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Bringing psycholinguistics to the field: Experiences from Solomon Islands

Åshild Næss

Department of Linguistics and Scandinavian Studies, University of Oslo

Sebastian Sauppe

*Department of Psychology, Center for the Interdisciplinary Study of Language
Evolution, and Jacobs Center for Productive Youth Development, University of Zurich*

The world's linguistic diversity is severely underrepresented in research on cognitive and neural aspects of language processing, with great consequences for our understanding of the relationship between language, cognition, and the human brain. The practical challenges of carrying out neurophysiological (but also behavioral) experiments under fieldwork conditions is one factor that contributes to this lack of diversity, and meeting them necessarily requires the integration of experimental work in a larger descriptive and documentary context. This paper discusses these challenges and how they may be met, based on the authors' experiences in carrying out an EEG study on sentence comprehension in Solomon Islands. It argues that reconciling the requirements of experimental studies with those of working with speech communities in the field is certainly challenging, but can be achieved with coordination and a realistic assessment of the resources required. Moreover, while field-based experimental research should not compete with descriptive and documentary linguistic work as a means of supporting a community in maintaining and developing their language, it can be beneficial in promoting a sense of the value of the language that is not based on its status as endangered, but rather on its specific linguistic features that contribute to insight into human language more generally.

1. Introduction¹

There is an increasing awareness in psycholinguistics and the neuroscience of language that our knowledge about language processing (and neuro-cognition in general) relies on a severely impoverished sample of languages and populations (Majid & Levinson 2010; Levinson 2012; Bornkessel-Schlesewsky & Schlewsky 2013; 2016; Norcliffe, Harris et al. 2015; Rad et al. 2018; Blasi et al. 2022), which has been characterized as “WEIRD” (Western, Educated, Industrialized, Rich, and Democratic; Henrich et al. 2010). However, a growing number of studies are expanding the typological reach of experimental psycholinguistics by carrying out experimental research on smaller, less-described languages (Sauppe et al. 2013; 2021; Norcliffe, Konopka et al. 2015; Garcia et al. 2020; Koizumi et al. 2020; Hammerly et al. 2022; Nordlinger et al. 2022; Sarvasy et al. 2023; Garrido Rodriguez et al. 2023). Such an expansion, however, comes with methodological and conceptual challenges which are the focus of this paper. Some of these challenges are practical and material in the sense that the types of experiments that can be carried out depend heavily on the local material setting as well as the cultural and educational context in a language community. But in small and under-described languages, psycholinguistics also interfaces with descriptive and documentary linguistics² in ways that are little discussed. From a practical angle, the possibility of designing appropriate stimuli depends on an advanced level of knowledge of language structure and use; for example, determining the frequencies of words or constructions requires a documentary corpus of a certain size. In addition to this, the question has been raised of whether carrying out psycholinguistic experiments on a little-described language is an appropriate use of resources and of the language community’s time and energy, when, on the face of it, the community is unlikely to benefit directly from such research (Hellwig 2019).

In this paper, we discuss these issues based on our own experience in carrying out an EEG experiment on the Oceanic language Āiwoo (Glottocode: ayiw1239) in Solomon Islands. This discussion adds to a small but growing body of literature which addresses the challenges and gains inherent in extending psycholinguistic research to smaller, less well-described languages (Speed et al. 2017; Sauppe, Andrews et al. 2023; Wagers & Chung 2023). Existing discussions of this typically start from a specific experimental situation that the authors have experience with, and the current paper aims to add to this literature by discussing our own experience in a particular field setting and with a particular type of experiment. This is important because no two situations are the same, either in terms of the social structure of a small language community, the location in which it is spoken, or the type of experiment that one seeks to conduct. Only by gradually expanding the pool of experience can we begin to identify all the variables which impact on the success of a field-based psycholinguistic experiment and the strategies which are likely to increase the chances of a successful outcome.

We believe that our experiences as discussed below make a valuable contribution to this literature for at least two reasons. Firstly, we describe an EEG experiment, which, to our knowledge, has not been previously discussed in the literature in the context of adaptation to field conditions. Secondly, as Wagers & Chung (2023) point out, all “small language communities” are different, and experience from one setting does not necessarily carry over to another. Our experience concerns a language community primarily located in a small, isolated, and rural tropical location, whereas existing literature largely discusses experiments carried out in more urbanized locations. We describe both our attempt at preparing experimental materials for use in a remote rural location, and our experiences when logistical problems made it necessary to switch to a more urban location on short notice. Thus, we can discuss both the challenges that arise when plans have to be changed on the fly, an experience which is common in fieldwork but not particularly felicitous for experimental research, but also compare our actual experience with original plans, and through this assess the feasibility of carrying out this type of study under the conditions we had originally intended.

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² We focus on documentary and descriptive linguistics here, mostly because previous treatments of the relation between experimental psycholinguistic research and field-based linguistics have focused on documentary linguistics (Hellwig 2019). However, we do not want to imply that no other subfields of linguistics and the language sciences may have relevant relations to the discussion. We hope that we can inspire additional works on these subfield interactions with our contribution.

