

Heritage languages and syntactic theory. An introduction

Roberta D'Alessandro¹, Michael T. Putnam^{2,3}, & Silvia Terenghi¹

Utrecht University¹, Penn State University², & University of Greenwich³

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1 Introduction

Heritage Languages (HLs) are spoken in restricted environments, such as emigrant language communities or families, surrounded by a stronger and more dominant language (Polinsky, 2018). Over the past two decades, HLs have taken a prominent position in linguistic research due to the significant attention they attract from scholars who are focused on exploring linguistic diversity from myriad perspectives. By virtue of their inherent diversity stemming from varied initial learning conditions, HLs pose significant challenges to traditional methods of linguistic description that rely on a uniform and monolithic conception of language. Even though numerous psycholinguistic studies have recognized certain overarching patterns in the acquisition of HLs (Montrul, 2016), the integration of data from HL-grammars – both with respect to language acquisition and language maintenance across the lifespan – into larger discussions (focused primarily on theory-shaping) has not yet taken place. One factor that may have prevented this is the observation of occasional (significant) variance in the grammars of some HL-speakers when compared with monolingual baselines. Such comparisons run the risk of viewing bilingual outputs as being ‘deviant’ or ‘incomplete’ (Montrul, 2008) – especially those found among HL-speakers.¹ In light of this view of HL-grammars,

¹Since their inception, scholars promoting generative treatments of aspects of HL-grammars have struggled with the proper way to describe mental representations that appear to (significantly) differ from monolingual baselines. Montrul (2008, 2016) appeals to the term of ‘*incomplete acquisition*’; however, this distinction has been roundly criticized both on theoretical (Putnam & Sánchez, 2013) and sociolinguistic grounds (Bayram, Kupisch, Pascual y Cabo, & Rothman, 2019). Speaking strictly from the perspective of the quality of mental representations, Domínguez,

little has been done concerning the use of data and generalizations gained from the analysis of said data in theory-building efforts.

Two additional trends in generative theory-building efforts are worth noting here: First, research on bi- and multilinguals from experimental, formal, and functional approaches has aided in generating an increased interest in these communities (D’Alessandro, Natvig, & Putnam, 2021; Grosjean, 2008; Polinsky, 2018; Rothman, González Alonso, & Puig-Mayenco, 2019). Second, the inclusion of typologically distinction languages – especially those that are minority or endangered (Nevins, 2022) – has also been a motivating factor to pay more attention to HL-grammars. What modern HL-studies contribute to the traditional methodology regarding comparative microvariation is attention on individual speakers and their language development patterns (for an overview, see Luk and Rothman 2022). Redirecting focus towards the *circumstances* of language acquisition has occasionally led to a reduced emphasis on structural patterns, giving rise to a fresh array of scientific inquiries concerning the precise influence of developmental and social elements in HL-acquisition. One key question that has emerged is whether these languages can genuinely be regarded as equivalent to monolingual grammars in terms of completeness and complexity. The emerging consensus suggests that HL-grammars are indeed quite complex in spite of the qualitative and quantitative differences in input that heritage speakers receive during formative years of language acquisition and throughout the course of life in opportunities to produce and comprehend their HL (Polinsky & Putnam, in press).

This volume aims to direct attention back to structural issues. Once it is ascertained that, despite their diversity, HL-grammars are complete systems worthy of serious investigation (D’Alessandro et al., 2021; Polinsky & Scontras, 2020), we can confidently adopt the methodological assumption that the investigation of HL-syntactic structures is a valid and meaningful pursuit. Even more: precisely because their patterns are deviant or different from those of monolingual grammars, they can provide supplementary insights into syntactic theory and contribute to addressing the question of what a natural grammar can or cannot generate (D’Alessandro, 2021). The papers collected here all stem from the same methodological assumption, namely that structural phenomena found

Hicks, and Slabakova (2019) advance the claim that the distinction of *incomplete acquisition* holds as an accurate depiction of these representations (in some instances), while Perez-Cortes, Putnam, and Sánchez (2019) provide a more gradient view of the quality of HL-syntactic representations that does not support this designation.

in HLs, particularly if they are different (or “deviant”) from those which are found in monolingual languages, can offer precious empirical evidence to test syntactic hypotheses and ultimately for the development of syntactic theory.

