Weak Drop in Shanghai Sign Language: Comparing Signers and Non-signers

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1. Introduction

All sign languages studied to date have both one-handed and two-handed signs (Van der Kooij 2001, Quer et al. 2017), although the formational possibilities of the two hands are not the same. The weak hand (also known as the non-dominant hand or H2) refers to the articulator that is highly restricted in its expressions compared to its counterpart strong hand/dominant hand/H1 in a lexical sign (Battison 1978, Crasborn 2011): The weak hand either copies the strong hand or acts as location for the strong hand executions, the forming making the balanced signs and the latter making the unbalanced signs (Van der Hulst 1996). In addition to its limited expressions in a lexical item, the weak hand is also the hand that is subject to deletion under certain circumstances. Some two-handed signs can have one-handed realizations, a process known as weak drop (Padden & Perlmutter 1987).

Existing research on weak drop fundamentally asked what makes a two-handed sign amenable to weak drop. Using observational reports (Battison 1974, Brentari 1998), acceptability judgements (Van der Kooij 2001, Gu 2019), and corpus-based approaches (Nishio 2009, Paligot et al. 2016, Mantovan 2021), previous investigations jointly reveal that weak drop is favored in signs with certain phonological and phonetic properties. Some recent works show that weak drop is influenced by iconicity, i.e., motivated mappings from meaning to form (Van der Kooij 2002, Vennes 2018, Becker 2022). These studies aim at revealing what makes weak drop possible or more acceptable, topics like the articulation of weak drop are rarely investigated. Except for a few observational notes in Gu (2019), the research question of what a one-handed realization of a two-handed sign looks like remains unaddressed. In terms of participants, previous studies of weak drop exclusively described deaf signers, without any consideration of non-signers[1]. By having non-signers undergo the same weak drop tasks as deaf signers we are able to investigate how non-signers exploit language-external factors like iconicity and phonetic information in their processing of weak drop. Moreover, the direct comparisons between signers and non-signers will illuminate the linguistic system that underlies the deaf signers' processing patterns. To close these gaps, the current study investigates weak drop with deaf signers and hearing non-signers of Shanghai Sign Language (SHSL).

2. Weak Drop in Shanghai Sign Language

In this section, I introduce the participants, the stimuli, the two tasks, including weak drop acceptability judgment and elicited production of weak drop. The coding procedures are also described upon which the results and analysis are built in the rest of the paper.

2.1. Participants

The participants comprise 15 deaf native signers of SHSL and 30 hearing college American Sign Language (ASL) students who have at least taken two semesters of ASL classes. Rather than entirely

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[1] Udoff et al. (2010) is the only report that instrumentally studied the production of weak drop resisting signs with deaf signers and hearing non-signers by immobilizing their weak hands in an arm sling.

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sign-naïve people, participants with experience in learning another sign language, i.e., ASL in this case, were recruited since they have awareness of weak drop by observing this phenomenon in another sign language. It is noteworthy that none of these students were exposed to the target sign language and were regarded as non-signers of SHSL. Half of the non-signing participants (N=15) were told the sign meanings, making the meaning-given group. The other half (N=15) were not told the sign meanings, making the meaning-ungiven group.

2.2. Stimuli

The stimuli consist of 50 SHSL two-handed signs produced by a deaf signer in video clips. Half (N=25) of the signs are balanced signs, and the other half (N=25) are unbalanced signs. To minimize the interference of ASL signs with the hearing participants, all the SHSL signs selected for this study differ from ASL words in at least one manual parameter (movement, handshape, location, orientation).

2.3. Tasks

All participants separately met with the author on Zoom for two tasks, acceptability judgment and elicited production. Each participant watched stimuli in pseudorandomized order and was asked to intuitively tell whether they accepted a one-handed realization. Immediately after the weak drop judgment of a sign, each participant was asked to produce the one-handed realization. If the sign was evaluated to be weak drop amenable, the participant was instructed to put the weak hand down, and to naturally produce the one-handed form. If the one-handed form was rejected, i.e., weak drop resisting, the participant was asked to do forced production of the ungrammatical one-handed form, although they were allowed to use some compensatory strategies that they regarded as appropriate to produce the disliked one-handed variant. Each participant was asked to produce and repeat the one-handed form four times.