Moreover, we discuss the interplay between descriptive and documentary linguistics and experimental psycholinguistics, which is necessarily a factor in projects of this type. As several researchers point out (Polinsky 2023; Wagers & Chung 2023), a crucial prerequisite for carrying out psycholinguistic research on an under-described language is collaboration between the psycholinguist, one or more linguists specializing in the language in question, and members of the language community. This is a very different dynamic from what usually happens in the standard Western research setting, where volunteers recruited, for example, via flyers or social media, who are often students participating for credit in their study program, turn up at a research lab, take a test designed by psycholinguists in a language that researchers and participants have in common, and then leave. Given the amount of resources required to successfully carry out experimental research under field conditions, under what circumstances is such a project a good use of the descriptive linguists' and the language community's time, and how can these collaborators benefit from contributing to this type of research? We conclude that, when certain conditions are fulfilled, there are benefits to be had both for the descriptive linguist and for the community of speakers.

2. Background for our study

The experimental study we discuss in this paper (Sauppe, Næss et al. 2023) is concerned with incremental sentence processing, specifically how the semantic roles of arguments are interpreted. When reading or hearing a sentence, we don't wait until our interlocutor has finished with the whole utterance before beginning to interpret the input and to assign syntactic and semantic structures. Instead, the words that we read or hear are assigned an interpretation incrementally (e.g., Pickering & van Gompel 2006). Thus, comprehenders need to assign interpretations even if the input is temporarily ambiguous. A series of cross-linguistic experimental studies have shown that a sentence-initial noun phrase that is ambiguous between referring to an agent or a patient tends to be transiently interpreted as referring to an agent, necessitating reanalysis if this interpretation is not confirmed by the disambiguating word (Wang et al. 2009; Bickel et al. 2015; Krebs et al. 2018; Huber et al. 2023; Isasi-Isasmendi et al. 2024). However, all studies on this agent preference so far had been conducted on languages in which agent-initial word orders are canonical and therefore also highly frequent. We turned to the Oceanic language Äiwoo to test whether this processing principle is a language-independent universal (see Wilson et al. 2022) or derives from the linguistic experience that agents are most frequently mentioned first. Äiwoo is a symmetrical voice language, meaning that it has two alternative transitive constructions with different voice morphology on the verb, where neither form is clearly the basic construction (see Himmelmann 2005; Riesberg 2014; Sauppe 2017); and it lacks case marking. This means that clause-initial noun phrases in [NP V NP] structures remain temporarily ambiguous in terms of their semantic role until the form of the verb identifies the clause as being in either actor voice or undergoer voice, disambiguating the first phrase as an A or a P argument, respectively.

Äiwoo corpus data show that preverbal arguments are more likely to be undergoers than actors in natural language use (Sauppe, Næss et al. 2023). Given these grammatical features and usage patterns, Äiwoo provides a unique opportunity to disentangle what factors shape language comprehension, something that could not be achieved with the "usual suspect" (European) languages that are commonly studied in psycholinguistics (Majid & Levinson 2010; Norcliffe, Harris, et al. 2015).

In principle, then, Äiwoo was an ideal test case for a study seeking to disentangle frequency from role in the study of the processing of sentence-initial NPs. In practice, however, the choice of this language involved a host of methodological challenges, which are the focus of the remainder of this paper.

Äiwoo has only approximately 8,000 speakers, and most of them live in the Reef Islands, a small and isolated island group in the easternmost province of Solomon Islands. While it is possible to bring a group of speakers to a more conventional testing environment, such as the researchers' laboratory at their university (Koizumi & Kim 2016), the more logistically and financially feasible way is usually to bring the "lab" to the speaker community. Thus, we planned to set up an ad-hoc electroencephalography (EEG) lab in the Reef Islands by transporting the equipment there. However, the material conditions in rural Solomon Islands are significantly different from the usual setting in which psycholinguistic experiments take place, and a rural Melanesian village community is a rather different demographic from the university students commonly recruited for this type of experiment (Henrich et al. 2010; Rad et al. 2018; Blasi et al. 2022; de Oliveira & Baggs 2023). In what follows, we will discuss the constraints placed on experimental research by the conditions found in this particular field setting (§3); how these conditions and the cultural and educational setting in the Reef Islands circumscribed the kinds of experiments that we could plan to carry out (§4); how the need for flexibility

inherent to fieldwork clashed with the requirements of experimental planning and preparations when we suddenly had to change the location that we worked in (§5); how this change of location on short notice affected participant recruitment (§6); and our experiences from actually carrying out the experiment in this new location (§7). In §8, we then discuss the interfaces between experimental psycholinguistics on one hand and documentary and descriptive linguistics on the other from two perspectives: that of engaging with the community in such a way that they may perceive this kind of work as interesting and valuable in light of their own interests (§8.2), and that of how experimental work may contribute to the goals of language documentation and description (§8.3). We end with a discussion of the circumstances under which psycholinguistic experiments in fieldwork conditions are worth doing, and what we think is required to carry them out successfully, based on our own experiences and challenges (§9).

