

FRANÇOIS GROSJEAN

Exploring the Psycholinguistics of ASL with Harlan Lane

IT ALL STARTED when I received a letter from Harlan Lane postmarked in San Diego, at the beginning of 1974, inviting me to the United States. Harlan and I had first met in 1969 when he had come to the University of Paris 8 (Vincennes) as a visiting faculty. He had a permanent position at the University of Michigan, after having studied at Columbia and Harvard, and despite his young age of thirty-three at the time, he was already quite famous (figure 1).

I was a young French teaching assistant looking around for a good thesis topic and an advisor. I followed some courses and seminars with him and quickly became totally captivated by this American professor who was such an amazing teacher. I knew after a while that I had found my future area of expertise, psycholinguistics, and the thesis advisor I was looking for. We agreed that I would work on temporal variables—speech rate and its components, that is, articulation rate and number and duration of pauses—in a first and a second language. Harlan helped me design the appropriate studies and guided me each step of the way. I was simply amazed that a faculty member was pre-

François Grosjean started his academic career at the University of Paris 8 and then left for the United States in 1974, where he taught and did research in psycholinguistics at Northeastern University, Boston. In 1987, he was appointed professor at Neuchâtel University, Switzerland, where he founded the Language and Speech Processing Laboratory. His domains of interest are the perception, comprehension, and production of speech, bilingualism and biculturalism, sign language and the bilingualism of the Deaf, the evaluation of speech comprehension in aphasic patients as well as the modeling of language processing.



FIGURE 1. Harlan Lane and François Grosjean in the 1980s.

pared to spend so much time and energy guiding someone's research. It was only later that I was to discover that this was the American way of doing things. Our partnership worked perfectly, and out of those Paris years together came, not only my thesis, but also a number of papers we published in the *Journal of Experimental Psychology*. From being a teacher and thesis advisor, Harlan slowly became a research partner and a friend.

After several years in France, much to my regret, Harlan went back to the United States to take up a visiting position at the University of California in San Diego. Just before saying goodbye, in late 1972, I told him that if ever he saw a way of getting me over to America, my family and I would be willing to move over for a year or two. We kept in touch by letter, and through his occasional visits to Paris, I learned, among other things, that he was working on his future book, *The Wild Boy of Aveyron* (Lane 1976). It is the story of Victor, a wild boy found in the Aveyron department of France in the early 1800s, and of the years he spent under the care of physician and educator Jean-Marc Itard. It was while Harlan was preparing this book that he had his

first contact with sign language, since Itard had tried teaching Victor French Sign Language. But Harlan's real immersion in the language was at the Salk Institute in San Diego, where Ursula Bellugi and Edward Klima had welcomed him into their laboratory. He quickly became involved in some of their projects, the most notable being the perception of handshapes in American Sign Language (ASL), which led to a much-cited paper by Lane, Boyes-Braem, and Bellugi (1976).

Let's now come back to that 1974 letter. In it Harlan asked me whether I would be willing to come and join him at Northeastern University in Boston, where he had just been appointed chair of the Psychology Department. I would help him set up his laboratory there, continue the work we had been doing together on temporal variables, and include ASL in our studies. I jumped at the opportunity and set about obtaining a Fulbright-Hays grant. Six months later, I arrived in the United States with my wife, Lysiane, and our baby son.

Setting up Harlan's Laboratory

We started from scratch. The laboratory—one large room and a few smaller rooms—was totally empty when we arrived except for a new Digital PDP 11 computer, which no one knew how to use. Harlan and I quickly went on a crash course at DEC (Digital Equipment Company) in Maynard and then, after a while, we started working with it. We slowly equipped the lab, bought audio equipment as well as some video recorders for our sign language projects, and started looking for a deaf research assistant. We interviewed Marie Philip, a deaf native signer from a deaf family, who had just finished her studies at Gallaudet. She kindly accepted our offer and was instrumental in helping us set up our research program. A year later, she was joined by Ella Mae Lentz (figure 2), another well-known member of the deaf community. Some time later, Hartmut Teuber (figure 3) also joined the lab as a deaf research assistant.