2.4. Coding

In acceptability judgment of weak drop, both deaf and hearing participants gave crisp responses of yes/no although they pondered a very few items for concerns of ambiguity with another underlying one-handed sign. For these items, a follow-up question was added as to whether the participant thought the one-handed realization would be correctly understood by the conversation partner if they produced the sign free of context. Items that received suspecting comments were coded as weak drop resisting and items that got a positive confirmation were assigned as weak drop amenable. In elicited production of weak drop, the coding focused on whether the one-handed realization by the strong hand differed from what it looks like in the two-handed sign. If any modification appeared and was maintained at least twice during the four-time repetition of each participant's production, it was marked as non-identical to the strong hand part in the two-handed form and thus an adjustment occurred.

3. Results

This section reports the results of weak drop acceptability judgment and production, focusing on comparing signers and non-signers. Sameness and differences were found in deaf signers and hearing non-signers with regard to their acceptance and production. To jointly analyze the association between weak drop acceptance, weak drop production, group (deaf, hearing meaning-given, hearing meaning-ungiven), sign type (balanced signs, unbalanced signs), a logistic regression model with participant and item level random effects was performed. All the analyses were conducted using R (R Core Team 2022) and package lme4 (Bates et al. 2015).

3.1. Acceptability Judgment of Weak Drop

Overall, weak drop acceptance varied depending on the group. The average weak drop acceptance rate (average rate of the 50 stimuli over all participants in the same group) was higher in the deaf signer

group (average acceptance = 76.3%, SD = 13.2%) than the two hearing non-signer groups, namely the meaning-given group (average acceptance = 69.0%, SD = 10.9%) and the meaning-ungiven group (average acceptance = 51.7%, SD = 11.9%). When weak drop acceptance was further analyzed within each sign type, i.e. balanced signs and balanced signs, group differences were still seen in unbalanced signs, but not in balanced signs, as shown in Figure 1.

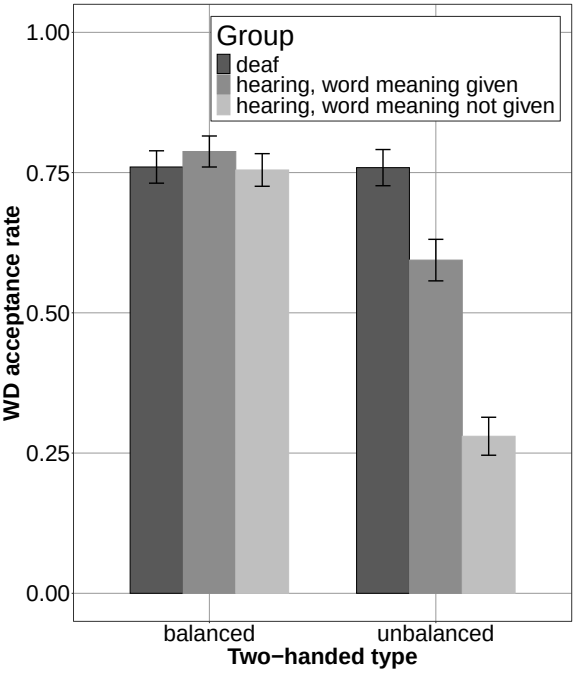


Figure 1: Weak drop acceptance by sign type (WD: weak drop; MG: meaning-given, MU: meaning-ungiven)

The average weak drop acceptance is compared across two-handed sign types and groups in Figure 1. The non-overlapping confidence intervals indicate a significant difference in weak drop acceptance of unbalanced signs (i.e., the weak hand as place of articulation for the strong hand) between the three groups. The deaf group had a significantly higher weak drop acceptance rate than the hearing meaning-given group, which in turn showed a significantly higher rate than the hearing meaning-ungiven group. This indicates that for weak drop acceptance of unbalanced signs, having access to word meaning helped the non-signers in this study, but it was not sufficient. In contrast, the three groups did not show significant differences in weak drop acceptance of the balanced signs (i.e., the weak hand copies the strong hand). Table 1 shows the results of multifactor logistic analysis of weak drop acceptance on sign type by group with the odds ratios (OR, meaning the ratio of probability of accepting weak drop to the probability of not accepting weak drop), 95% confidence intervals (CI) and *p*-values provided. An OR < 1 means the factor is associated with less weak drop acceptance. The following results are obtained: No evidence was found to support a statistically significant difference in their weak drop acceptance between balanced and unbalanced signs in the deaf group, but each of the hearing groups (meaning-given, meaning-ungiven) were found to have a significant difference between the balanced signs and unbalanced signs in terms of weak drop acceptance. In both hearing groups, balanced signs got significantly higher weak drop acceptance than unbalanced signs.

