

INTERVIEW WITH DIANE BRENTARI FOR REVISTA LINGUÍSTICA



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Revista Linguística (RL): First, Professor Brentari, we'd like to thank you for speaking with us for this special edition of *Revista Linguística*, which celebrates the 25th anniversary of the first linguistic description of Libras, Brazilian Sign Language, published by Lucinda Ferreira Brito. We are honored to have you here with us today.

To start, there have been some important moments in sign language research. In the 1960s, the first publications' efforts were to defend sign languages as languages with the properties of any natural human language, irreducible to mime, gesture, and pantomime. In the 1980s, linguists produced descriptions of several sign languages, which allowed sign languages to be compared not only to spoken languages but also to other sign languages themselves.

We want to begin with your 2017 paper co-authored with Susan Goldin-Meadow, entitled *Gesture, sign, and language: The coming of age of sign language and gesture studies*, which sets the historical background for sign language research. There is an interesting passage in this article that we'd like you to comment on: "The pendulum is currently taking another turn. Researchers are discovering that modality does influence the structure of language, and some have revived the claim that sign is, at least in part, gestural."

This could sound a bit controversial at first: that we cannot deny the influence of sign language's gestural basis. Could you elaborate a bit on the state of this idea of the pendulum?

Diane Brentari (DB): Yes, I can elaborate, but first I want to thank you for inviting me to talk with you, because I feel it's a chance for me to elaborate on some of the things I've said in my work, and also just to get to know what sort of questions are on your mind about sign language linguistics, and possibly on the minds of other people in Brazil.

Your question is an interesting one, because when we were talking about this pendulum, Susan Goldin-Meadow and I were acknowledging that research on sign language doesn't necessarily need to be restricted to the topics and themes that are raised by spoken language researchers in the spoken language literature. What happened in the early days of sign language linguistics is that the agenda, the themes, the topics were, by definition, those brought to the attention of community of scholars by spoken language linguists, because sign language research didn't have a history yet.

To speak to the substance of your question, I believe that the influence of the gestural basis on a sign language is no larger or smaller than the influence of the gestural basis on a spoken language. And, fortunately since the 1960's, one new idea that work on sign and gesture has contributed to the general discussion of linguistics is that when people gesture when they talk, they bring information through their gestures – their manual gestures – that isn't necessarily in their speech. In addition to the propositional lexical items that spoken or sign languages have, there are gestural modifications and additions to those symbols that will be analogical or gestural in this way. So you have the word, in sign or speech, and you also have this gestural overlay. Of course, in sign, the gestural overlay is in the same modality and with speech it is in a different modality, and therefore easier to see as distinct in speech. The integration of gesture with language was a new aspect of research that came to the attention of everyone since the 1960's, in part because of work on sign languages and in part because of Kendon's and McNeill's work on gesture.

That is just one example of how work on sign language and gesture brought new issues to the table – to the field of linguistics as a whole – that were not there before. What Goldin-Meadow and I are trying to say in that article is that some of those issues had actually changed the range of topics that are a part of the linguistic agenda today. And I think sign language linguists don't need to be dictated to by the spoken language community. We currently contribute to what that linguistic agenda is, we are old enough now as a field to contribute what's important about our work, about sign language, what we can do that is unique, and bring that back to the general linguistics discussion.

Certainly one of those things is iconicity, because we see so many more different kinds of iconicity in sign languages than spoken languages linguists see in spoken languages. So sign languages can contribute to what we know about the ways that iconicity can be intertwined with linguistic structure in ways that spoken languages can't. So I guess the whole point of that pendulum was just to say that we shouldn't be shy about bringing our own issues to the general linguistics arena, or shaking people up a little bit who are working on spoken languages, and we should see that what we're doing is contributing to a more general understanding in linguistics.

RL: Some authors have claimed that continuous comparison between sign and spoken language may be unwarranted. Such a comparison may even be understood as the maintenance of an oppressive relationship, in which sign language research needs to adapt to spoken language's categories and terminology. Simultaneously, however, using the same terminology could be seen as beneficial in making sign language research more available to a larger number of scholars, broadening the debate on our findings.

