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BOOK REVIEW

Rachel Channon and Harry van der Hulst (eds.), *Formational Units in Sign Languages*. Berlin: Mouton de Gruyter, 2011. € 99.95 /\$150.00 (346 pages) ISBN978-1614510697.

Reviewed by Leah C. Geer (The University of Texas at Austin)

In the early years of sign language linguistics, researchers worked hard to prove that signed languages were fully linguistic systems and not simply mimetic and holistic in form. We know, thanks to the seminal work by Stokoe et al. (1965), that signs are divisible wholes with analyzable parts. This volume is a collection of works that investigate these parts with respect to phonetic features, phonological systems, as well as suprasegmental elements that function prosodically. But, until recently, there were aspects of sign languages that were considered taboo. Specifically, few researchers discussed iconicity. To talk of iconicity, it was thought, was to suggest somehow that sign languages are not true linguistic systems because they have iconically motivated forms. This volume introduces a variety of papers that confront the issue of iconicity and how it manifests itself in different sign languages from around the world. In their introduction, Channon and van der Hulst discuss their observations of the relatively recent recognition of iconicity in sign languages as an “explanatory force” as opposed to an unfortunate fact about sign languages that must be “explained away”. The editors also discuss the extent to which aspects of iconicity, phonetics, and phonology are innate or learned, which leads nicely to the chapters that follow.

Formational Units in Sign Languages is divided into three parts: observation, experiment, and theory, each consisting of rich, new information that contributes to discussions about the phonetics and phonology in signed languages and also the role of iconicity in determining phonological categories in the world’s sign languages. For the remainder of this review, I provide a short summary of each chapter, grouping them not necessarily by the order they appear in the book, but by the topic they address. Wherever authors are mentioned without an accompanying year, the source should be understood to be from the volume under review.

There are a variety of sources for marked handshapes in the world’s sign languages; Susan Fischer and Qunhu Gong detail a few prominent sources in several Asian sign languages. They attempt to explain the origins of marked handshapes by appealing to iconic motivations. Sometimes the iconic handshape resembles the referent of the sign, like the Chinese Sign Language (CSL) signs for ‘ginger’ and ‘goose’, while other motivators of iconic hand configurations include character

signs and symbols, and sometimes fingerspelling systems. In her theoretically-oriented chapter titled “A constraint-based account of distributional differences in handshapes”, Petra Eccarius proposes a new category of faithfulness constraints within the Optimality Theory framework which dictate faithfulness to real-world objects. While she concedes that this category of constraints might be a controversial proposal, it offers a theory-based explanation of the observations made by Fischer and Gong about the languages in their sample and could likely be extended to account for attested forms in other languages.

In a discussion of markedness from a different source, Okan Kubuşand Annette Hohenberger discuss the tension between phonetics and phonology in their chapter on bimanual fingerspelling in Turkish Sign Language (TİD). Interestingly, unlike many sign languages with bimanual alphabets, the non-dominant hand has a more active role in the TİD fingerspelling system generally. In the few letter signs that are produced only with one hand, the dominant hand is free to sign diacritics (often with a snapping, hand-internal movement) on the non-dominant hand for letters that require these features. This observation, along with some of the signs mentioned in Fischer and Gong’s chapter, illustrates that the Symmetry and Dominance Conditions (Battison 1978) may not in fact be universal across sign languages. Another (possibly unique) characteristic of TİD is that when a one-handed letter is produced in an initialized lexical item, it is produced with the dominant hand (unlike when the same letter is used in fingerspelling) and sometimes the configuration of the hand is slightly different, such that it adheres more to the phonological restrictions on hand configuration already present in the language. Returning to the discussion of the source of marked hand configurations and faithfulness to motivators of iconicity mentioned by Eccarius, it seems that there is evidence of this sort of behavior in TİD as well. Specifically, the most marked handshapes that are used in the fingerspelling system and on the non-dominant hand might be considered peripheral to the core lexicon (cf. Brentari & Padden 2001) and thus do not conform to some of the phonological specifications of the language as a whole. A logical follow-up question to these studies is: How are phonological categories within a language solidified and to what extent are signers aware of these categories once they have formed, or perhaps even while they are forming?

The next section introduces chapters that address these very issues related to phonological categorization, processing, and awareness. To begin, in their chapter entitled “When does a system become phonological? Potential sources of handshape contrast in sign languages”, Diane Brentari and Petra Eccarius directly address that issue. They start by asking what potential paths there are to phonological contrast, and they argue that interface phenomena may be the window into examining phonological categories within a language. The first study they present explores the phonetics/phonology interface. They compare handshape contrasts

across different categories of the lexicon, namely the core, the periphery, and spatial lexical items (e.g. classifiers). What they report is that phonetic features of signs have the potential to lead to phonological distinction. To use one of their examples, the range of o-handshapes (round, mid, and flat) are considered phonetically distinct in their study; as it turns out, these handshapes are contrastive only in the spatial (classifier) portion of the lexicon. The phonetic distinction then led to the phonological distinction of round versus flat o within the spatial lexicon, but this phonological distinction did not appear in the core or foreign categories of the lexicon. They liken this path to socio-phonetic variation leading to historical changes that become entrenched in a phonological system. The second experiment examined the phonology/morphology interface by assessing the complexity of hand configurations used by signers of ASL and LIS, as well as homesigners and gesturers. Specifically, signers exhibit higher finger complexity for Object HSs than Handling HSs, while gesturers showed the opposite indicating they appeal to more iconic (holistic) forms, rather than using combinations of contrastive elements (phonemes) to make consistent form-meaning pairings (morphology). The authors suggest this form of assessment is a reliable experimental task that can be used to investigate handshape use in groups who may not be able to provide grammaticality judgments. Through this assessment, they showed that gesturers and signers draw on different processes for representing real-world objects manually.