This introduction includes a note on the conceptualization of the ideal speaker-hearer (Section 2), then turns to discuss the issue of variable input and shared syntax (Section 3). Section 4 highlights shared development trends and trajectories found in typologically-distance HLs. The existence of these trends confirm the development of large-scale, systemic representational ‘constraints’ that are best modeled in a comprehensive theoretical approach to syntactic structure. We continue with a reflection on the importance of the search for invariant principles and what data from HLs can do to help in this enterprise (Section 5). Finally, Section 6 presents an overview of the chapters, highlighting the contribution they offer to the development of syntactic theory.

2 The *ideal speaker-hearer*-concept revisited

We understand a *generative grammar* to be one that is *formal* and *explicit*. A core desideratum of generative syntactic theory-building efforts has traditionally rested on the notion of *the ideal speaker-hearer*. This archetype finds its origin in the following quote by Chomsky (1965, 3):

Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance.

The notion of a *grammar* of a particular language under these contexts “purports to be a description of the ideal speaker-hearer’s intrinsic competence” (Chomsky, 1965, 4). Within the same framework, the earliest attempts toward building a generative grammar were held to be guided by innate principles, e.g., Universal Grammar (UG), which represented invariant principles of language and cognition that were neither acquired through experience nor affected by ‘non-linguistic’ factors. The past 70 years have borne witness to interesting proposals within the generative enterprise that have resulted in shifts in focus at both the operational and architectural level. Some proposed

adjustments have been relatively small in nature, while others have been seismic, necessitating a reconceptualization of the entire system. The Minimalist Program (Chomsky, 1995) represents a particular implementation of a generative grammar (whilst acknowledging that possible architectural designs and associated operational procedures are permissible) which has dominated the syntactic scene in the last 30 years.

One of the notions that has been most affected by the evolution of syntactic theory is that of the *ideal speaker-hearer*. In light of recent developments and minimalist assumptions, the concept of i-language is best understood (for the most part) as the cardinal value of the systematic relations that are established during language acquisition and maintained throughout the course of the lifespan. *The ideal speaker-hearer* is that which embodies these systematic relations. The competence (and performance) of individuals will of course display a wide array of variance; however, notwithstanding impairment or pathological disorders, languages will show coherent and systematic structural realizations, and underlying general invariable principles, since invariant structure-building procedures will remain constant (see Lohndal (2013) for a related discussion).

The notion of *parameters* and their development over the course of the last 40 years are another excellent case in point of these developmental trends. Once thought to be innate principles that assist language acquirers in sifting through ambient input, parameters are nowadays no longer regarded as such (Eguren, Fernández-Soriano, & Mendikoetxea, 2016). Rather, they are viewed as the result of more fundamental processes; i.e., as ‘third factor’ elements that are second-order objects derived from more general principles and axioms (Biberauer, 2019; Boeckx, 2014; Chomsky, 2005). Continued research on the cognitive underpinnings of the design of the faculty of language supports the perspective of a radically reduced UG, with some prominent scholars, such as Lightfoot (2020), calling for an ‘open UG’ that is guided and determined by the parsing of input. Variants of minimalist grammars are now paired with statistical learning models (Lidz & Gagliardi, 2015; Yang, 2016, 2018), further demonstrating the attractiveness of the appeal to an ‘open UG’ that allows parsing strategies to be led by a finite number of structure-building principles. Arriving at this eventual conclusion was, in fact, the desired outcome in an architecture that views linguistic expressions as “the optimal realization conditions of the interface conditions, where ‘optimality’ is determined by the economy conditions of UG” (Chomsky, 1995, 171). The refinement of minimalist inquiries into the nature of grammar continues through the present, which is a clear sign of a growing and

vibrant field of inquiry. Probing into the accomplishments and advances of the Minimalist Program (Leivada, 2020), while simultaneously acknowledging architectural, operational, and terminological elements that require revision or elimination (Leivada & Murphy, 2021), has become a healthy common practice that shapes the landscape of generative linguistics today.

