MAIA, Marcus. **Interview: Uli Sauerland.** Revista LinguíStica / Revista do Programa de Pós-Graduação em Linguística da Universidade Federal do Rio de Janeiro. Volume 10, número 2, dezembro de 2014. ISSN 1808-835X 1. [http://www.letras.ufrj.br/poslinguistica/revistalinguistica]

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INTERVIEW: ULI SAUERLAND

por Marcus Maia (UFRJ)

Uli Sauerland became the leader of the semantics-pragmatics research group of the Center of General Linguistics (ZAS) in Berlin, Germany in 2005. Sauerland received his Ph.D. from MIT in 1998 and has taught as a visiting professor at a number of universities including Harvard University, Stanford University and the University of Vienna. He authored more than 80 reviewed publications in semantics, pragmatics and syntax including articles in Linguistic Inquiry, Natural Language Semantics, and the International Journal of American Linguistics. Sauerland's work has been funded by a number of different grant agencies, such as the EU Commission and the European Science Foundation. Currently he is funded by the German Ministry for Education and Research (BMBF grant, Grant Nr. 01UG1411) and coordinates the national priority program XPrag.de (SPP 1727) that involves about 50 researchers and advances pragmatic and semantic theory by the use of experimental evidence. Since 2007, Sauerland has been involved in fieldwork on specific phenomena in underdescribed languages in Eastern Indonesia (Teiwa), Peru (Matses), and Brazil (Pirahã, Karitiana, and Kaingang). He hopes to continue to work intensively on Brazilian indigenous languages in the future.

Revista Linguíʃtica: There is a lot of focus on so-called Experimental Linguistics nowadays. People are talking about Experimental Syntax, Semantics, and Pragmatics, which might be able to capture linguistic processes which may not be accessible in corpora. On the other hand, there is a more conservative view which regards experiments more skeptically, raising issues of ecological validity, for example. What are your views on these issues?

Uli Sauerland: The cost and effort of doing experiments has come down significantly. A decade ago you still needed to run a lab where people would come to take tests and pay for a software license to be able to analyze and graph your results properly. Now, you can run your subjects over

the internet and good statistical software is available for free. This is a good, exciting thing for linguistics: new questions can be asked that couldn't be asked by just using observational data. And there is a lot of exciting new work coming out that uses at least in part formal experiments and really advances theory. The latter point is important, because there is also quite a bit of work that uses linguistic theory, but the findings are only relevant for other fields — especially neurology or psychology, and this type of work usually talks about "psychological reality", a term I hate, because of course there's only one reality.

At the same time, observational methods are still important and will remain so. The most useful analogue to the developments in linguistics that I can think of is biology. The most famous biologist is Charles Darwin, but the work on evolution you associate him was as far as I know entirely based on observations: he went to the Galapagos islands and observed the fauna and flora there. He didn't do much in terms of formal experiments on evolution because it wasn't really necessary for the most part and it would have been very hard for him to do. Darwin actually did formal experiments, just not on evolution: For example, Darwin's last book is on earthworms and he reports experimental data that show that earthworms make the soil more fertile. Though this was considered very important work at Darwin's time, today of course the theory of evolution is what Darwin is remembered for. And to this day, observational methods are important in some branches of biology: you see high-profile papers describing a single fossil or a new species based solely on observation. I think that in linguistics, observation will remain the major driver of theoretical progress for a long time still.

Revista Linguíʃtica: Another interesting debate raised by experimental methodologies concerns quantitative vs qualitative analyses. Phillips (2009) asks whether so-called armchair linguists should be impeached and Gibson & Fedorenko (2010) argue in favor of better quantitative analyses in Linguistics. What are your views on these matters?

Uli Sauerland: I like of this literature especially the work by Jon Sprouse and Diogo Almeida that came out very recently. They show that Gibson and Fedorenko actually commit a basic methodological error: they make a universal claim about data in syntax and semantics, but only point at isolated selected examples where data couldn't be reproduced in experiments. Moreover these examples had already been discussed as problematic before Gibson and Fedorenko came along. And Sprouse and Almeida then go on to do the kind of study Gibson and Fedorenko should have done. They look at a big, randomly selected set of data, as you should when you make a general claim. And they show that there is basically perfect agreement between what syntacticians have reported based on informal observation and what a formal experiment finds. In a few cases, the methods gave different results, but it's at the level at the error rate normally accepted in behavioral psychology. So Sprouse and Almeida conclude that for traditional syntactic data the "armchair" method is at least as good as any other method.

Of course that doesn't mean that we linguists can't get anything out of experimental methods — there are many questions that go beyond those traditionally asked in syntax. It just says that linguistic theory stands, is based on solid data, and you can't just dismiss it by pointing at a few individual controversial cases as Gibson and Fedorenko tried to do. Nevertheless, I think theoretical linguists should

learn how to run some types of experiments. The people who know the theory should also figure out how to ask exciting new questions in a world of cheap, fast experiments.