What is your take on these issues? In your view, is it possible to answer what is comparable and what is not in the two modalities? And to what extent has the comparison between the two really benefited the linguistic debate? Alternatively, might it mask some phenomena specific to sign languages that might not be pursued, because the starting point of the research is to observe whether sign languages have or don't have some property of spoken languages? You mentioned this in your previous response...

DB: That's a very good follow-up to the earlier question. As to the terminology, I actually think that it's a benefit to have the same terminology. At the moment, we're still using quite a bit of the same terminology that spoken linguists use, and I think that's all right. Maybe in time the terminology will broaden and some terms that sign linguists created will become the terms adopted by everyone. Or sign languages can help redefine an existing term, so that it will be applicable to spoken and to sign languages.

In general, I think common terminology is useful. I've seen this not just in signed and spoken languages, but within spoken language linguistics too. When different subgroups start using different terminology, communication gets difficult. I've observed this with people who study tone in spoken languages, for example. There have been studies of linguistic tone going on in China for a very long time, and they have a different tradition than the study of tone in African languages. And so for a long time, both traditions have just gone on in parallel, without much exchange, but there were commonalities in the two different areal studies of tone that could have benefitted from the same terminology.

The same thing is true for other phenomena in spoken languages, such as palatalization, where the high quality of a sound will influence the adjacent sound to also be high. In Slavic languages palatalization is studied one way, in Athabaskan languages, it's studied a different way, and that has hindered attempts to see the commonalities. Even the IPA, I would say, has suffered from its different uses across spoken languages: people have had different traditions in how to transcribe things, and that has contributed to confusion. So if sign language linguists want to participate in the conversation in general linguistics, I think that for the moment we are correctly leaning in the direction of adopting the terminology used in spoken language. Even the term "phonology" can be problematic – I always get this question: Isn't phonology about spoken language because "phone" refers to sound? And then you just have to back up and say, "Well, we need to redefine what phonology *is*." It is the analysis of abstract, meaningless linguistic units (signed, spoken or even tactile), not just the analysis of speech sounds.

As to the second part of the question, I thought that the response I had before about iconicity is a good place where we have been able to investigate lots of different phenomena in sign languages that spoken language linguists have not had access to, so we're able to contribute something new. And also from the point of view of a sign language phonologist, I think that the possibilities for simultaneity that sign languages have are greater degree than those that spoken languages have because of the independence of the articulators. This means that we can contribute to the general discussion of how the organization of articulation happens, and I think that is an ongoing conversation where work on sign languages can contribute to general linguistic understanding.

RL: After almost 60 years of sign language research, to what extent do you think that linguistic theory – and the linguistics textbooks for undergraduates, for example – have incorporated or are incorporating the findings from our field to general linguistics?

DB: That's a tough question. I don't think that general undergraduate textbooks incorporate sign language findings enough at all. But I don't think it's necessarily because the authors of those textbooks don't think that sign languages are important, but because the authors of undergraduate textbooks for linguistics courses want to connect with the students' domain of familiarity. It's hard to get such students to connect with the idea that these abstract notions that we introduce exist even in their own language, and since most of the students who take these classes are speakers and not signers, instructors start with familiar spoken languages. I think sometimes authors tend to use examples that might help students in making connections between the abstract linguistic concepts and examples from the languages that they have around them, the languages that they use every day.

Certainly in classes at the University of Chicago – and I suspect at your university as well – the class lectures include references to sign languages. There might be a week or at least a lecture on sign language, just to give beginning linguistics students the idea that there is an expanded horizon to the possibilities for variation that exist across languages.. Now, if we're talking about signing undergraduates, let's say like Gallaudet University for example, or in classes in Brazil, where the class is densely populated by deaf students, then it makes much more sense to have examples in sign language because it is familiar territory to them. But the textbooks tend to focus on what's familiar to the student.

This is just a little side-note, but I got introduced to linguistics at Gallaudet University, and I took the classes with the master's students taught by Bob Johnson and Scott Liddell, the professors back in the 1980's. When I started my Ph.D. degree at Chicago, we had to take entrance exams during the first week of our time there, and they asked us for examples of all these common linguistic phenomena to see whether we could pass out of some of the basic courses. And all my examples were sign examples— examples of assimilation, diagnostics for the subject of a sentence, diagnostics for constituency — because that was my experience and that was how I learned Linguistics from the start. So I think people just need to connect with the languages around them, the languages that are familiar to them. If we can introduce new linguistics students to sign languages too, that's great, and if we can introduce signing undergraduates to spoken languages a little bit too, that's also great. It wouldn't hurt to have a little more on sign languages in undergraduate textbooks, that's for sure.