The idea of being able to assess handshape use when signers may not be able to offer grammaticality judgments is an important one and takes us to Assaf Israel and Wendy Sandler's chapter, "Phonological category resolution in a new sign language: A comparative study of handshapes". Here, these authors posit that perhaps phonological categories in Al-Sayyid Bedouin Sign Language (ABSL) have not yet fully developed. They show evidence for this in the wide range of inter-individual variation in the language which they take to be suggestive of remnants of the iconic origins of signs. They suggest, based on their consideration of four factors — relation of the new language to other languages, language age, size of the community of users, and the existence of prescriptive norms — that phonological convergence is a universal and characterizes a new language. While these authors suggest that ABSL is moving toward phonological organization, this has yet to be tested. One possible approach might be to use a test similar to that developed by Carina Rebello Cruz and Regina Ritter Lamprecht for Brazilian Sign Language. The results of their phonological awareness assessment show that deaf children are indeed able to access their knowledge of phonological categories in their language. Perhaps in the future, tests like this one will be developed for other signed languages, including emerging languages like ABSL.

Robert Adam, Eleni Orfianidou, James McQueen, and Gary Morgan investigate another aspect of sign language knowledge; in an examination of BSL

comprehension, they tackle the question of what parts of signs guide recognition by individuals when they try to parse a sign stream. Their experiment revealed that the location parameter is the easiest to perceive compared to handshape and movement (much like consonants are easier to perceive than vowels in spoken languages), and their data from non-signers suggests that non-signers are also better at capturing the location parameter of signed stimuli than other major parameters. Jean Ann, James Myers, and Jane Tsay contribute another paper that investigates language processing. In their chapter entitled “Lexical and articulatory influences on phonological processing in Taiwan Sign Language”, they ask to what extent phonological markedness may affect language processing. Building on some of Ann’s earlier work on the interaction between the anatomy and physiology of the hand and handshape frequencies in Taiwan Sign Language (Ann 1993, 1996, 2006), this group investigated phonological processing through use of production and perception tasks. They found that articulatory difficulty does influence online phonological processing — participants were slower in responding to signs with higher articulatory difficulty, and while this was true in both experiments, the effect was stronger in the perception study, which may offer independent evidence for a motoric phonological loop suggested by Wilson and Emmorey (1997).

Shifting now to the parameter of movement, several chapters in this volume address how to represent this parameter and offer theoretical frameworks for their analyses. Rachel Channon and Harry van der Hulst argue for the use of dynamic features in the representation of the sign and suggest that movements are “gestalt-like” and have no internal structure. Similarly, Joe Mak and Gladys Tang posit several different types of movement, which capture facts about HKSL data. Hansen describes movement phonemes and allophones based on observed distributions and the behavior of phonetic segments in ASL.

Ginger Pizer, Richard Meier, and Kathleen Shaw Points consider how the types of formational units discussed in the papers mentioned above can be modified in child-directed signing and describe these modifications in terms of an intimate linguistic register. Their study examines mother-child dyads with children who ranged in age from nine to 24 months. During that period, they collected data and noted modifications the mothers made in their signing. Several trends emerged in the data: mothers had the tendency to lean, repeat, displace, lengthen, and enlarge their signs. They also signed on the child’s body and, in rarer cases, molded the child’s hands. While there is a large body of work related to child-directed speech and a growing body of literature on child-directed signing in various languages, this account presents these features in terms of a formal description of a linguistic register. These authors call for future work to describe other registers and the characteristic features that define them.

Last, but certainly not least, we come to a discussion of non-manual markers. Some researchers have considered the role of non-manual markers, eyebrow movement in particular, as belonging to the level of syntax (e.g., Aarons (1994) and references cited therein). However, in her experimental analysis of eyebrow movements, Traci Weast demonstrates that brow function in ASL is layered — and only sometimes is associated with syntactic function — a fact she compares to pitch in tonal languages. The eyebrow channel, as she calls it, can simultaneously function as a syntactic marker as well as indicate grammatical intonation and emotional prosody. She hopes that this work will have implications for better development of ASL curricula as well as encourage finer-grained analysis of brow movements in ASL texts.

In conclusion, the chapters in this volume make important contributions to our knowledge of the formational units of sign languages ranging from hand-shapes to locations, movements, and the tiny movements of eyebrows. These authors have shared their observations, their experiments, and theoretical views on a wide range of topics from a healthy sample of the world's sign languages. This volume will no doubt stimulate further discussion and investigation that will carry the field into the future. But I close now with a word of caution, lest we fall into the typological trap of opposite “bongo-bongoism” (Douglas 1970; wherein a researcher rejects some linguistic generalization after finding a single counterexample). We do not want to assume that just because ASL (and possibly one or two other thoroughly studied sign languages) has feature X, that feature X is universal. This has been happening; for example, there is a strong tendency to appeal to Battison's (1978) Symmetry and Dominance Conditions. These conditions are oft cited and have even been suggested to be sign language universals. However, many researchers who have mentioned counterexamples or violations to either of these constraints have been quick to explain these away as not true violations, without motivating the reasons for doing so. I would encourage scholars to find an independent method for deciding what signs within a linguistic system are subject to the constraints, so that we can seek a deeper understanding of how sign languages, and thus the units from which signs are built, work. There may in fact be systematic, parametric even, patterns to languages which observe these conditions and those that do not. There may even be, as Kita et al. (ms) note, a small class of signs within ASL that do not strictly adhere to these conditions.

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