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Creating a sign language out of everything and everywhere: an example from the deaf people of Bissau

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5 DISCUSSION AND CONCLUSION

*Language emergence describes moments in historical time,
when non-linguistic systems become linguistic.*

(Brentari & Golden-Meadow 2017, 1)

5.1 Introduction

This thesis has focused on the description of a rising deaf community and the study of the emerging sign language of Guinea-Bissau. To understand the circumstances of LGG emergence, I began by describing how the deaf community got established in the first two decades since they gathered in a school setting. The fact that LGG emergence has been documented from a very early stage is unique. Taking advantage of that data and a set of gestural sources, the study has tracked the rapid lexical growth of LGG in the early years of its emergence.

The two-part studies address two main questions. First, I have described the deaf community to answer the question: In which sociolinguistic context has LGG been emerging? Then, the linguistic analyses were based on the question: How does a signed lexicon emerge and expand from gestures? This second research question was further partitioned into two more specific questions. First, I compared gestures used in Bissau and their sign counterparts to see how they were integrated into the lexicon. Then, I relied on the diachronic record of LGG to observe the nature and extent of lexical expansion from gestural sources.

Besides providing an important contribution to the history of deaf communities by capturing the very beginning of one school-based macro-community (in §5.2), the analysis of the emerging sign language of Guinea-Bissau in this thesis makes relevant contributions to the

fields of gesture studies (in §5.3) and sign linguistics (in §5.4). Of course, while much more is to be investigated in the future (see §5.5), this book has brought a fundamental record of the real-time emergence of both a deaf community and a sign language.

5.2 Main contributions: deaf history

The sociolinguistic description in Chapter 2 documents the early establishment of a highly organised deaf community. While creating plenty of opportunities to develop LGG, deaf signers have matured a deep sense of pride in their language and their community. Here, the social stratification of gender roles makes those interaction opportunities mostly available to deaf men.

Based on formal and informal interviews, documentary records obtained in Bissau's original locations, online research, compilations of various types of data, and event reconstructions, I painted a picture of the context in which LGG arose. This resulted in a comprehensive description of the (up)rise of a deaf community. The fact that Guinea-Bissau does not have a medically-oriented approach to deafness opened the doors to a free-signing environment for deaf people in educational settings. Outside those school spaces, deaf people have created numerous other meeting locations. In these regular gatherings, it is striking how deaf people cultivate the need to raise awareness among hearing families and neighbours about their community and language. This deep-rooted pride seems to have encouraged their integration into the wider society.

Such a detailed account of a very young deaf macro-community is a fundamental contribution not only to the knowledge of how a deaf community is progressively established in its early years, but also for

faithfully providing the real-time context in which its language has been emerging. By consciously maintaining LGG very much autochthonous in its initial years, the first generation of deaf signers has been shaping a new language – as we speak – that redesigns what is known about emerging sign languages.

5.3 Main contributions: gesture studies (and their relation to sign linguistics)

Chapter 3 addressed the first specific question: What are the routes incorporating conventional gestures into LGG? From the elicited set of concepts expressed as conventional gestures, I found three incorporation routes: (1) one gesture being directly incorporated as one sign, (2) the incorporation of a few gesture variants as a few LGG signs, and (3) the incorporation of many gestures entangled in networks of overlapping forms and meanings as many signs. In particular, I had asked what exactly occurs in the form and meaning of gestures, ready to be picked up by signers, when integrated into an emerging sign language. When comparing the collected data, I saw that all gestures were adopted as signs with no significant modifications in both form and meaning. I further observed that form variants and gestures with different motivations were recruited for related meanings that were semantically defined when entering the lexicon.

This particular research brings three important contributions. First, methodological approaches innovate gesture studies by collecting the data in small groups and including deaf people as experts on gesture use (§5.3.1). Second, it identifies three pathways for incorporating gestures (§5.3.2). Third, the analysis of lexical expansion demonstrates that the semantic domain of kinship is more prone to rely on gestures than the one of colours (§5.3.3).

5.3.1 Innovative methods: using small groups and relying on deaf people

The methods used in Chapter 3 innovate gesture studies by asking about gesture use in small groups to observe response convergence and by enquiring about deaf people's experience with gestures. It further innovates the analysis of gesture networks by intersecting polysemy and synonymy.