Concepts such as *the ideal speaker-hearer*, parameters, and UG have also been widely discredited in research on bi- and multi-competence individuals and populations (commonly referred to as ‘*bilinguals*’). Agreeing with Luk and Bialystok (2013), we too support the view that the distinction of *bilingual* is not a categorial variable; i.e., it is virtually impossible to find populations of bilinguals who have had exactly the same experiences, especially with respect to qualitative and quantitative input exposure during the language acquisition process. The reliance on parameters has also largely been abandoned in generative approaches to L2 acquisition and heritage languages in favor of feature-based models (Putnam, 2019, 2020; Putnam, Perez-Cortes, & Sánchez, 2019; Slabakova, 2009; Slabakova, Leal, Dudley, & Stack, 2020). In this volume, we focus our collective attention on syntactic properties and trends observed in heritage varieties of various languages. Collectively, the chapters in this volume adopt this modern minimalist perspective in their individual studies, which holds that the invariant structure-building procedures remain constant in these grammars, as stated above (Lohndal, 2021; Polinsky, 2018). There are, however, noted differences, sometimes referred to as *divergent developments*, which result in the development of HLs, especially in connection with Factors 2 (Primary Linguistic Data) and 3 (principles of data analysis and computational efficiency), (Chomsky, 2005). One of the principal debates the chapters in this volume investigate is whether or not a finite set of developmental trends in HL-syntax is discernible from the studies that now exist (Polinsky & Scontras, 2020). The answer provided by the chapters contained in this volume is positive: despite the considerable diversity in the many factors relevant to language acquisition, it is possible to discern robust developmental patterns and common trends that are shared among all heritage language grammars.

3 Shared syntax and variable input

Critics of generative models shaped by some version of *the ideal speaker-hearer* often point to variability in input – both from a qualitative and quantitative perspective – as a significant challenge.

This state of affairs is particularly poignant in our treatment of HL-speakers, who, as bilinguals, constitute an extremely heterogeneous group (Luk & Bialystok, 2013). HL-speakers vary significantly from one another in this respect, as well as opportunities later in life to continue to use their HL in myriad settings and domains. A highly relevant and justified question is whether or not this variable input may result in mental representations that diverge from a monolingual baseline. This question rests at the center of discussions and debates focusing on whether or not aspects of grammatical competence can be *incompletely* acquired (Domínguez et al., 2019; Montrul, 2008, 2016). Although this controversial proposal, and the large amount of research it has generated, is certainly worthy of continued debate and inquiry, a detailed treatment of this topic will not be carried out here. For our immediate purposes, however, we wish to point out that the extant body of research on HL-syntax suggests that these core-structural building principles remain largely intact in these grammar systems. The domains in which *incomplete acquisition* or *attrition* may affect HL-grammars are generally assumed to be restricted to interface conditions.²

We affirmed in the previous section that minimalist generative models are compatible with variationist and statistic approaches to language acquisition (and change) (Lidz & Gagliardi, 2015; Yang, 2016, 2018), and adopt the position that a finite number of operational mechanisms, e.g., Merge, Agree, etc., restrict the number of possible grammars learners need to consider (Gould, 2017; Leivada, 2015; Moro, 2008). A separate, yet extremely relevant matter that deserves our attention at this point is whether or not we assume that these core structure-building principles construct two separate syntactic systems, or one combined, or ‘shared’ syntax. The consensus in current psycholinguistic and neurolinguistic studies is that syntactic structures occupy a shared cognitive space (Branigan & Pickering, 2017; Kroll & Gollan, 2014; Putnam, Carlson, & Reitter, 2018). Some of the strongest evidence adduced in support of this concept of ‘shared syntax’ is found in priming effects and reaction times in connection with related structures. In sum, even though a language may not be ‘active’ at the moment, latent effects of its structure impact parsing strategies for the grammar currently in use. This proposal is not inconsequential, because it raises a number of serious questions for the study of bilingual syntax more generally, and HL-syntax more specifically. The first question concerns how the mind switches between two language systems. In

²*Incomplete acquisition* is usually meant as the process whereby HL-speakers do not attain a complete grammar, equivalent to those of monolingual speakers, due to quantitatively and qualitatively different exposure; *attrition* is the phenomenon whereby the grammar of a speaker erodes due to long exposure to a different dominant language.