We hearing academics, along with a few graduate students, notably Jim Stungis, whom Harlan had met in San Diego, set about learning sign language. We took lessons with Marie and later with Barrie Schwartz, a sign language interpreter and teacher who had grown up in a deaf family. Another person who helped us get started was Ann Macintyre, the hearing daughter of deaf parents, who was known in



FIGURE 2. Ella Mae Lentz in 1975.

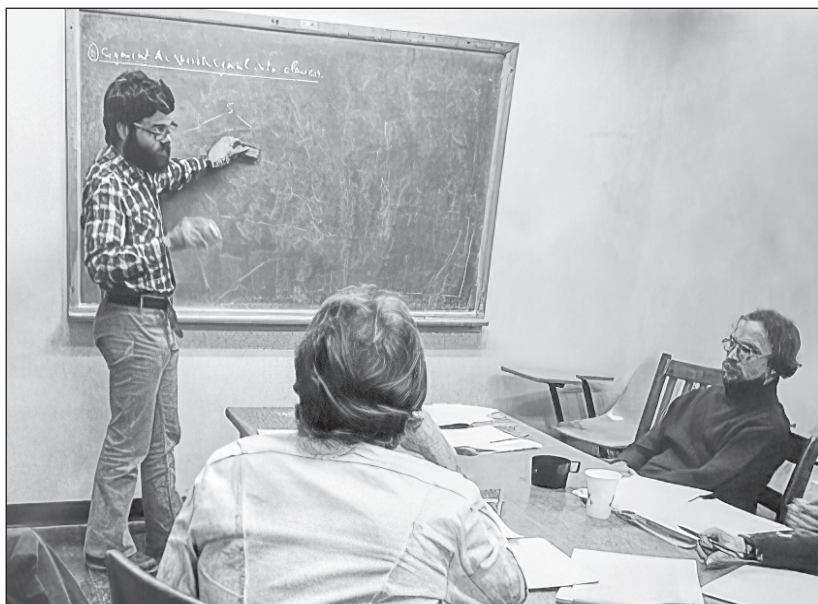


FIGURE 3. Grosjean (at the blackboard); Hartmut Teuber (at right) in Boston in the mid-1970s.

Boston for her sign interpretation of the news on television early in the morning, a first at the time.

As I wrote in my autobiography (Grosjean 2019), I was mesmerized by ASL. All language scientists have a wow moment in their profession, and mine was when I was introduced to the language and the world of the Deaf. I was simply overwhelmed by the beauty of this visual gestural language, by the history of deaf people, and by their different form of bilingualism, ASL and English (mainly in its written form). Much to my regret, I never became fluent in sign, but I knew enough of it for Marie and Ella Mae to give me a sign name: the F-handshape moving from my right ear down to my chin to represent “François,” “French,” and “beard,” they told me.

It is probably difficult for the reader, some fifty years later, to get a feel for the rather amazing ambiance that surrounded the nascent domain of sign language research. We felt we were doing something out of the ordinary that would have, we hoped, both a linguistic and a social impact. This was true not only for our small group at Northeastern but also throughout New England. For example, those interested in sign language in the region quickly formed the New England Sign Language Society, which would meet in different locations—MIT, Boston University, and Northeastern. Among the early members were Nancy Chinchor, Joan Forman, François Grosjean, Michael Hajjar, Judy Kegl, Ella Mae Lentz, Marie Philip, and Ronnie Wilbur. We would meet, talk about research issues, and we even wrote a paper together (Chinchor et al. 1976). In addition, we were all in constant contact with other groups working on sign language elsewhere in the United States, notably at Gallaudet and at the Salk Institute. We would send each other our papers (by postal mail at the time, of course), we would visit one another quite often, and some younger researchers would actually move from one center to the other to pursue their career.

The research we undertook in Harlan’s laboratory, along with our research assistants, graduate students, and Robbin Battison who joined us a few years later, was aimed at a better understanding of the psycholinguistics of ASL—both in production and in perception. What aspects were specific to the modality, we asked, and what aspects

were common to all languages, whatever their modality of production and perception?