RL: This reminds us, for example, of the fact that in spoken language classes in linguistics, almost no one starts with examples from polysynthetic languages. We start with the more linear, more analytic languages, and then proceed from there.

DB: Absolutely.

RL: The books on generative theory place polysynthetic languages only toward the end, in a sense, saying, “These languages exist, but we don’t know whether we can provide explanations for what is happening.”

DB: That’s definitely the comparable situation in the spoken language domain.

RL: And the same applies to tonal languages as well, right?

DB: Right, the so-called “exotic”.

RL: Changing topics a bit: many terms have been employed in the literature to designate village sign languages. They can be named “rural,” “emerging,” “village,” “non-established,” among others. And, of course, this terminology assumes different viewpoints for these languages. Can you tell us some differences between the national or established sign languages and the village ones? Do all rural or village sign languages necessarily exhibit an emerging pattern?

DB: That’s an excellent question. I’ve had experience analyzing one “village” sign language in Turkey – Central Taurus Sign Language (CTSL) with Rabia Ergin – and I have also been reading and learning more about other village sign languages. Clearly there isn’t a single path to becoming a language, and my main work on emerging sign languages comes from Nicaragua. Nicaraguan Sign Language (NSL) is not a village sign language. NSL is a “community” emerging language, where you have mostly deaf people, meeting each other in a school setting, coming from diverse backgrounds, and so they don’t have the same local culture necessarily. It’s almost like a “pressure-cooker” environment, where the deaf innovators bring their individual home-sign systems to the context of creating a language, and the generations – the cohorts – change quickly. Maybe in a decade you have a new cohort of a community sign language users because that group of friends has moved into the higher grades and can act as a model for a new group of children who come into the school. Naturally, there are new children every year, but they have been grouped themselves together in 10-year cohorts for analytical purposes. But there is a high proportion of deaf people in community sign languages, and those languages tend to change faster: than village sign languages do.

One thing that makes village sign languages different from community sign languages is that in village sign languages there are typically many more speakers who are hearing people and who use the local sign language at different levels of proficiency. Perhaps the hearing people don’t use the village sign language every day, or they don’t use it for all linguistic purposes, and researchers hypothesize that this may be one reason why they are slower to change. But it could be for other reasons too. It could be because there’s more of a shared culture. In village sign language communities, people are often living in large extended families who are related to each other and have been together for

a very long time. This may mean that there is a lot of assumed knowledge, and a lot of things don't need to be made entirely explicit in conversations: you can assume a lot of things. Village sign languages have a great deal of with common experience, whereas in community sign languages, there's more diversity coming into it all the time, so there's more need to negotiate about how to communicate about many different topics. Change happens more slowly in village sign languages so, in contrast with the pressure cooker of a community sign language, a village sign language is more of a "crock-pot" (slow cooker) situation.

One thing that I have recently been studying that is different between these two different types of emerging contexts is the handshape inventories. In Central Taurus Sign Language, over the course of three generations, three cohorts, there was almost no change to the handshape inventory: there was only one handshape added, so the inventory was very, very stable across the three cohorts. But in Nicaragua in the same period of time—with home signers and NSL signers from the first cohort and second cohort—there were larger changes: first, a simplification of the handshape inventory, and then a sort of rebuilding. There was a reduction in complexity and sheer number of handshapes at first, then a rebuilding of the handshape inventory—a very dynamic trajectory. It seems that changes happen more quickly and they happen more dramatically in a community sign language than in a village sign language. I think those two types of emerging environments are quite different. And many national sign languages have been based on community sign languages. Community sign languages tend to be more resilient than village sign languages, sometimes for biological reasons, or cultural reasons. Sometimes village sign languages don't last very long due to a whole range of non-linguistic reasons. They exist for maybe ten generations, but then they disappear: Martha Vineyard's sign language is an example of that, which disappeared due to increased diversity in the gene pool, so the recessive gene for deafness was expressed less often. And I wonder, do you have examples of in new community or village sign languages Brazil?