a model of ‘shared syntax’, we should anticipate the principal area of variance to reside in the realization of syntactico-semantic features post-syntactically (at PF). To phrase this as a question, how might this be particularly challenging for HL-speakers? One possibility is that languages, such as HLs, that are infrequently activated, or may have truncated representations, must ward off the intrusion of elements and parsing preferences from ‘stronger’ grammars, resulting in the need for bilinguals to develop ‘adaptive control’ to mediate between these two integrated systems (Green & Abutalebi, 2013). Grosjean (2008, 63) points out that “future research will have to investigate the underlying mechanisms that make a stronger language ‘seep through’” even in instances when the stronger language has been ‘deactivated’.

The development of any notion of ‘adaptive control’ involves two essential prerequisites: (i) a better understanding of the (Third factor-) cognitive factors that can adjudicate between (ii) linguistic representations. This brings us to our second question, namely, how are bilinguals able to navigate through competing, or *dueling* grammars (Myers-Scotton, 2002)? A detailed account of how the representations in both grammars exist simultaneously in a bilingual’s mind is essential here. Moreover, we need a set of universal features in order to ensure that the elements in one source grammar are compatible and equivalent with the other. In the absence of a universalist approach to features and syntactic structures, this is simply not possible (Reiss, in press). Putnam et al. (2018) highlight the necessity of features and representations in order to determine an approximate measure of the typological proximity (and, contrariwise, distance) that exists between two (or more) languages. This point highlights the importance of including situations of *microcontact*, i.e., where the two grammars under investigation are ‘more closely related’ than others, alongside studies involving two (or more) ‘more distant’ grammars (Andriani et al., 2022; D’Alessandro, 2021).

HL-grammars are aptly classified as hybrid grammars (Aboh, 2015); however, in all fairness, the ‘strong’ grammar in these dyads can be influenced to various degrees, too. Scontras and Putnam (2020) call for increased attention to the dyads in which HL-grammars exist, and this point reinforces the importance of including situations involving *microcontact* into this more comprehensive treatment of HL-syntax, although these comparisons are only possible under the assumptions that the atoms that constitute the make up of one grammar equate to those in the other. This presupposition is often taken for granted in formal syntax that focuses predominantly on monolinguals (i.e., *ideal speaker-hearers*); however, once we incorporate bilinguals into our research as legitimate

grammars, the need for universals comes to the forefront.

4 Developmental trends in HL-syntax

From a holistic perspective, the extant research on HL-syntax suggests a number of developmental trends observed across HL-grammars of varying proficiencies and dyads (Lohndal, 2021; Polinsky, 2018; Polinsky & Scontras, 2020). As one might expect, invariant structure-building principles such as Merge remain unaffected; however, other aspects of syntactic representations have proven to be more vulnerable to changes due to the status of these languages as HLs.

Morphology has proven to be a domain of significant alteration in the course of HL-acquisition and development. Putnam, Schwarz, and Hoffman (2021) survey and summarize a number of common characteristics of HL-morphological systems (see also Polinsky (2018, Ch. 5) for a related treatment of these issues). These include (but are not limited to) phenomena such as the overregularization and overmarking of unmarked forms (often resulting in paradigmatic leveling) and the increase in analyticity, i.e., the push towards one-to-one form-meaning correspondences. A specific implementation of this preference for analytic forms has been advanced by Laleko and Polinsky (2017), which they call the ‘Silent Problem’. According to this proposal, bilinguals, including HLs, show a strong dispreference for ‘empty elements’ in the syntax and their subsequent null realization at an external interface.

In line with a modular interpretation of the cognitive underpinnings of the language faculty, these morphological trends observed in HLs are perhaps best understood as an ‘interface phenomenon’ that exists between syntax and morphology (however one wishes to construe what ‘morphology’ means here). Morphological and morphosyntactic changes can certainly have a substantial impact on syntactic representations and operations that impact them; therefore, it stands to reason that a majority of research on HL-‘syntax’ to date has focused on the syntax-morphology interface. Interfaces between syntax and other modules of grammar have been the focus on a substantial amount of research in HL-syntax and bi/multilingualism more generally (see Sorace 2011 for a discussion of the central importance of the concept of ‘interface’ in bilingualism research). The interface between syntax and discourse has been a particularly fruitful domain of study and inquiry. For example, Hoot and Leal (2023) investigate how information focus may affect the word order of

heritage Spanish.

