioplatense assibilated pre-palatal [ʃ]", Lauren Schmidt (San Diego State University) analyzes how individuals from different dialects perceive and map one of the most salient phonetic features of the Spanish of the Buenos Aires region: [ʃ] (e.g., calle 'street' /kaʃe/). Two groups of participants that differed in their degree of exposure to *Rioplatense* Spanish – one from La Rioja, Argentina and one from Bogotá, Colombia – completed an identification task that required them to categorize [ʃ] into corresponding graphemes in Spanish pseudowords. The contact group from La Rioja successfully associated [ʃ] with orthographic <y, ll>, while the non-contact group from Bogotá tended to map [ʃ] to orthographic <ch>. Schmidt interprets her results as further evidence of cross-dialectal variation in speech perception and suggests that one's social networks and contact through media sources can result in adaptations to how speech sounds are perceived, even when those sounds fall outside of the production norm of a certain speech community.

In the last chapter in the section on South American Spanish (Chapter 7), entitled "The social perception of intervocalic /k/ voicing in Chilean Spanish", Mariška Bolyanatz Brown (Occidental College) and Brandon Rogers (Ball State University) investigate how social meaning is attributed to the phonetic reduction of /k/ in Chile. The authors begin by describing a phonetic innovation in Chilean Spanish that is entering the speech communities vis-à-vis younger speakers: the reduction of intervocalic voiceless stops, particularly /k/. This reduction is manifested in processes of voicing (more common among women) and/or spirantization (more common among men) (Rogers, 2017; Rogers & Mirisis, 2018). Based on these findings, the authors explain that the objective of their study is to determine whether

listeners are sensitive to the reduction of intervocalic /k/, and if so, whether their perceptions align with the same variation patterns found in Chilean speakers' production. Using digitally-manipulated excerpts of spontaneous speech that varied only in voicing of /k/, they find that listeners are in fact not sensitive to voicing along three of the measured scales and are not sensitive to voicing at all in female speech. The authors explain that voiced intervocalic /k/ may function as a type of identity marker, not for age or gender, but for local identity, since males were rated as more Chilean (more local) when they produced a voiced /k/. However, in spite of previous production data indicating that young, female speakers tended to voice /k/ more than other groups (Rogers, 2017; Rogers & Mirisis, 2018), voicing was not a factor in the listeners' perception of female speakers' Chilean identity, status, age, or niceness. The authors suggest that the lack of effects for young, female stimuli associated with /k/ voicing may be because this variant is a new innovation, and, as such, may be below the level of consciousness for perceptual access.

The final geographic section of the edited volume focuses on perceptions toward North American varieties of Spanish. In Chapter 8, entitled "The sociophonetic perception of heritage Spanish speakers in the United States: Reactions to labiodentalized <v> in the speech of late immigrant and U.S.-born voices", Whitney Chappell (University of Texas at San Antonio) explores how U.S. Spanish speakers perceive bilabial and labiodentalized variants represented by orthographic <v> (*a*[β]*enida* [β]*eintitrés* '23rd Avenue' versus *a*[v]*enida* [v]*eintitrés*). Using matched-guise methodology, she finds that heritage listeners perceive the variable (labiodental vs. bilabial) as a socially meaningful marker along three different social dimensions. However, their evaluations depend upon the sex of the speaker they hear; women who produced [v] were rated as more intelligent/hard working, more Hispanic/confident/competent in Spanish, and older, while men who used the same variant were judged as less intelligent/hard working, less Hispanic/confident/competent in Spanish, and younger. Chappell suggests for these listeners, [v] indexes prestige and status when a female uses it, but not when a male does. The results line up neatly with perceptions of the same variable in Mexican Spanish (Chappell, forthcoming), where [v] was in the same way rated positively when used by females but negatively when used by males. This last finding implies that heritage speakers – despite often being positioned as deficient speakers – maintain a rich implicit knowledge of the social meaning of phonetic variables similar to "native" or monolingual speakers.