RL: Yes, Anderson Almeida-Silva and Andrew Nevins have started research on an emerging sign language, Cena, located in Piauí, in the northeast of Brazil. When you spoke about the common ground – this close relationship – all the speakers have, one wonders whether it could make it difficult for the emergence of structure. For example, if you don't have to retell something to others, it can make it difficult for the appearance – or the emergence – of relative structures like, "I'm telling you about *the man that came* to give me that stuff," because a simple pointing can resolve all this. So could it be that this common ground between speakers could make the emergence of structure more difficult – or at least slow it down a little bit?

DB: Yes, absolutely, I think that's right.

RL: So, yes, we have it here. We [Anderson Almeida-Silva and Andrew Nevins] are just initiating this project with Cena, but it's interesting. It's more like a village sign language than a community one because its users are isolated from urban centers. There, we can really see an emergent language.

DB: Interesting. Also the educational circumstances matter a lot, and they can vary from one community to another, among community sign languages and village sign languages too: the educational system could influence how and in what ways the languages start to take off in different directions. I think each community is unique in that respect.

RL: I don't know whether you agree, but when a linguist starts a project, perhaps it's necessary to define really well what we consider to be different groups. For example, Roland Pfau and Connie de Vos (2015) have written an article about rural sign languages. Anderson Almeida-Silva had once commented with Roland Pfau about it that "Maybe what they call *rural* is more geographical in a sense than actually linked to the linguistic behavior." It's easier for something to be called rural according to European standards, but in Brazil, you have to go further for something to be rural, you know?

DB: Yes, yes.

RL: This is why it's good to discuss these categorizations we create to name these languages. There is a contrast between national, or established, and village sign languages. But now you seem to have reframed the categorization: you oppose community to village, right?

DB: Yes, community and village: both of them would be contexts where you have emerging language, but one (community) is fertile ground for a national sign language. This is what happened, for example, in the US back in the early 1800's when the first school for the deaf was established and all of the deaf children from the 13 colonies went to that school, plus deaf children from Martha's Vineyard. Perhaps this also happened in Brazil when the first school for the deaf was established [at INES]...and you had this huge influx of students from all over the country, and the school became a geographical locus, a magnet for deaf people. In other words, in those two cases the locus of the language didn't just percolate up from where it was organically, in the way that a village sign language does.

RL: Languages, no matter the modality, are articulated with movement, which broadly concerns phonetics. All languages, regardless of their modality, use gesture to produce language.

In 1995, Chomsky also stated that these computational systems have no preference for any sort of externalization. In fact, we see a tendency for separating externalization from these internal properties. So taking into account (1) the underlying movement involved in language production generally and (2) the problems in externalization, regardless of the language's modality, would you say that we are on the way to a unified explanation about human languages, as there are these tendencies – or at least researchers have reported these difficulties – of dealing with externalization?

DB: Yes. At the level of syntax and maybe semantics – at the clausal unit or the sentential unit — we might want to minimize the “problem” of externalization. I think that Chomsky was not really interested in the externalization, not because externalization is not important, but because he's interested exclusively in the symbols, he's interested in the abstract units. I think he just feels like everything else will happen more or less automatically; the term "spell-out" suggests this automaticity. But I find language interesting at the symbolic level, and also at the social and cultural level as well. I think that externalization – including articulation, culture, and the social context of language – is very, very important as far as what the system of language has to offer as an object of study.

As a phonologist, I care a lot about modality and how modality influences units internal to phonology: the syllable is influenced by simultaneity in sign languages versus sequentiality in spoken languages. But even more than that – what we were just talking about, in terms of the emergence of language – the emergence of language structure depends on social and cultural factors: who you're interacting with, how big your community is, how much of the shared culture there is. In order to trigger those language structures to appear we need to be exposed to certain factors in the environment, and at certain times in our lives. What are those things and when must they be present in order for us to be make use of them? I think it's shortsighted to think that the symbolic system of propositions, truth and falsity values, grammatical and ungrammatical form, is all that language has to offer. I have come to realize that the social aspects are important for the emergence of a language, and even for our identity as individuals and members of groups. We say just as much about who we are when we sign or speak as we do about what we want to say. So our accent, our dialect, our word choice, our prosody... everything about what we do when we start to move our hands or open our mouths reveals a lot about ourselves: about who we are and about who our interlocutors are. And I love studying that part of language too. So I think the problem of externalization is just as important as the symbolic study of language.