Developments in HL-syntax are not exclusively restricted to interface phenomena; in fact, there are some properties that suggest a restriction in the size of computational domains utilized in HL-grammars. Two phenomena that have been the focus of study in HL-syntax in this regard concern (i) long-distance anaphoric binding and (ii) *wh*-movement involving intermediate gaps. Previous research on heritage Korean (Kim, Montrul, & Yoon, 2009, 2010), Icelandic (Putnam & Arnbjörnsdóttir, 2015), and Turkish (Gürel, 2004) evince the reduction in binding domains that are associated with weak pronominal reflexives in HL-varieties. In the baseline variant of these aforementioned HL-grammars, each language has multiple ways of establishing antecedent-referent dependencies; however, in the heritage variants, the dependency that represents the shortest distance generalizes as the only possibility. In similar fashion, *wh*-movement involving intermediate gaps have also been shown to be problematic for HL-speakers with intermediate to low proficiency. Hopp, Putnam, and Vosburg (2019) demonstrate a restriction in the licensing of these complex filler-gap dependencies in Mennonite Low German (aka Plautdietsch), spoken in southwest Kansas. Based on data obtained from two production tasks, Hopp et al. (2019) observed that Plautdietsch speakers with intermediate to low proficiency (based on speaker self-ratings) would produce an additional *wh*-item in place of the intermediate gap position. These findings are important for two reasons: First, they confirm that some version of derivational complexity is at play in shaping the computational domains in HL-syntax. Second, and related to the first point, any notion of derivational complexity intrinsically ties to some conceptualization of locality and how it applies to abstract representations.

5 The need for invariant operations

We agree with the observation regarding heritage language grammars made by Bayram, Di Pisa, Rothman, and Slabakova (2021, 545), who recognize that the field of heritage linguistics “has emerged in earnest over the past two decades as part of a wave of expansion in investigating bilingual language scenarios beyond the two previously widely studied cases: (i) simultaneous child bilingual development (2L1) and (ii) nonnative adult second language (L2) acquisition”. Although they differ in fundamental ways from monolinguals and other bi/multilingual populations, HL-

speakers constitute a special case of individuals who as “children [were] exposed to a language from birth [and] who nevertheless appear to deviate from the expected native-like mastery in pronounced and principled ways” (Polinsky & Scontras, 2020, 2). The wide variance in abilities and grammatical expressions are not without form and direction. These data, although extremely fascinating, are not the deliverable in scientific inquiry; rather, it is the lens provided by formal proposals that enables us, as linguists, to interpret these data, leading to trends and generalizations that extend beyond individual speakers and languages.

Invariant operations are a fundamental prerequisite for interpreting (highly) variable data such as those found in heritage language grammars. D’Alessandro et al. (2021) offer a detailed summary of how theoretical proposals are essential to gaining a deeper understanding of developmental trends found in heritage language grammars. One of the goals of this volume is to clearly demonstrate that the treatment of aspects of HL-syntax is mutually beneficial for scholars interested in HL-grammars and the theory-building efforts. Even in the face of significant representational differences when compared with more proficient speakers, we see how generative approaches to syntax contribute to a potentially deeper understanding of these phenomena. A final important piece of evidence in favor of the inclusion of speakers with limited capacity in their HL-grammar comes from Sherkina-Lieber’s (2015) study of the ability of *receptive bilinguals*, i.e., individuals who can comprehend a language, but only produce it with pronounced difficulty, to understand functional morphology. Sherkina-Lieber (2015) investigated whether *receptive bilinguals* could decode tense, aspect, and agreement in heritage Labrador Inuttitut. The results of her study confirm that these speakers could interpret overarching categories, although they struggled with more specific intra-categorical distinctions. Assuming that the morphological reflexes of tense, aspect, and agreement are vehicles of syntactico-semantic features, these findings affirm the permanence, i.e., invulnerability, of certain elements of mental representations, while also making the case for the possibility of the weakening of connections between elements of syntactic structure (e.g., features) and their interpretation at the interfaces.