In Chapter 9, entitled "Spoken word recognition and *shesheo* in Northwestern Mexico: A preliminary investigation into the effects of sociophonetic variability on auditory lexical access," Mariela López Velarde and Miquel Simonet (both of the

University of Arizona) explore the auditory lexical processing of a regional phonetic variable. The authors begin by describing that in Northwestern Mexico, there are two main variants of sounds representing orthographic <ch> (as in *charco* 'puddle'): the traditional, alveopalatal affricate, [tʃ] and the more local variant, the palatal fricative, [ʃ]. The central goal of the study is to explore the speed and accuracy with which speakers of this dialect lexically process [tʃ] and [ʃ] and to see if one variant is privileged over the other in their mental representation. Data were collected by means of an auditory lexical decision task, meaning that listeners were asked to decide as quickly and accurately as possible if what they heard was an actual word in their language or not. The words presented to the listeners were a mix of words and nonwords, beginning with [tʃ], [ʃ], or another sound. These words were immediately preceded with auditory primes, either related or unrelated to the target word. Related primes consisted of the same lexical item as the target, but could phonetically match or mismatch the target. For instance, a target such as [tʃ]arco could be preceded by either [tʃ]arco (match) or [ʃ]arco (mismatch), and a target such as [ʃ]arco could be preceded by either [tʃ]arco (mismatch) or [ʃ]arco (match). Unrelated primes were also included. Results indicate that speakers of this dialect are equally likely to accept Spanish word forms produced with either variant and that both variants primed listeners equally effectively in their recognition of spoken words. Although these results imply that both phonetic variants activate the same entry in their mental lexicon, since word recognition was found to be faster when the word-initial phonetic variant was [tʃ], the authors suggest a privilege of [tʃ] over [ʃ] at some level of representation. In concluding, they posit that in cases of sociophonetic variability, members of the speech community may maintain more than one phonetic variant in their mental representation, but that one of the variants may take processing precedence over the other.

Chapter 10, the final chapter in the section discussing North American Spanish varieties, also investigates perception of the Spanish spoken in Northwestern Mexico. However, in this chapter, entitled "The perception-production connection: /tʃ/ deaffrication and rhotic assibilation in Chihuahua Spanish", Natalia Mazzaro and Raquel González de Anda (University of Texas at El Paso) explore not only how speakers perceive local phonetic features, but also to what extent they produce them, with the goal of understanding how phonological context, frequency, and social salience influence the perception-production relationship. In their study, the authors consider two local phonological features varying in social status: first, rhotic assibilation, traditionally associated with women and higher socioeconomic classes, and second, the deaffrication of /tʃ/, traditionally indexing men and lower social standing. Thirty-three native Spanish speakers from Chihuahua first completed a production task to establish whether they produced [ř] or [ʃ], followed by a

discrimination task to determine to what extent they were able to perceive these features. The authors find similar overall production rates of [ř] and [ʃ] but very different levels of awareness for each feature. While less than 10% of participants perceive assibilation, nearly all of them (84.4%) perceive deaffrication. The authors then discuss the factors that may account for the low level of perception of assibilation as compared to that of deaffrication, including frequency, phonological context, and sociolinguistic salience of each variant. Mazzaro and González de Anda conclude that "speaker' perception of phonetic variants is related to their production of them, but the perception-production relationship depends crucially upon an individual variable's phonological context, frequency, and social salience to the speech community" (p. 306).