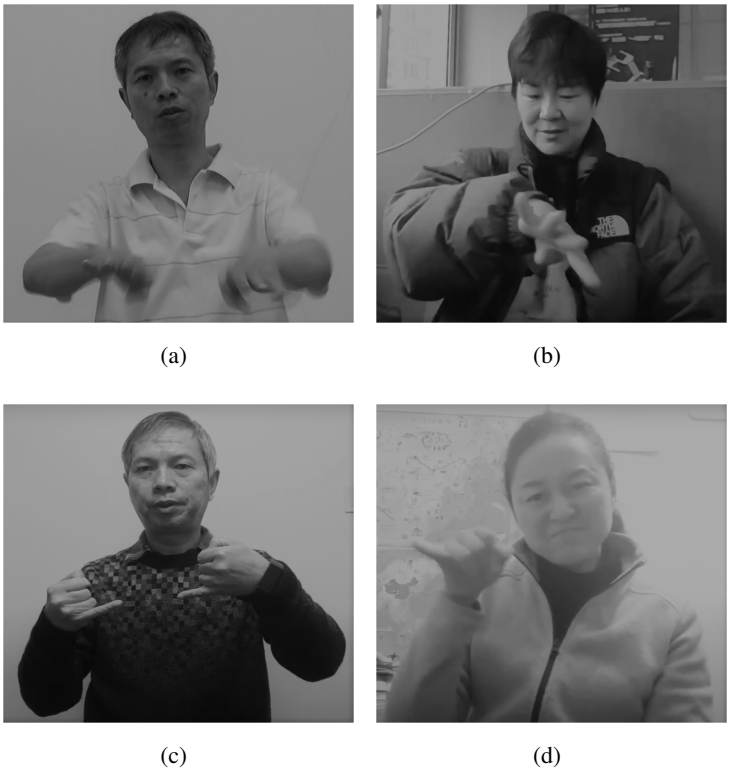
3.2. Elicited Production of Weak Drop

In one-handed production of weak drop amenable signs, it was found that the strong hand articulation was not always simply identical to what it appeared as in a two-handed sign counterpart. Rather, a variety of adjustments were observed in both deaf signer and hearing non-signer participants, including

Table 1: Multifactor logistic regression of weak drop acceptance on sign type in each group (MG: meaning-given, MU: meaning-ungiven)

Group	Factor	Reference	OR	95%CI	*p*-value
Deaf	Unbalanced	Balanced	1.559	(0.296, 8.200)	0.600
Hearing (MG)	Unbalanced	Balanced	0.338	(0.338, 0.339)	<0.001
Hearing (MU)	Unbalanced	Balanced	0.069	(0.025, 0.189)	<0.001

centralized placement (Figure 2(a)(b)), taking over the weak hand side, and using the body as a substitute for the weak hand. However, the average frequency of adjustments was not evenly distributed across the groups. The deaf signer group adjusted the one-handed production at an average frequency of 42% (SD = 12%) while the two hearing non-signer groups made drastically less adjustments, with the meaning-given group averaging 17% (SD = 13%) and the meaning-ungiven group averaging merely 7% (SD = 5%). The differences between all the three groups were found to be significant.



(a) (b)

(c) (d)

Figure 2: (a) BARBECUE (citation form) (b) centralized displacement by a deaf signer in one-handed realization of weak drop amenable BARBECUE (c) HOSTILE (citation form) (d) movement direction change as a compensatory strategy by a deaf signer in one-handed realization of weak drop resisting HOSTILE

In the forced production of one-handed form of weak drop resisting signs, i.e., ill-formed one-handed forms, compensatory strategies were employed to save ungrammaticality in both deaf signer and hearing non-signer participants. The observed modifications included using the body as a substitute for the weak hand and movement direction change (Figure 2(c)(d)). Since the weak hand was allowed to appear to hold a physical/imaginary object, participants also used a strategy that added back the object-holding weak hand although the information of the weak hand handshape and orientation was compromised. Some hearing participants, but none of the deaf participants used exaggerated non-manuals like shrugged shoulders as

a compensatory strategy as well. Regarding the frequency of compensatory strategies, the two hearing groups adjusted the production of almost every sign (average modification rate = 87%, SD = 24% in the meaning-given group and 81%, SD = 28% in the meaning-ungiven group) that resists weak drop, and no significant difference was found between these two hearing groups. In contrast, the deaf group was found to employ significantly less compensatory strategies to produce the ungrammatical one-handed form (57%, SD = 24%).