The syntax of HL-grammars has also proven to be fertile ground for the creation of innovative structures, confirming once again the need for formal analysis to aid in better understanding these sorts of developments (Bousquette & Putnam, 2020; Rinke & Flores, 2014). Examples of these novel forms in HL-syntax are found in case systems that show the development of Direct Object

Marking in Germanic, a language that commonly does not have such forms (Yager et al., 2015); the development of proclitic forms involving separable prefix verbs in Gottscheerisch, a Bavarian German-based dialect spoken in Slovenia (Putnam & Hoffman, 2021); and in the syntax of infinitives in North American Norwegian (Putnam & Søfteland, 2022).

6 Summary of papers

Against this background, the chapters collected in this book successfully showcase both the crucial role that syntactic theory plays in allowing us to better understand developments and common trends in heritage languages, and, contrariwise, how theory-building efforts (specifically in the syntactic domain) benefit from the inclusion of heritage grammars into formal theorizing.

The first two chapters take a general approach to linguistic theory and language variation from the standpoint of heritage languages. In *Microcontact and syntactic theory*, D’Alessandro et al. delve into the underlying principles that govern syntactic change resulting from language contact. They do so by investigating Italo-Romance heritage languages by means of the microcontact methodology, which involves performing pairwise comparisons between one and the same heritage variety across different dominant languages. This chapter discusses the main generalization that can be drawn from various case studies performed with this methodology: namely, that the nature of a given syntactic phenomenon influences its reaction to contact-induced change. In particular, phenomena that involve core syntactic features (such as auxiliary selection and demonstratives) follow a predictable pattern of change, while phenomena that are discourse-related (such as null subjects and differential object marking (DOM)) exhibit more complex patterns of change, as further determined by (perceived) structural similarity across the languages in a given dyad. The authors argue that, whenever the locus of variation can be neatly perceived by speakers, then 1:1 structural mapping between the two relevant languages is possible, allowing the speaker to identify complex or redundant structures and, possibly, to simplify them; this is the situation most commonly described for heritage languages, for which clear-cut divergences with respect to the baseline and homeland varieties, often discussed in terms of simplification, can be identified. However, if the speakers cannot perceive the locus of variation, as is the case in microcontact situations, then 1:1 structural mapping between the two relevant languages is not possible and the outcome of contact is more

unpredictable; crucially, this does not neatly align with existing models for heritage languages. As such, D’Alessandro et al. highlight the significance of incorporating the microcontact dimension into the analysis of change in contact, to clarify the conditions that drive change.

Rinke & Flores consider more closely how variation, amplified in the input (the Primary Linguistic Data, or 2nd factor, in Chomskyian terms) that heritage speakers receive, fundamentally shapes the idiosyncrasies observed in heritage grammars. More specifically, focusing on research on heritage European Portuguese, their chapter *Systematic and predictable variation in heritage grammars: The role of complexity, diachronic change and linguistic ambiguity in the input* identifies three distinct dimensions of variation in the input heritage speakers receive. The authors argue that, once those aspects of variation inherent to the input received by heritage speakers are factored in, apparently “deviant” phenomena in heritage European Portuguese are in fact fully predictable. As per the title, variation can be induced by the complexity of given linguistic phenomena, such as clitic placement; by diachronic change that is ongoing in the baseline grammar, as exemplified by the case of null objects; and by ambiguity, be it in the lexical or in the grammatical domain, as illustrated by the interpretation of overt subject pronouns and by the multifunctionality of the lexical item *que*, respectively. This chapter highlights both the need for correct descriptions of the data, and in particular of the variation inherent to them, as a prerequisite for the correct interpretation of seemingly “deviant” features and, in turn, how looking at acquisition in heritage contexts grants us enhanced theoretical understanding of the systematic nature of linguistic variation and change.