The concluding section of the volume discusses future directions in sociophonetic research. In Chapter 11, entitled "Of intersectionality, replicability, and holistic studies", Sara Mack (University of Minnesota – Twin Cities) provides a reflection on methodological considerations in sociophonetic perception research, highlighting two areas that she considers crucial in the development of the field: intersectional approaches and replication studies. First, Mack underscores the importance intersectionality theoretic approaches (i.e. Crenshaw, 1989; Levon, 2015) in the development of the field of sociophonetic perception. Such approaches crucially take into consideration that social qualities such as socioeconomic status, race, gender, geographic region, age (among others) are dynamic properties, constantly shifting and interacting not only with each other but with the lived experiences of the speaker and listener. As such, these categories cannot be isolated and should not be considered as separate entities in sociophonetic research. The second reflection that Mack shares is the need to more fully emphasize study replicability as a core value of the field. She explains that in recent years, across many social science fields, increasing value has been placed on the development of innovative, experimental methodologies, often times at the expense of reproducing existing studies and confirming or refuting their findings. This focus, she warns, may result in guiding theories being built on quantitative studies whose results have not been reproducible, "drawing into question the underpinnings of the theories themselves" (p. 319). She argues that a more robust emphasis on replicability helps to increase the legitimacy and the validity of our findings and our field as a whole. However, she states that administrative policies that value replication studies over novel experiments must become more mainstream in order to inspire shifts in the field. The importance of replicability studies must be integrated into systems such as graduate curriculum, tenure and promotion guidelines, faculty searches, and editorial decisions in publications. Mack concludes that, as a developing field, embracing these two

emphases will allow us to enjoy a more holistic and reliable picture of sociophonetic perception.

In Chapter 12, the final contribution, Nicholas Henriksen (University of Michigan) provides an epilogue for the edited volume. Entitled "Future directions for sociophonetic research in Spanish", this chapter synthesizes the volume's contents, highlighting the shared themes, methodologies, results, and implications presented by this collection of sociophonetic research in the Spanish-speaking world. He then details a series of recommendations for future work, suggesting topics, methodologies, and theoretical considerations important for the continued development of the field. He notes that two areas of potential growth for sociophonetic research lie in vocalic and prosodic variation, detailing examples of such phenomena in both monolingual and bilingual communities. Lastly, Henricksen discusses theoretical approaches recommended for future research, emphasizing the need for studies that explore the connection between individual speakers' production and perception, as well as those that investigate how the production-perception relationship is mediated by various social and cognitive factors. By doing so, he suggests that data extracted from Spanish can inform current linguistic debates regarding sound change, including the role that individual listeners play in the production-perception link. Henrikson concludes his chapter by asserting that the volume has provided a solid foundation of Spanish sociophonetic research and that further research in this field will expand our current knowledge of the social meanings associated with linguistic variants as well as the non-linguistic motivations behind sound change.

In concluding, this edited research volume serves as the first unified resource on Spanish sociophonetic perception, and as such, provides an irreplaceable resource for scholars interested in this blossoming field. The volume analyzes in innovative ways how speakers across multiple varieties of Spanish interpret and navigate the complexity of sociophonetic variation. Its 12 chapters, focusing on variables as diverse as *shesheo*, *sheísmo*, *ceceo*, *distinción* intervocalic /s/ voicing, labiodentalization of <v>, rhotic assibilation, and intervocalic /k/ voicing (among several others), explore the ways in which listeners process, perceive, and produce social meaning present in monolingual and contact varieties of Spanish in Europe and the Americas. These chapters help us to understand the crucial role that internal and external factors play in speech perception, including (but not limited to) contact with other varieties, political and language ideologies, visual and auditory cues, population mobility, phonotactic predictability, social categories, and social networks – ultimately helping to inform linguistic theory and leading to a better understanding of how social evaluations of synchronic variation result in diachronic

change. The volume engages with considerations that other social science fields also currently face, including issues of intersectionality of factors and replicability of studies, and discusses the future of the field. The edited volume is a welcome addition to other resources in the field of language variation and change. It will likely help shape future research in Spanish sociophonetics as the field continues to develop.

Chelsea Escalante
University of Wyoming
cescalan@uwyo.edu

REFERENCES

BARNES, S. (2015): «Perceptual salience and social categorization of contact features in Asturian Spanish», *Studies in Hispanic and Lusophone Linguistics*, 8(2), pp. 213-241.

CHAPPELL, W. (Forthcoming): «Perceptions of Spanish(es) in the United States: Mexicans' sociophonetic evaluations of [v]», in S. Alvord and G. Thompson (eds.): *Spanish in the US: Variation, attitudes, and pedagogy*, New York, Routledge.

CHAPPELL, W. (ED.) (2019): *Recent Advances in the Study of Spanish Sociophonetic Perception,* Amsterdam/Philadelphia, John Benjamins.