Putting together, as shown in Figure 3, compared with hearing non-signers, deaf signers made more adjustments in one-handed production of weak drop amenable signs but less modulations in the one-handed production of weak drop resisting signs. Further, this pattern was separately identified in balanced signs and unbalanced signs.

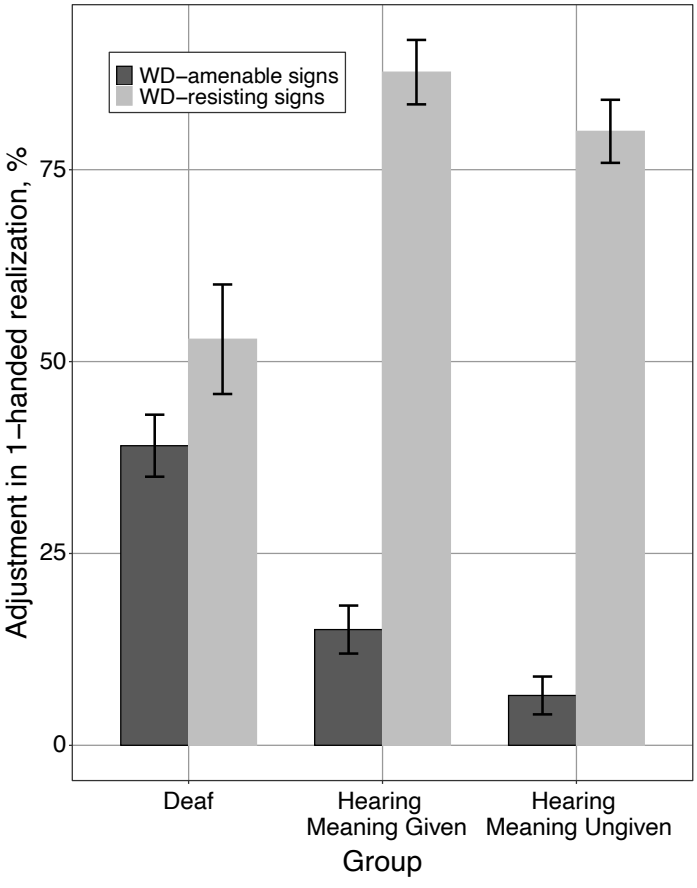


Figure 3: Frequency of adjustments in one-handed production of WD (weak drop)-amenable and WD (weak drop)-resisting signs

4. Theoretical Implications

This study investigates how deaf signers and hearing non-signers process a phonological process called weak drop. Similarities and disparities were identified between signers and non-signers in their acceptability judgments and productions of the one-handed variants of two-handed signs from SHSL. By putting signers and non-signers into a direct comparison, we are able to analyze the nuances between users and non-users of the target language, and therefore to elucidate areas where a linguistic system in the visual-manual-spatial modality comes into play. The results indicate that knowledge of the sign language grammar mediates the weak drop judgment of a subset of two-handed signs (i.e., unbalanced signs) and the weak drop production of each type of two-handed signs. Based on these observations, I suggest the following two implications as the major contribution of this study to phonological theories and the field of sign linguistics as well as linguistics in general.

4.1. Phonology-Phonetics Interface

My first proposal bears on the phonetic realizations. This study reveals that for those weak drop amenable signs, making the weak hand disappear from articulation is not the end of the story. Instead, in exercising the deletion process of weak drop, adjustments occur on the strong hand. A typical type of adjustment is the centralized displacement of the strong hand, as illustrated by the production of the balanced sign BARBECUE in Figure 2(a)(b). The centralized position has been identified as a result of historical development in sign languages (Frishberg 1975, Woll 1990). This kind of adjustment attested in the phonetic realization of weak drop is likely one of the rules that trigger the diachronic change. The subtle gradient adjustments seen in the phonetic implementation is therefore non-trivial and it may pave the way for the ultimate encoding of a categorical phonological property.