The chapters by Polinsky and Laleko shift the focus to sentence structure in heritage languages. In *Heritage language gaps*, Polinsky investigates how overt and null expressions alternate within heritage languages and takes issue with the widely accepted claim that heritage languages tend to favor overt expressions over null ones (the already mentioned “Silent Problem” of Laleko and Polinsky 2017). Upon closer inspection, Polinsky concludes that the licensing conditions for null elements are intact in heritage languages; the apparent difficulties that heritage speakers have with null elements are rather epiphenomenal to the shortening or even the elimination of the long-distance dependencies in which such null elements typically occur. This revision is based on data coming from the domains of both overt vs. null pronouns and relative clauses. In relation to the former, it is observed that, besides the lack of perceptual salience displayed by null elements, other factors that contribute to their difficulty for heritage speakers include the variation that the input attests

when it comes to determining the antecedent of overt vs. null pronouns (this is a matter of preference, not a categorical rule) and general difficulties with long-distance dependencies. This latter point is explored more in detail in relation to relative clauses: relative clauses admit both anaphoric and syntactic dependencies, but Polinsky shows that heritage speakers prefer the former type, as realised by coindexation, over the latter, which would require instead A-bar movement. Also in this case, the grammar of relativization in the baseline is not categorical but allows for optionality: Polinsky speculates that this indeterminacy might ultimately propel reanalysis in heritage grammars. Importantly for the wider aims of this volume, Polinsky notes various missing data points in the domain of syntactic gaps and calls for a better integration of the empirical observations, available and still to be gathered, relative to different heritage languages, working towards a more general theory-building effort.

Laleko, too, underscores the validity and the importance of heritage languages as yet another empirical domain for linguistic theorizing. Laleko's chapter, *Word order, prosody, and the expression of information structure in a heritage language*, substantiates this call by exploring the formal representation of information structure in both homeland and heritage Russian and, more specifically, by probing into the interplay between word order and prosody in this domain. The experiments conducted by Laleko make a good case for the departure from conventional theories about the relation between word order and information structure, according to which givenness and newness are primarily marked by word order across Slavic languages, and not by prosodic means. To the contrary, both homeland speakers and heritage speakers are shown to display no preference for word order over prosody in marking information structure. Moreover, Laleko discusses how both the word-order and the prosodic strategies are used in an innovative fashion by heritage speakers, and how their weight in encoding information structure is different than what is attested among homeland speakers. This change is explained by appealing to the concept of plasticity (Vallduví and Engdahl 1995), which captures cross-linguistic variation in the domain of discourse relations by considering the extent to which languages allow for deviations from default word order and prosodic patterns. Based on this, Laleko ultimately likens heritage languages to other instances of micro-variation across Slavic languages, thereby bringing them to the fore in the theory-building effort: in this sense, heritage languages are not just a valid extension to more conventional empirical domains, but they are also argued to be complementary to those, thanks to the insights that they

offer into the basic tenets of linguistic structure and into how languages vary and change.

The verbal domain in HL-syntax is investigated by the chapters by Alexiadou & Rizou and Putnam. In *Non-Active voice in heritage Greek: A case study*, Alexiadou & Rizou investigate the production of non-active voice in heritage Greek as spoken in Germany and in the US. While the extant literature found non-active morphology to be vulnerable in heritage populations, due to its more complex and underspecified syntax, this chapter presents novel production data that conflict with those conclusions. More specifically, Alexiadou & Rizou show that the non-active morphology is not vulnerable in certain low proficiency speakers; rather, these speakers generalize non-active morphology in anticausative verbs and may even generate new transitive deponents, although more restrictedly. The authors argue that the former observation suggests that non-active voice is generalised as an intransitivity marker by heritage Greek speakers in the US and Germany; importantly, the convergence across different contact languages suggests that transfer cannot be a valid explanation for the observed patterns. The latter observation, instead, is taken to align with an analysis of the Greek voice system whereby structures that contain non-active voice can be effectively harnessed to generate new meanings (Oikonomou and Alexiadou 2022). While the (over-)generalization of inflectional morphology attested in the data is a widely acknowledged feature of heritage morphology, non-active voice is connected with the formal register in Greek; as such, this investigation contributes to our understanding of the different factors that shape heritage grammars and their relative weights.