While it is quite common to rely on interviews and questionnaires to understand gesture use better, doing elicitation in small groups is not typically practised in this area of study. Far from being naturalistic collections, the fact that people are questioned in small groups creates a context where they are put at ease to confirm gesture use for specific concepts. Thus, given their familiarity with each other, participants react comfortably to one another in agreement or disagreement. I found this method to be very fruitful for understanding gesture use, and I believe that including it in gesture elicitation methods would be an added value to the field.

I found that even though group size varied, if there was a composition of at least four members – i.e., all hearing teachers or all deaf young people – then it allowed enough familiarity to have everyone participating at ease, as claimed in the literature about focus groups in general (Acocella 2011, 1127). As such, gestures elicited with several groups of four participants, of both hearing (five groups) and deaf people (ten groups), clearly showed the agreement in gesture use, i.e., how much gestures were conventionalised, or how much they varied in Bissau. Also, the fact that there was a consistent diversity in responses within and across groups shows that participants were not highly influenced by each other (ibid., 1134), contradicting the tendency to copy each other's gestures (Kimbara 2008). In the end, responses were

occasionally different within and across groups, reflecting a close-to-real sense of the extent of gesture conventionalisation in Bissau.

Considering West Africa as a particularly fertile region in gestural interactions (Nyst 2010a; Nyst et al. 2012), it is to be expected that local deaf people are especially knowledgeable about and experienced with visible bodily actions (Kendon 2015). In this way, observations by deaf people reflect pragmatic aspects of the everyday functioning of gestures within intuitive communicative practices. While the fact that participants knew LGG might have skewed the data collection on gestures, this same factor may have instead raised participants' awareness of gesture use, and, especially, of the differences between gestures and signs.

The expertise of deaf participants, as key beneficiaries of gesture use by their hearing peers, reveals an extra awareness of metalinguistic aspects. In the small group elicitation sessions, they were able to provide additional information on gesture frequency, gender preferences, original motivations, and manners of use. Thus, I found that working with deaf people revealed an added value to the understanding of gesture use, a fact that has not been very well appreciated in the field of gesture studies.

5.3.2 Semantic-based routes of gesture-to-sign integration

The study of gesture incorporation into the emerging LGG, in Chapter 3, uncovers three different pathways. These routes show that gesture integration into a signed lexicon is not always direct, i.e., a gesture can also be adopted as a sign by undergoing some semantic specialisation.

The semantic-based analysis applied to the gesture-to-sign integration in Bissau contributes to the understanding of what happens in less

linear incorporation processes. By looking at the contact points between gesture use and the emergence of LGG lexicon, the role of synonymy and polysemy was brought to light. The intersection between synonymy and polysemy within less linear integration paths revealed a general preference of signers for more conventionalised gestures in both form and meaning. Moreover, yearning to expand their signed lexicon, signers make the most of available gesture variants, in both form and motivation, specifying them in meaning when adopting them as signs.

Besides acknowledging polysemy and synonymy in gestures, as others have, this study shows evidence that frequency is the primary criterion to select form-meaning pairs. Also, the fact that, similar to LGG, tangles of related meanings around the notions of 'death' and 'closeness' were observed by Coppola (2020) indicates that there are some concepts more prone to polysemy and synonymy, i.e., to co-lexification, than others.

5.3.3 Gesture as a starting capital in semantic hierarchies

Conventional gestures are fundamental in mediating communication between hearing and deaf people. The fact that they are recruited as a starting capital in LGG attests to such importance. They constitute an initial stock and also represent the primary basis for lexical expansion, both semantically and morphologically, as described in Chapter 4.

When gestures represent the communicative interface between deaf and hearing people, they gain linguistic weight. Accordingly, the present study demonstrates the formational and semantic stability of conventional gestures preceding their incorporation as signs. Such stable gestures have been argued to be at the basis of sign language creation by relying on a set of resilient properties (c.f., Goldin-Meadow 2002).

This thesis shows that the influence of an initial gestural foundation on the development of a new sign language is far from a simplistic issue. Looking, in particular, at the lexical expansion of semantic fields, deaf signers pull out gestures of multimodal interactions to different extents depending on the topic.

Similarities between LGG and other African sign languages, such as AdaSL (Nyst 2007, 98–101) and LaSiBo (Tano 2016, 182–207), in the formation of kinship terms based on gestures, demonstrate how fundamental gestures are in the sociocultural exchange of such concepts from one modality to the other. Here, there are gestures drawn from similar environments and therefore converging on similarly salient ways of representing objects and actions.