Going beyond the revelation of adjustments, the frequency of occurrence of phonetic adjustments is found to significantly differ among deaf signers and hearing non-signers (Figure 3). Crucially, deaf signers made tremendously more adjustments than hearing non-signers in their implementation of the grammatical one-handed variants. Such a difference has important implications for the theoretical treatment of phonetic rules. This finding suggests that although phonetic implementation is automatic and mostly subject to language-external factors, a view occasioned by the classical model of *SPE* (Chomsky & Halle 1968), it is nonetheless mediated by knowledge of the language. This supports the conjecture that phonetic rules are of linguistic interest and should be considered as a substantive part of the grammar (Pierrehumbert 1980, Dinnsen & Charles-Luce 1984, Keating 1988). I highlight that studying a phenomenon in a signed language at the level of phonetics provides new evidence to the debate about the role of phonetic rules and helps advance the inquiries of the phonology-phonetics interface.

4.2. Description and Depiction in Signed Languages

My second proposal concerns the discussion of sign language grammar from the perspective of semiotics and psycholinguistics. It is not new anymore to state that signed languages are full-fledged natural human languages given the blooming of research in this field since the 1960s (Sandler & Lillo-Martin 2006). Meanwhile, the continuing in-depth analysis of the signed language grammar, in particular the widely attested productive use of classifier predicates in almost all established signed languages (Zwitserlood 2012) intrigues reanalysis of a signed language. Classifiers are morphemes with a non-specific meaning and expressed by particular configurations of the hand (Zwitserlood 2012). When the classifier handshape is combined with certain movement and location, a classifier predicate is formed. In a classifier predicate, handshape is categorical whereas location and movement arguably have gradient properties. Signed languages thus arguably comprise categorical properties and imagistic properties (Goldin-Meadow & Brentari 2017). The notions of description and depiction advocated in the study of psychosemiotics (Clark 1996, Dingemanse 2015, Clark 2016, Ferrara & Hodge 2018) and recently employed in formal semantics (Davidson 2023) help disentangle the categorical properties from the gradient properties in languages. Description is instantiated by a conventionalized symbol such as a lexical item whereas depiction occurs as gradient marking, instantiated by classifier predicates. The coexistence of description (categorical) and depiction (gradient) in a signed language system leads us to ask about how these two properties are combined in a sign language system. Through the lens of signer and non-signer comparisons, this online processing study of weak drop offers some insights into the specific ways that signers integrate these distinct two properties into one linguistic system.

In acceptability judgment of weak drop, group differences were seen in unbalanced signs, but not in balanced signs, as shown in Figure 1. Deaf signers and both groups of hearing non-signers performed very similarly on balanced signs. Even having access to meaning is not required to achieve the deaf-like judgment. Since the weak hand copies the execution of the strong hand in a balanced sign, I suggest that non-signers may leverage the predictable information of the weak hand. The redundancy of the weak hand scaffolds such judgments to accept a balanced sign to be expressed using one hand only. Non-signers can simply tap into these factors to obtain a deaf-like performance. Interestingly, non-signers, in particular the participants who were not told the meaning, were very conservative in accepting weak drop of unbalanced signs, in which the weak hand is static and acts as place of articulation for the strong hand. The meaning-given non-signers had higher rates of weak drop acceptance of unbalanced signs, but still displayed a

significant difference from the deaf signers. This means that having access to the word meaning helps, but it is not sufficient. I take the non-deaf-like performance in both groups of hearing non-signers as evidence to support that knowledge of the sign language mediates the judgment of the unbalanced signs. Deaf signers treat balanced signs and unbalanced signs alike in weak drop judgment, indicating that the mechanisms underlying the two types of two-handed signs are the same despite their differences in form. This lends support to a unified account of their phonological representation (Van der Hulst 1996, Brentari 1998, Van der Hulst & van der Kooij 2021). In contrast, non-signers showed an asymmetry in their weak drop acceptance between the two types. A closer inspection of the unbalanced signs shows that 17 out of the tested 25 unbalanced signs are characterized by the so-called location iconicity in the use of the two hands as proposed in Lepic et al. (2016)'s typological studies, where the motivated relationship of location is defined as involving entities and their locations mapped onto each of the two hands. Further, this type of iconic motivation exclusively occurs in unbalanced signs, but not in balanced signs in the current study as well as in Lepic et al. (2016). The conservative judgment by non-signers could alternatively be interpreted that location iconicity has a distinct impact on weak drop between signers and non-signers. Since location iconicity and unbalanced signs are highly correlated, non-signers may map the form of the unbalanced signs onto the iconic motivations. Seeing the iconic motivation makes them treat the item as a classifier predicate (each hand standing for a classifier), and hence inhibits their acceptance of unbalanced signs. In other words, non-signers may regard these unbalanced signs as depictions rather than descriptions.