RL: That's so interesting. It seems that some people want to avoid this discussion, while others are really interested in getting into this discussion. It matters a lot. When we think about how

language works, we have to encompass everything. We have to think about community and how we interact; about the age when we have access to language and what language we have access to; about if our parents are signers, or if they are not signers but they are trying – and, by the way, about who says whether what we are signing is right or wrong. As you mentioned, it's so important to discuss schools when we discuss emerging languages, right? Because there is this external power – the state, if we think about public schools – that is influencing languages. So the languages are from a specific community, working together with this external force, trying to balance between the two. These tensions and how we manage them are important to discuss.

DB: Yes, I probably began to come to this understanding better when I started studying emerging sign languages with my colleagues in Nicaragua. Also I wrote a paper on prosody in Black ASL in the US, and I came to a better understanding about dialects in sign languages by reading about the history of the Black ASL community. Members of the Black ASL community sign differently than what you would expect to see in the so-called mainstream or standard variety of ASL, and that made me realize just how important putting those two things together is: the symbols, the power relations, and the identity of the people using those symbols.

RL: We are moving to the end of our interview, but we have just a few more questions. We heard that you are involved in a project that investigates the sign language produced by DeafBlind signers. Can you tell us a bit about this experience and what you are expecting from this research?

DB: I'm glad you asked me about this because in some ways, everything we've talked about today and everything I've done in my own life as a researcher has prepared me to embark on this project. At the beginning of my career I was trying to understand how to characterize abstract phonological units that would cover both signed and speech – signed languages and spoken languages. Yet, I was not the first person to worry about that. Certainly Stokoe was first: he had started in the 1960's. So even though I've contributed since the 1990's, lots of work on sign language phonology already existed. In the DeafBlind Protactile community there has been almost no work on phonology at all. So it's as if you're landing in a place where a new language, with new units, and new articulation is there for you to start analyzing from scratch. And that is such a wonderful challenge. What we are hoping to do with our analysis of Protactile language in the DeafBlind community – with my colleagues Terra Edwards and some of the DeafBlind leaders, Jelica Nuccio and John Lee Clark – is to identify what a phonological unit is in the proprioceptive and tactile modality. How does a language carve up our proprioceptive and tactile experience?

When you think about how under-utilized our touch and proprioceptive senses are – we swipe our phones, we touch the screen, we hug people, we kiss people, but we don't do much with our tactile sense — what would happen if we take away hearing and we take away sight, and we allow touch to be fully expressed as a potential linguistic medium? That's what my colleagues and I are trying to figure out. By the way, this is an emergent situation too, not just an adaptation of an existing sign language, because it took a social change among DeafBlind people for this language to actually take off. And what was that social change? DeafBlind people had to allow each other to touch more than typically is the norm. Think about Helen Keller for a second: she lived in a time when people didn't touch each other much at all, and the stigma of touching each other inappropriately remains. And at some point in the early 2000's, the Protactile community decided – as a conscious decision – “you know, we don't function well unless we can touch each other, so we are going to break these taboos about touch.” This community decided to explore their world in ways that were appropriate for them, that made sense to them. So that's the exciting new domain that I'm in right now: this community is just trying to figure out how to build this linguistic system on its own, without the aid of interpreters, without the aid of any sort of language planners, just using what users think works best, and the language is emerging on its own. So it's exciting! And it's particularly exciting because the leaders of the DeafBlind community recognize that there are DeafBlind children who are not exposed at all to any language. They are exposed to symbol boards, and augmented communication systems, but they are not exposed to a natural language. And Protactile language could fill that gap.