In contrast, colour terms in LGG are supported in gestures in the first two colours of the hierarchy alone. While WHITE and BLACK stem from gestures (as well as RED and GREEN to some extent, since they are motivated by the *wings* and *claws* elicited as gestures within the concept of ‘witchcraft’), the remaining colours are created by deaf people, based on their own life experiences, independent of multimodal interactions with their hearing peers. Further, LGG signers choose unique motivations for basic colour terms based on football imagery, which is a reference source for colour not found in any other sign language studied so far (c.f., Zeshan & Sagara 2016). Overall, the data conforms to the expected hierarchy for this semantic field, as proposed by Berlin and Kay (1975), by adding information on the diachronic emergence of colour terms.

I can then conclude that language emerges out of two driving forces. The first one relies on what is inherited from a progressively shared world, while the second one is powered by universal tendencies that drive language development.

5.4 Main contributions: sign linguistics

Having uncovered in Chapter 3 how gesture sources provide the basis for lexical expansion, I pose the second specific question: How does lexical structure unfold over time in the sign language emerging in Bissau? I further broke down this search into three more specific linguistic phenomena.

I first inquired how signs-from-gestures expand during the first years of language emergence in the semantic domains of kinship and colours. In kinship and colour hierarchies, I found that core terms were based on existing gestures. However, while the former relied mainly on gesture sources, colour signs were instead mainly inspired by football imagery, which is one of several pieces of evidence illustrating the influence of male domains on LGG.

I then investigated morphological pathways of sign formation as I questioned what the developmental trajectories of derivation and compounding are in families of signs-from-gestures. I found that compounding is especially favoured at a point following an early period of lexical expansion. Derivation was also very productive over time, particularly in families of signs based on specific body locations and hand-shapes. Lastly, I focused on one instance of grammaticalisation emerging from the original stock of signs-from-gestures. I queried which grammatical functions extend from the conventional gesture for 'hit' in LGG. Over time, this conventional gesture 'hit' takes on the grammatical functions of a comparative marker and an emphatic. In the following section, I discuss the main contributions.

This specific research makes three relevant contributions. First, it reveals a male dominance in sign creation inspired by football imagery (§5.4.1). Second, the analysis of families of signs finds that compounding is a very productive process. It further contributes to a repertoire of phonomorphological roots in specific body locations and

handshapes (§5.4.2). Thirdly, it shows how the grammaticalisation of ‘hit’ extends as a comparative marker and an emphatic (§5.4.3).

5.4.1 Gendered signing

The description of the hierarchy for colour signs, in Chapter 4, reflects a male dominance in communication spaces, shaping LGG’s emergence, as it is based on football references. Even if it does not exclude women, talking about football has been typically a preferred topic by men (Alegi 2010, 119). This seems to be a particularly productive domain for new lexicon in LGG, not only in extending colour terms, as just mentioned, but for country name signs as well.

In the sequential emergence of the initial colour terms, the most basic ones – after the two more basic based on gestures - depict the jerseys of the three leading football clubs in Portugal, the preferred league in Guinea-Bissau, as suggested by Bitchala and Caetano (2023, 11). At the same time, signs for countries are assigned based on the sign names for famous football players from the respective countries, and sometimes, with polysemy, such as ‘Brazil’ also for ‘yellow’.

Interactional patterns in West African countries seem to be similarly divided by gender as a consequence of social segregation rather than educational choices. Guinea-Bissau reflects such social partition at the linguistic level. In addition to the variation in narrative structure described in Morgado (2024), it is also reflected in the lexicon. Like in Malian SL, the semantic domain of toponyms is characterised by football-based motivations. As such, LGG and LaSiMa present a new case of gendered patterns in sign languages, i.e., as cases of sign language lexicons with iconic patterning that reflects, at least in part, a male-centric history of emergence and use.

5.4.2 Early expansion of sign families

The description of the emergence and expansion of a signed lexicon grounded on a gestural stock presented in this thesis is unique. Almost no other sign language has been documented from such an early juncture, and with a specific focus on gestural roots. The account here is supported by a diachronic record of signs covering the first two decades of language emergence. Out of the set of signs-from-gestures, I found that three-fourths of them extend semantically through compounding or derivation, and half of them give rise to large families of signs, containing both compounds and derivatives.