In the forced production of one-handed forms of weak drop resisting signs, deaf signers were more reluctant than hearing non-signers to use compensatory strategies to save ill-formedness. For signers, only grammatical modulations such as the change of movement direction in HOSTILE (Figure 2 (c)(d)), a device commonly used to mark person agreement on a set of verbs in sign languages (Lillo-Martin & Meier 2011), would be used. Non-signers, on the contrary, were willing to repair almost every unacceptable one-handed form. I suggest that this difference stems from a distinction in the combinatorial abilities of description and depiction in the signers' and non-signers' minds. While non-signers actively turn to broader semiotic systems to depict meaning, a tighter mapping from meaning to form in a lexical sign (description) prevents signers from repairing the already ungrammatical forms. For signers, if the modulations are beyond description, then it is not an acceptable strategy to save ill-formed productions of an individual word.

In summary, I propose that the online processing tasks of weak drop in this study inform how linguistic and non-linguistic general principles are interwoven. The categorical and gradient properties are combined in a rule-governed way into a single sign language system. Different processing patterns as revealed in this study between deaf signers and hearing non-signers underscore signed languages as a highly complex and specialized grammatical and semiotic system.

References

Bates, Douglas, Reinhold Kliegl, Shravan Vasishth & Harald Baayen. 2015. *Parsimonious Mixed Models*. https://doi.org/10.48550/ARXIV.1506.04967.

Battison, Robbin. 1974. Phonological deletion in American Sign Language. *Sign Language Studies* 5(1). 1–19.

Battison, Robbin. 1978. *Lexical Borrowing in American Sign Language*. Linstok Press.

Becker, Amelia Ann. 2022. The effect of iconicity on weak hand drop in American Sign Language. In *Proceedings of the Annual Meetings on Phonology*, vol. 9, 1–12.

Brentari, Diane. 1998. *A Prosodic Model of Sign Language Phonology*. MIT Press. https://doi.org/10.7551/mitpress/5644.001.0001.

Chomsky, Noam & Morris Halle. 1968. *The Sound Pattern of English*. MIT Press.

Clark, Herbert H. 1996. *Using Language*. Cambridge University Press. https://doi.org/10.1017/cbo9780511620539.

Clark, Herbert H. 2016. Depicting as a method of communication. *Psychological Review* 123(3). 324–347. https://doi.org/10.1037/rev0000026.

Crasborn, Onno. 2011. The other hand in sign language phonology. In Marc van Oostendorp, Colin J. Ewen, Elizabeth V. Hume & Keren Rice (eds.), *The Blackwell Companion to Phonology*, 223–240. Oxford, UK: Wiley-Blackwell.

Davidson, Kathryn. 2023. Semiotic distinctions in compositional semantics. In *Proceedings of the 58th Meeting of the Chicago Linguistic Society*.

Dingemanse, Mark. 2015. Ideophones and reduplication. *The Why and How of Total Reduplication: Current Issues and New Perspectives* 39(4). 946–970. https://doi.org/10.1075/sl.39.4.05din.

Dinnsen, Daniel A. & Jan Charles-Luce. 1984. Phonological neutralization, phonetic implementation and individual differences. *Journal of Phonetics* 12(1). 49–60. https://doi.org/10.1016/s0095-4470(19)30850-2.

Ferrara, Lindsay & Gabrielle Hodge. 2018. Language as description, indication, and depiction. *Frontiers in Psychology* 9. https://doi.org/10.3389/fpsyg.2018.00716.

Frishberg, Nancy. 1975. Arbitrariness and iconicity: Historical change in American Sign Language. *Language* 51(3). 696. https://doi.org/10.2307/412894.