CHAPPELL, W. (2016): «On the social perception of intervocalic /s/ voicing in Costa Rican Spanish», *Language Variation and Change*, 28, pp. 357-378.

CHAPPELL, W. (2019): «*Caribeño* or *mexicano, profesionista* or *albañil*?: Mexican listeners' evaluations of /s/ aspiration and maintenance in Mexican and Puerto Rican voices», *Sociolinguistic Studies*, 12(3-4), pp. 367-393.

CHIN, W. Y. (2010): «Linguistic profiling in education: How accent bias denies equal educational opportunity to students of color», *Scholar*, 12, pp. 355-443.

CRENSHAW, K. (1989): «Demarginalizing the intersection of race and sex: A Black Feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics», *University of Chicago Legal Forum*, 1(8), pp. 139-167.

ECKERT, P. (2008): «Variation and the indexical field. *Journal of Sociolinguistics*, 12(3), pp. 453-476.

GARCIA, C. (2015): *Gradience and variability of intervocalic /s/ voicing in Highland Ecuadorian Spanish,* PhD dissertation, The Ohio State University.

GILES, H. and A.C. BILLINGS (2004): «Assessing language attitudes: Speaker evaluation studies», in A. Davies and C. Elder (eds.): *The Handbook of Applied Linguistics*, Malden, Blackwell, pp. 187-209.

LAMBERT, W. E. (1967): «A social psychology of bilingualism», *Journal of Social Issues*, 23, pp. 91-109.

LAMBERT, W. E.; R. C. HODGSON, R. C. GARDNER and S. FILLENBAUM (1960): «Evaluational reactions to spoken languages», *Journal of Abnormal and Social Psychology*, 60(1), pp. 41-61.

LEVON, E. (2015): «Integrating Intersectionality in Language, Gender, and Sexuality Research», *Language and Linguistics Compass*, 9(7), pp. 295-308.

MACK, S. and B. MUNSON (2012): «The influence of /s/ quality on perception of men's sexual orientation: Explicit and implicit measures of the "gay lisp" stereotype», *Journal of Phonetics*, 40(1), 198-212.

RAMÍREZ, M. and M. SIMONET (2017): «Language dominance and the perception of the Majorcan Catalan /ʎ/−/ʒ/ contrast: Asymmetrical phonological representations», *International Journal of Bilingualism*, pp. 1-15.

ROGERS, M. B. A. (2017): «La lenición de las oclusivas sordas /ptk/ como fenómeno sociofonético en el castellano hablado en Concepción, Chile: Métodos e implicaciones», paper presented at *La Universidad de Concepción (UDEC)*, Concepción, Chile.

ROGERS, B. M. A. and C. A. MIRISIS (2018): «Voiceless stop lenition and reduction as social phenomena in Concepción, Chile», *Borealis: An International Journal in Hispanic Linguistics*, 7(2), 187-215.

SCHMIDT, L. B. (2013): «Regional variation in the perception of sociophonetic variants of Spanish /s/», in A. M. Carvalho and S. Beaudrie (eds.): *Selected Proceedings of the 6th Workshop on Spanish Sociolinguistics*, Somerville, Cascadilla Proceedings Project, pp. 189–202.

SCHMIDT, L. B. (2016): «Predictores lingüísticos y sociales en la sonorización de la /s/ en Quito, Ecuador», paper presented at the *XIV Encuentro Internacional de Lingüística en el Noroeste*, Universidad de Sonora, Hermosillo, México.

STRYCHARCZUK, P.; M. VAN'T VEER, M. BRUIL and K. LINKE (2014): «Phonetic evidence on phonology-morphosyntax interactions: Sibilant voicing in Quito Spanish», *Journal of Linguistics*, 50(2), pp. 403-452.

WALKER, A.; C. GARCÍA, Y. CORTÉS and K. CAMPBELL-KIBLER (2014): «Comparing social meanings across listener and speaker groups: The indexical field of Spanish /s/», *Language Variation and Change*, 26(2), pp. 169-189.