Diachronic records of LGG show how sign families rooted in gestures develop in an early stage. Overall, compounding is the most productive mechanism of lexical growth, though derivation is also progressively activated over time. When being recruited from gestural sources as signs, certain forms are more likely to combine in compounding, while others will tendentially modify in derivation. Good examples of such forms are the signs for 'work' and 'sick', combining with other signs to designate their hyponyms, i.e., kinds of professional activities and diseases. Otherwise, certain areas are systematically expressed by the semantic relationships between compound members. For instance, the expansion of people-related terms will consistently combine with the sign for 'man', 'woman', the height specifier, or 'child'.

In addition, this thesis documents, for the first time, the early expansion of paradigms based on phonomorphemes in a sign language. In particular, it tracks the diachronic growth of body-based locations, such as the forehead for cognition-related terms, the heart for feelings, and the mouth for communication. Similarly, it follows the development of specific handshapes, like those representing cutting tools and claws, in LGG over time, mainly through derivational processes.

5.4.3 Grammaticalisation of 'hit'

The analysis of the expansion of the LGG lexicon also reveals how it grows by extending into grammatical functions. The most striking case of grammaticalisation from a conventional gesture in LGG is the one based on the snapping fingers for 'hit'. Besides representing a highly conventionalised gesture in Bissau, it is documented in the latest dictionary as 'hit', and as a comparative marker in 'than' and 'better'.

The fact that signers, in the case of HIT, integrated a highly conventional gesture directly into the lexicon in form and meaning, corroborates its lexicalisation before its grammatical extensions, as argued by Le Guen and colleagues (2020, 331–332). This particular grammaticalisation process indicates that it can emerge quite early in a new language.

To further explore the grammatical functions deriving from the gesture for 'hit', I collected 48 sentences from eleven deaf people, since paper dictionaries are limited to isolated lexical items. Some sentences include the verb-like sign for 'beating someone up', directly integrated from the conventional gesture, and its semantic extension to a more abstract sense of 'beating someone at something'.

The remaining sentences highlight how grammatical functions unfold. From the more abstract sense of competition between two parties, it turns into a grammatical particle to signify 'against', and also to express comparative degrees. Finally, it is used as an emphatic intensifier. The emergence of comparative and emphatic markers in LGG in such an early stage of lexical development coincides with recurring patterns found in other signed and spoken languages.

5.5 Future directions

There are many possible extensions of the information and research presented in this thesis. Looking ahead, it is crucial to look at different age groups of LGG to document further the establishment and growth of this new sign language. Generations of deaf children and young teenagers are being formed at this very moment in Guinea-Bissau, providing the necessary cohorts to study language change. Comparisons with a second cohort could begin at any time to better assess developing structures and look for innovative uses of sign language by younger signers.

The collection of conventional gestures in Bissau based on Nyst's work on West African gestures and their sign counterparts (2010a, 2013a, 2015) opens the door to pursue the documentation of a *gesturebund* in West Africa. In addition, as significant as the collection of signs in the three LGG dictionaries is, it is essential to examine the morphosyntactic behaviour of LGG in discursive contexts, where it will be possible to find different cases of grammaticalisation.

To deepen the understanding of a deaf community on the rise, it is necessary to know more about what moves the organisational dynamics in such initial stages. Only in this way will it be possible to provide the context for studying variation in LGG. This also draws attention to the demand for exploring sign language use in the rest of the country, where deaf people seem to gather in smaller numbers and where different varieties of LGG are likely to be found.

5.6 Concluding remarks

The deaf people of Bissau have developed great pride in the local origins of their sign language. In language use, gatherings seem to be

male-dominated, resulting in football references for colour and country signs. Overall, deaf signers make the most out of gesture sources, integrating directly most conventionalised form-meaning pairs and adjusting in form and meaning adopted signs from cooccurring gestures. Signers also use those gesture sources to expand the lexicon, whether as the basis of semantic fields or families of signed compounds and derivatives.

Reflecting on the sum of what has been learned in this thesis, we may be tempted to see the activation of universal mechanisms of language emergence, like in semantic hierarchies and the rapid lexical expansion, with the first generation of LGG signers. Notably, one cannot deny the contact of LGG signers with LGP, written Portuguese, spoken (and written) creole, and several local spoken languages. So, even if LGG exhibits a largely autochthonous lexicon, those language contacts may leave structural traces that do not appear in lexical choices.

The formation of a new sign language may be additionally influenced by regular gesture-based interactions and an increasingly shared world. Essentially, gestures as the interface between language modalities are likely to serve as a bridge between deaf people and the surrounding spoken languages. In this way, they represent a starting capital that is especially rich in West Africa, indicating that language is created out of everything and everywhere.