Putnam's chapter, *The shape and size of defective domains: Non-finite clauses in Pennsylvania Dutch*, sets off from an exploration of the expression of non-finiteness in Pennsylvania Dutch to make a novel case regarding the notion of Representational Economy in heritage languages (Scontras, Polinsky, & Fuchs, 2018). Pennsylvania Dutch has begun to deviate from typical German(ic) syntactic features in defective domains, and in particular with respect to the use of the complementizer *fer* as an infinitival marker (and the concurrent loss of *zu*) and the development of defective clausal gerunds. Putnam traces these innovations back to the fact that Pennsylvania Dutch, consistent with Germanic syntax more generally, still avoids the projection of Spec,TP as the final landing position for subjects; this results in the clausal spine to be stretched in the two domains under investigation. This chapter advances our understanding of the mechanisms that shape the syntax of heritage languages in two innovative ways. First, Putnam argues that the mental repre-

sentation of German(ic) syntax plays a pivotal role in predicting the outcomes of contact-induced change in heritage languages, setting clear boundaries to syntactic change and transfer. Second, based on these observations, Putnam recasts the concept of Representational Economy, which is commonly assumed as one of the main driving forces behind the shaping of heritage languages, in more nuanced terms: while Representational Economy is typically shown to amount to the shrinking of computational domains, the cases discussed in this chapter point rather to structural stretching driven by the same principle (see Lohndal and Putnam (to appear) for a related proposal). Putnam argues in fact that syntax stretching, when functional to the avoidance of representational conflicts across the languages in the dyad, likewise results in more efficient processing.

Finally, Frasson and Lohndal & van Baal address issues related to the DP-domain. Frasson's chapter, *Parallel changes in pronominal clitic systems: A view from heritage Romance and Slavic*, deals with the syntax of pronominal clitics across heritage Romance (Venetian) and Slavic (Bulgarian). Frasson notes a similar trend across the two varieties, albeit in different domains: the distribution of subject clitics in heritage Venetian is parallel to that of object clitics in heritage Bulgarian. In both varieties, in fact, these clitic pronouns occur in the same positions in which their tonic counterparts may also appear. This is taken to be consistent with an analysis whereby these clitics are arguments, and not highly deficient agreement-markers. This behavior is traced back to heritage speakers' avoidance of morphological complexity and, possibly, with their difficulties with long-distance dependencies (in this case: agreement): clitics are agreement heads in the baseline grammars, but get reanalysed as phrases in the heritage varieties, although they are shown to retain some phonological and morphological clitic properties. Importantly, the syntactic behavior of heritage Venetian subject clitics and heritage Bulgarian object clitics is at odds with the clitic syntax described for the respective homeland varieties; hence, heritage languages call for a revision of Cardinaletti and Starke's (1999) typology of pronominal elements and as such offer a new vantage point from which our understanding of and theorizing about clitic syntax can be furthered.

Lohndal & van Baal delve into the domain of DP-syntax to make the case for the need for nuanced predictions as regards the vulnerability and resilience of grammatical features in heritage languages. In *The DP layer in heritage Norwegian: Vulnerability and nominal architecture*, they take as their departure point Polinsky's (2018) proposal that salience correlates with resilience: in the DP domain, this amounts to predicting that the D layer will be resilient. This prediction is tested against

heritage Norwegian. The data discussed, however, do not seem to support the resilience of the D-layer: here, determiners are vulnerable, as shown by the fact that they can undergo omission in modified definite phrases or that they can be replaced by the English determiner. Lohndal & van Baal analyze these data by proposing a revised version of Polinsky’s proposal: perceptual salience and structural salience should be considered disjointly for different syntactic elements. Determiners are structurally salient (high in the DP), but perceptually non-salient (phonologically reduced): in this case, the low perceptual salience supersedes the high structural salience, accounting for the vulnerability of determiners.

In conclusion, as a whole, the chapters in this volume are the source of interesting empirical investigations into new and under-researched domains as well as the catalyst for revisiting traditional theoretical assumptions surrounding HL-syntax. Collectively, they point toward the importance of not only continued research into HL-syntax involving lesser-studied HLs and the dyads they exist in (Scontras & Putnam, 2020), but also the central role that mental representations found in generative approaches to grammar play in elucidating and clarifying these empirical findings.

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