During Covid, as a matter of fact, we were able to get some funding to work with a group of young DeafBlind students in Arizona who have never been exposed to Protactile language; they are between 3 and 5 years old. Our team is going to build materials to work with them, both in person and remotely during Covid, because during Covid you can imagine what it is like for DeafBlind people—no one is touching, no one is having in person social contact. One benefit of work in descriptive and theoretical linguistics is building the scientific basis for Protactile language so that it can then ultimately be a valid way for the educational system to realize that DeafBlind children can and should have access to language, just like all of the rest of us.

RL: For those of us raised in the formal tradition, we are always trying to get formal explanations. But when we go out into the field, things change entirely. We're thankful that we have this opportunity to work with emerging sign languages so that we don't get so stuck in just theory; we get to see language in real use and function. When we raise questions, we always think we should try to provide powerful explanations, but, sometimes, all we have is experience, right?

DB: Well, we do have some top-down theories, thank goodness. And I think they're so, so important. But you're right: you go out in the field, you meet with signers of every walk of life, with different kinds of experiences growing up, and you realize that language has both a fundamental, theoretical, beautiful, elegant system, and it also has the wonderful organic messiness of being out there in the world. I've learned to love both parts.

RL: Finally, on children and language: the most important thing that we could do for children is to give them the proper opportunity to acquire language. The most important human right – at a fundamental level – is that which concerns language, because language affects everything.

I was just discussing some *Pisa* results of language, math, and science. In Brazil, we observe that the results are different for language than for math and science. We are worse in language, because language, once you have it, affects everything. It changes the way you analyze math, for example: if you don't have a great structural system for syntax – if you were deprived of language in any way – then it will harm your capacity for math and other things.

Our work in sign language linguistics, therefore, is not only about uncovering new research avenues. It's also about promoting human rights in a sense. Maybe the theory gets a bit messy, but what we are talking about is vitally urgent for child and family development.

To wit, in Brazil, the state provides cochlear implant surgeries, but the maintenance of the implants, for example, is the patient's responsibility. A battery costs around 2,000 *reais*, which is about 500 USD. For poor families, the financial reality of cochlear implants provides tremendous stress. As a result, when children with cochlear implants go to school, we have reports that the external part of the device is taken off by school personnel, who put it in the child's bag because they want to avoid liability if it breaks. The family then decides that the child won't attend speech therapy and they won't do sign language, so the child is deprived of language. It's tragic.

And this is not a problem localized in our schools. It's pervasive in the structure and policies of our Brazilian healthcare system. When a child is born deaf in Brazil, the doctors' recommendations are only for surgery or hearing aids, never sign language instruction and stimulation. It's as if the official policy is to deny that deafness and sign language even exist. It's absurd. The same government that gives money to research denies all the findings. What is it like in the United States?

DB: This is always surprising to me. I live in a bit of a bubble because all the people I know, all the people I work are completely supportive of sign language, supportive of the rights of deaf people, supportive of equal access to education. But the moment I step out of that bubble and I see what's going on in schools, and in the population at large, I realize that my view is still the minority view, the

people who think like me (like us) are not the majority. I meet people all the time who are completely unaware (or worse, resistant) to the idea that sign language is beneficial. They think that sign language is going to deprive children of their precious time for speaking. It just really surprises me (but maybe it shouldn't) that after 50 years and all of our efforts, sign language is not broadly accepted. All of the scientific evidence shows that it is vitally important for deaf children, and it involves every aspect of their life... Like you said: you can't really understand math unless it's mediated to some extent through language. Many other aspects of life are mediated through language too. I can't believe that our institutions repeat the same mistakes over and over again. New governmental entities come into power, and it's as if everything from the prior 10 years has been forgotten, and we need to start all over again. So we need to stay diligent, even as we make advances, and we have to be careful not to lose those advances as time goes by. I'm very concerned at the moment with the Covid situation, because as economies become weaker and there aren't as many resources, what's going to suffer? I'm worried that sign language programs are going to suffer and deaf children are going to suffer. So we have to stay diligent. We can be researchers and we can do what we love, and yet at the same time, we have to save a part of our energies for activism and for talking with people who disagree with us, and convince them as best we can that sign language is fundamentally important for deaf people.

RL: That seems like a good place to end our conversation. On behalf of *Revista Linguística*, we thank you very much for speaking with us and discussing your work.

DB: And I want to thank you both again. It has been such a pleasure talking with you.

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