One subgroup in the lab pursued work on the perception of sign parameters primarily under Harlan's guidance: Jim Stungis worked on the identification and discrimination of handshape, and Howard Poizner was interested in the perception of location and the cerebral asymmetry of sign language. As for me, independently but sometimes also in collaboration with Harlan and others, I examined temporal variables in speech and in sign. Several publications quickly ensued. In Grosjean (1977), I compared the perception of rate in spoken and sign languages, and found that signers perceived their own signing rate, called the *autophonic rate*, with a slope¹ greater than unity. It is steeper than the slope obtained for observers, called the *extraphonic scale*. In addition, the autophonic scales were similar in speech and sign, but the extraphonic scales were not: that of sign is shallower than that of speech.

In another study (Grosjean 1979), I showed that signers modify their global physical production rate by altering the time they spend articulating, whereas speakers do so by changing the time they spend pausing silently. When signers increase or decrease their pause time, however little they do so, they alter the number and the length of the pauses equally, whereas speakers of English primarily alter the number of silent pauses and leave their pause durations relatively constant, mainly for breathing reasons. A small pilot study also found that signers appear to retain their regular "quiet breathing" respiratory pattern across signing rates and inhale at locations independent of syntactic importance. In this, they are quite unlike speakers who breathe at syntactic breaks.

I also published a few papers on the recognition of signs, using a visual gating approach (Grosjean 1981). I found, for example, that out of context, only 51 percent of a sign is needed, on average, to be "isolated" (i.e., proposed for the first time when segments of increasing duration are seen), whereas 83 percent of a spoken word is needed. This difference can probably be explained by the more simultaneous nature of the production of sublexical sign components, whereas in speech, sounds and syllables occur sequentially. With Lorene Clark,

we also examined sign recognition in and out of context (Clark and Grosjean 1982).

Helping our French Colleagues

Harlan Lane and I attended the World Congress of the World Federation of the Deaf in Washington, DC in early August 1975. There, we met several members of the French delegation whom we then invited up to Boston. They told us that things were very difficult in France and that oralism was still rampant. In addition, there was no research taking place on sign language, and American research papers were in English, a language very few of them knew.

So we came up with the idea of dedicating a whole issue of the prestigious French academic journal *Langages* to sign language. We wrote to the editor who gave us his go-ahead. We then called on fellow researchers to write papers for the issue: Harry Markowicz on sign language myths and reality, Ronnie Wilbur on the linguistic description of sign language, Howard Poizner and Robbin Battison on cerebral asymmetry for sign language, and James Woodward on some sociolinguistics aspects of French and American Sign Languages. Harlan concentrated on the history of sign language oppression in both France and the United States, and I wrote a paper on the psycholinguistics of sign language. Apart from the latter, already in French, all the papers were translated from English into French, and the issue came out in 1979 (Grosjean and Lane 1979).

When we saw the cover with “La langue des signes” in large characters below the title of the journal, we felt happy that we had contributed just a bit to the renaissance of sign language in France. It was only normal, after all, that America should give back something to France after Laurent Clerc’s contribution to ASL at the beginning of the preceding century. After the publication of that journal issue, followed a few years later by a book in English with the same content (Lane and Grosjean 1982), we continued to tell French readers about our research through *Coup d’œil*, a small journal dedicated to deafness and sign language that Bernard Mottez and Harry Markowicz had started in Paris.

It is worth saying a few words here on how Harry Markowicz contributed, by his presence in France, to the renaissance of French

Sign Language. A fascinating piece in the Alumni Relations page on Gallaudet University's website² reminds us that Harry was a Holocaust survivor who, as a master's student, wrote a paper, "Some Sociolinguistic Considerations of American Sign Language," which was published the very first year of *Sign Language Studies* (Markowicz 1972). Because of the interest generated by the article, Harry was invited by William Stokoe to work in his laboratory, and this led to many publications and presentations concerning the role of ASL in the American Deaf community. In 1975, Harry left for France and joined the sociologist, Bernard Mottez, to help him "understand the findings and implications of American sign language linguistic and sociolinguistic research as applied to the French sign language." For the next five years, the two traveled throughout France and other French-speaking countries, promoting French Sign Language. Both now have a recognized place in the recent history of that language.

The Bilingualism of the Deaf

It was at Northeastern that I prepared my first book on bilingualism, *Life with Two Languages: An Introduction to Bilingualism* (Grosjean 1982). In it, I dedicated a whole section to the bilingualism of Deaf Americans that both surprised and enthralled an eminent bilingualism specialist at the time, Einar Haugen. Thereafter, I started writing about this topic at the request of Robbin Battison, who was involved with the *Gallaudet Encyclopedia of Deaf People and Deafness* (Grosjean 1986). I pursued this interest when I came back to Europe in 1987.