Revista Linguíʃtica: Are experimental methodologies useful for the research on indigenous languages? How? What is the gain of experiments as compared to traditional field methods? What about chronometric methodologies?

Uli Sauerland: I think in fieldwork traditional elicitation methods working with a small group of consultants for a long time is and always will be the most important method. If your goal is to write a grammar, you won't get anywhere with experiments. But there are also situations where you should do a formal experiment. In the paper I just finished on this topic (Sauerland 2014) I use the quote "extraordinary claims require extraordinary evidence" by the late astrophysicist Carl Sagan. So, if you claim something that is really surprising, something that triggers a major revision of the theory, then you should have especially good evidence for it. The principle is well established in science. And you can kind of use that as a guide for traditional fieldwork. Two extra considerations are that experiments are actually a good way to involve a broader community in some aspect of your fieldwork and pay them a little for their participation, which I've found useful. And in the context of language endangerment you might want to focus more on wide descriptive coverage rather than specific theoretical questions, but at the same time you might want to apply experiments to avoid making errors.

Things are different when it comes to psycholinguistic questions like a real-time processing model that you mention or also language acquisition. These require an experimental method by their nature, so you don't need to ask whether the experimental method is useful. Instead you need to ask why data from an indigenous group is necessary for the questions you're after. There can be good reasons for doing so: for example, the indigenous language might have properties that better studied and more available Western languages don't have. But if there are good reasons for looking at an indigenous language, it's probably exciting research you are doing.

Revista Linguíʃtica: Could you tell us about your work with the Pirahã?

Uli Sauerland: This is a kind of difficult topic for me because I should really work on writing up research papers about this. A brief summary: In 2008, I had research funding and the necessary permissions valid for about half a year to do field research on the Pirahã language. I had not expected to obtain the permissions anymore so I had taken a one-year teaching position at Stanford, but I managed to do two trips to Humaita and on the second one spend eight days in Forquilha Grande, the biggest settlement of the Pirahã. In this case the stakes were high enough to focus on an experimental approach and I did get two experiments done during that time that both relate to the question of embedding — specifically clausal complements. I have some interesting data that I think disproves the syntactic claims that Everett is making about Pirahã, which isn't all that surprising given that his claims aren't internally coherent to begin with — as Nevins, Pesetsky and Rodrigues have already shown. I can't quite justify why these data aren't published yet. It has something to do with this project ending right after the fieldwork was done, but also other problems. One result is I hope coming out now from an comprehension experiment

in the book on *Recursion and Embedding in Brazilian Languages and Beyond* that you are involved in. The other study was based on free elicitation in a situation where I expected the Pirahã to use a complement clause. I think they did so frequently — both embedded declaratives and embedded questions — but unfortunately I didn't get all the data transcribed properly and it's very hard to do so without the help of someone speaking the language. I still hope to get this result out in the near future.

Revista Linguíʃtica: How do you see the enterprise of searching for rara in the world's languages?

Uli Sauerland: One aspect of your question is how cross-linguistic frequency plays a role in linguistic theory. Newmeyer says it never does, but I am not convinced. I actually have some work with Jonathan Bobaljik where it does, so I disagree with Newmeyer. This work is still ongoing, but we have a GLOW Asia proceedings paper out. What we are looking at is the question how to distinguish accidental and systematic homophony. Accidental homophony is when two different words sound the same, while systematic homophony is when you have only one word. But, what you actually see is of course only the same sound used under two circumstances. E.g. English "you" in the second person singular and the second person plural — is that one word or two different words that happen to sound the same? This problem is pervasive in morphology, but we think we have a new way to approach it. It's based on the assumption that accidental homophony is literally random. That entails it should be randomly distributed, and not always occur in the same places. To investigate this you then need cross-linguistic frequency data. Say you have two different morphological accounts that you want to compare. The two each predict a certain amount of systematic homophony to be possible. When you substract that from the actually occurring homophony, you get the residue that must be explained as accidental homophony. In our model, you can test how well the distribution of the accidental homophony corresponds to a random distribution. The better one of the two accounts then is the one that predicts the kind of distribution that is expected as a random distribution. So, cross-linguistic frequency can play a role for linguistic theory. But at the same time, you and I know that generally Newmeyer is right and cross-linguistic frequency and thereby also rarity plays little role for theory — a phenomenon is equally important regardless of whether it occurs in only one language or in hundreds of them.

Also, rarity is clearly important for minority languages. Every language is of course unique, but it still is nice to put your hand on a specific way in which it can count as unique. It's also important to let the community that speaks the language know, so that they will be proud of their language. Also when you investigate a language, you want to of course compare it with other languages that you know something about and find out ways in which it is different. These rare or unique phenomena exhibited by your language are precisely the aspects you want to investigate more closely, instead of looking at phenomena that were already investigated in some other languages.

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