Goldin-Meadow, Susan & Diane Brentari. 2017. Gesture, sign, and language: the coming of age of sign language and gesture studies. *Behavioral and Brain Sciences* 40. https://doi.org/10.1017/s0140525x15001247.

Gu, Shengyun. 2019. The feature system of handshapes and phonological processes in Shanghai Sign Language. *Sign Language & Linguistics* 22(1). 118–128. https://doi.org/10.1075/sll.00029.gu.

Keating, Patricia A. 1988. Underspecification in phonetics. *Phonology* 5(2). 275–292. https://doi.org/10.1017/s095267570000230x.

Lepic, Ryan, Carl Borstell, Gal Belsitzman & Wendy Sandler. 2016. Taking meaning in hand. *Sign Language & Linguistics* 19(1). 37–81. https://doi.org/10.1075/sll.19.1.02lep.

Lillo-Martin, Diane & Richard P. Meier. 2011. On the linguistic status of 'agreement' in sign languages. *Theoretical Linguistics* 37(3-4). https://doi.org/10.1515/thli.2011.009.

Mantovan, Lara. 2021. *Two sides of the same coin - or maybe not: a corpus-based analysis of weak drop and weak prop in LIS*. Paper presented at the 9th Formal and Experimental Advances in Sign Language Theory (FEAST9).

Nishio, Rie. 2009. Corpus-based study on sign phonology. *Japanese Journal of Sign Language Studies* 18(0). 47–60. https://doi.org/10.7877/jasl.18.47.

Padden, Carol A. & David M. Perlmutter. 1987. American Sign Language and the architecture of phonological theory. *Natural Language and Linguistic Theory* 5(3). 335–375. https://doi.org/10.1007/bf00134553.

Paligot, Aurore, Els van der Kooij, Onno Crasborn & Richard Bank. 2016. *Weak drop in context*. Paper presented at the 12th International Conference on Theoretical Issues in Sign Language Research (TISLR12).

Pierrehumbert, Janet Breckenridge. 1980. *The phonology and phonetics of English intonation*. Massachusetts Institute of Technology dissertation.

Quer, Josep, Carlo Cecchetto, Caterina Donati, Carlo Geraci, Meltem Kelepir, Roland Pfau & Markus Steinbach (eds.). 2017. *SignGram Blueprint*. De Gruyter. https://doi.org/10.1515/9781501511806.

R Core Team. 2022. *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing. Vienna, Austria. https://www.R-project.org/.

Sandler, Wendy & Diane Lillo-Martin. 2006. *Sign Language and Linguistic Universals*. Cambridge University Press. https://doi.org/10.1017/cbo9781139163910.

Udoff, Jonathan, Ignaus Nip & Karen Emmorey. 2010. *The phonological representaon of the non-dominant hand: Evidence from articulatory compensation in ASL*. Paper presented at the 10th International Conference on Theoretical Issues in Sign Language Research (TISLR10).

Van der Hulst, Harry. 1996. On the other hand. *Lingua* 98(1-3). 121–143. https://doi.org/10.1016/0024-3841(95)00035-6.

Van der Hulst, Harry & Els van der Kooij. 2021. Sign language phonology: Theoretical perspectives. In Josep Quer, Roland Pfau & Annika Herrmann (eds.), *The Routledge Handbook of Theoretical and Experimental Sign Language Research*, 1–32. London: Routledge.

Van der Kooij, Els. 2001. Weak drop in sign language. In *Signed Languages: Discoveries from International Research*, 27–42. Gallaudet University Press.

Van der Kooij, Els. 2002. *Phonological categories in Sign Language of the Netherlands: The role of phonetic implementation and iconicity*. Leiden University dissertation.

Vennes, Lenia. 2018. *Weak hand lowering and weak drop: The influence of sub-lexical iconicity on sign language phonology*. MA thesis. Radboud University, Nijmegen.

Woll, Bencie. 1990. Historical and comparative aspects of British Sign Language. In J.G. Kyle (ed.), *Sign and School*, 12–34. Clevedon: Multilingual Matters.

Zwitserlood, Inge. 2012. Classifiers. In Roland Pfau, Markus Steinbach & Bencie Woll (eds.), *Sign Language: An International Handbook*, 158–186. De Gruyter. https://doi.org/10.1515/9783110261325.158.

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