As we all know, the bilingualism of the Deaf is a form of minority language bilingualism in which the members of the community acquire and use both the minority language (the sign language used in the country) and the majority language (such as English in the United States), in its written form, and sometimes in its spoken or even signed form. I noted that deaf bilinguals show many similarities with hearing bilinguals: they are very diverse; many do not judge themselves to be bilingual; they use their languages for different purposes, in different domains of life, with different people; and they navigate along a language continuum, restricting themselves to just one language in some situations, and intermingling their languages in others.

But there are also differences from hearing bilinguals. First, at the time, there had been little recognition of deaf people's bimodal bilingual status. They were still seen by many as monolingual in the majority language, whereas, in fact, many are bilingual in that language and in sign. Second, deaf bilinguals, because of their hearing loss, will usually remain bilingual throughout their lives and, for some, from generation to generation. A third difference, again due to hearing loss, is that the use of speech, and other majority language skills, may never be fully acquired by some deaf people. A fourth difference is that deaf bilinguals rarely find themselves in a monolingual signing situation, since most deaf people in the United States, for example, also know some English. Finally, the patterns of language knowledge and use appear to be somewhat different, and probably more complex, than in spoken language bilingualism.

I also argued in my later publications that many deaf people are bicultural: they live in two or more cultures (their family, friends, colleagues, etc. are either members of the deaf community or of the hearing world); they adapt, at least in part, to these cultures; and they blend aspects of them. Such factors as deafness in the family, age of onset of deafness, degree of hearing loss, type of education, etc. may lead some deaf people to have fewer contacts with the hearing world while others have more; thus their bicultural dominance can differ.

Deaf Children and Their Right to Be Bilingual

I kept writing about the bilingualism of the deaf once back in Europe, and in the late 1990s, I was asked for a short text arguing that deaf children be allowed to grow up bilingual. I agreed, as I still had in mind an incident I was told about during the World Congress of the Deaf in 1975. A young French deaf adult had been robbed and had real problems explaining what had happened to him. He had been brought up solely with the oral method (speech and lipreading) and had not gotten very far with it. In reality, he could not speak or write. And, of course, he didn't know how to sign, as sign language had been forbidden in schools for the deaf. So he was without a language and could only mime what had happened to him.

I wrote my short manifesto, "The Right of the Deaf Child to Grow Up Bilingual," first in French, and then translated it into English

(Grosjean 2001). It began appearing in many different publications and on the web, and since there was an increasing demand for it in other languages, I joined up with Carol Erting, at Gallaudet University, to organize for its translation. Thanks to collaborators of the Signs of Literacy Program there, the text is now available in thirty different languages, all downloadable from the web.³

The text briefly underlines the many advantages of allowing deaf children to know and use both a sign language and an oral language, often in its written form. This is the optimal combination that will allow these children to meet their many needs, that is, for communicating early with their parents (first in sign and then, with time, maybe also in the oral language), developing their cognitive abilities, acquiring knowledge of the world, communicating fully with the surrounding world, and acculturating into their two worlds. Depending on the child, the two languages will play different roles in those allowed to become bilingual: some children will be dominant in sign language, others will be dominant in the oral language, and some will be balanced in their two languages.

The concluding lines are “One never regrets knowing several languages but one can certainly regret not knowing enough, especially if one’s own development is at stake. The deaf child should have the right to grow up bilingual and it is our responsibility to help him/her do so.”

Although, with time, I have personally lost most of the sign language I learned as a young faculty member at Northeastern due to lack of use, I have remained a defender of sign language, its research, and the bilingualism of deaf people, in particular of deaf children. I summarize my position in Grosjean (2010).

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Notes

1. The slope of a function is a numerical value that describes its “steepness.” It measures the rate of change in the dependent variable as the independent variable changes.

2. <https://gallaudet.edu/alumni-relations/harry-markowicz-holocaust-survivor-and-professor-emeritus-passes-away/>.
3. https://www.francoisgrosjean.ch/the_right_en.html.

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