Beyond Morphology: Agreement, Gesture, and Multimodal Grammar

While there are formal unified accounts of spoken and signed languages in spite of their modality-specific differences, the integration of gesture into grammatical theory remains under discussion. This paper presents a theoretical approach of gestural interaction with morphosyntax in signed languages as part of a single multimodal grammar. This approach is based on the framework of Jackendoff's Parallel Architecture (2023), which models syntax, phonology, and conceptual structure as distinct but interconnected systems. The framework allows the addition of representational systems. As such, we propose to extend the framework to include gesture as a full system with its own combinatorial principles that is linked to morphosyntactic and conceptual structure. This account advances earlier work (authors 2002), which adapted Jackendoff's (1992) architecture of grammar to include a component, "gestural space", that mediated between conceptual structure and articulation. Within the newer Parallel Architecture framework, gesture is formalized as a representational system that is linked with other systems, e.g. phonology, syntax, and semantics. As Cormier (2014) emphasizes, phenomena such as pronouns, agreement verbs, and classifier constructions cannot be reduced to purely linguistic or purely gestural categories but instead exemplify hybrid forms combining discrete and gradient properties. Similarly, our account embeds gesture as a representational system within the grammatical system, reconciling the hybrid nature of these constructions with a formal model.

Verb agreement illustrates this approach clearly. In both modalities, verb agreement is taken to involve the expression of the φ-features of person and number. We follow the Distributed Morphology framework, in which φ-features are introduced in the syntax and then spelled out via Vocabulary Insertion. In many spoken languages, they are realized as segmental affixes; in signed languages, they are realized depending on the particular feature(s). First person is realized as a change in the direction of movement and/or orientation toward the location on the signer's body, while non-first person likewise is realized as a change in the direction of movement and/or orientation but the location depends on the area of signing space associated with the referent of the argument, which is taken from the gestural system. The realization of verb agreement in signed languages is thus not specific to this modality but is a multimodal phenomenon that follows the principles of the linguistic and gestural systems involved. Evidence from German Sign Language (author 2003) supports this view. The projection of Agreement Phrase (AgrP) is not obligatory but arises when interface pressures, such as phonetic constraints on body-anchored verbs, pragmatic requirements like episodic

readings, or semantic factors such as animacy, demand it. AgrP is often expressed through the auxiliary-like marker Person Agreement Marker (PAM). More recent studies analyze PAM as a marker of differential object marking (DOM) rather than an auxiliary. Regardless of whether PAM is an auxiliary or a DOM marker, the realization of PAM crucially depends on the interface with the gestural system if one of the φ-features is nonfirst person. PAM is thus another example that involves the interface with the gestural interface in its morphosyntactic realization. Corpus-based research on German Sign Language further demonstrates that all lexical verbs satisfying the animacy restriction mark agreement, either through a change in the movement/orientation of the verb or through the use of PAM. Our theoretical approach can also be extended to apply to pronouns, classifier constructions, and other constructions involving a gestural component, where gestural and linguistic representations remain independent yet formally linked within the Parallel Architecture framework..

This approach yields a number of testable predictions for language acquisition, language emergence and language change and variation: differences between L1 and L2 signers may emerge with regard to the acquisition of morphological processes that involve gestural integration vs. those that do. With regard to language emergence, morphological processes involving gestural integration may take longer to emerge in young sign languages. As for language change and variation, the theoretical approach predicts that those with gestural integration will remain stable over time and more universal across sign languages while those without gestural integration may evolve into new linguistic forms and vary across sign languages. We also predict processing differences between both types of morphological processes. . Such data provides a way to evaluate the theoretical approach presented here.

In sum, our theoretical approach provides a unified, multimodal way of analyzing hybrid structures in both signed (and spoken) languages, showing that gesture as well as possibly other resources (e.g., prosody) are linked to grammar rather than operating as completely separate systems.