3. Physical constraints on field sites

Psycholinguistic research is usually carried out under laboratory conditions at a university or other research institution. This comes with several practical amenities which may not be easily accessible in a location where a minority language is spoken. Such practical constraints may place limits on the kinds of experiments that can be carried out. Polinsky (2023: 21) notes that one must expect a less “clean” testing environment in the field, both in terms of lighting and temperature as well as the availability of a quiet space where interruptions can be avoided. A more basic and crucial condition is the availability of electricity to power computers and other equipment. If this condition is not met, it may be possible to rely on generators or solar power, but this obviously complicates both the practicalities of transporting equipment and the logistics in the field. Currently available solar panels, in combination with power banks, can provide power for one or two experiment computers and additional equipment (e.g., an eye tracker) but only for a couple of hours at most. This then means that only a small number of experimental sessions could be run per day, either increasing the time needed to complete a study or limiting the number of participants that can be included.

The available experimental paradigms also depend on the kinds of equipment that it is feasible to bring along to a field site. This in turn depends on the reliability of transport infrastructure in the area in question. In many parts of the world, it would be feasible to have some equipment shipped to a field site, which would reduce constraints on the amount of equipment it would be possible to bring. Infrastructure in rural Solomon Islands, however, is highly unreliable, meaning that we had to rely on being able to carry all the equipment with us.

Measurement devices and computers are a central part of experimental psycholinguistics, especially if the aim of a study is to characterize how language is processed “online”, that is, in the moments when it happens. A central constraint for the technical setup of our experiment was that it needed to be possible to carry everything in a few bags or backpacks, because the planned transportation to the Reef Islands would include sections on small planes and in small boats. For our purposes, we thus chose a highly mobile EEG device, the Enobio 32 by Neuroelectrics (Barcelona, Spain). This mobile EEG was originally designed for studying brain activity during movement or physical activity, which means that the dimensions of the whole system are oriented towards being small and easy to transport and carry.³ Other manufacturers also offer mobile solutions, and even EEG devices that are not specifically designed for mobile use are in fact quite transportable, so that everything would fit in a suitcase.

Our “mobile laboratory” consisted of two laptop computers (one for presenting the experimental stimuli, i.e., the audio recordings, and registering participants’ button presses; and one for recording and saving the EEG signal); a Cedrus RB-844 response pad (San Pedro, CA, USA); speakers and headphones; as well as the Enobio 32 device and the associated electrodes and cables, and several tubes of electrolyte gel (to make contact between the scalp and the electrodes). In addition, we carried back-up USB, ethernet, and audio cables; and a Powertraveller Solargorilla (Alton, UK) for charging our computers in case the power generator failed.⁴ All of this fit into one large duffel bag.

³ An archived version of the manufacturer’s description of the technical specifications of the Neuroelectrics Enobio 32 EEG device is available under https://web.archive.org/web/20250109200824/https://www.neuroelectrics.com/api/downloads/Enobio_Technical_specifications_v5.pdf (January 9, 2025).

⁴ While, as mentioned above, the charging power of a mobile solar panel would not have sufficed to keep the computers charged all day, we reckoned that it might have allowed us to at least conduct one experimental session per day.



Figure 1. Exposition of the setup for EEG sentence comprehension experiment in Äiwoo. On the left, the “display” computer (which presented visual cues throughout the experiment, played back the audio stimuli, and recorded button press responses) with the button box can be seen. On the right, the recording computer is positioned so that the experimenter can monitor the EEG signal’s quality while remaining out of the immediate field of view the participant. The Neuroelectronics Enobio 32 amplifier is being charged. In the middle, the elastic cap which holds the electrodes in position on the scalp, as well as the system’s three electrode strings are placed.

When planning to carry out the experiment in the Reef Islands, we hoped to rely on the guest house on Pigeon Island as a base and testing site. There is no mains electricity in the Reef Islands, but this guest house is supplied with power from solar panels during the day and a generator in the evenings, and we brought portable solar panels and power banks as emergency backup solutions.

An important lesson that we learnt from our first attempts was that temperature can indeed place significant constraints on the feasibility of carrying out EEG measurements in the field. It became apparent that the relatively high temperatures (above 30°C) caused the conductive gel that makes contact between the scalp and the EEG electrodes to melt. Thus, some degree of temperature control is essential if EEG measurements in field conditions are to be possible, at least when gel-based electrodes are used. So-called “dry” electrodes do not require gel but are usually much less comfortable to wear, which, in turn, may deter potential participants, which is why we decided against using these kinds of electrodes. In the Reef Islands, there would have been no solution to the temperature problem due to the unavailability of air-conditioning. This is one point that considerably complicates carrying out EEG measurements in rural, tropical conditions. However, as described in §5, we in fact ended up carrying out the experiment in Honiara, the national capital of Solomon Islands; there, we were able to rent an air-conditioned and soundproof room, solving this problem.

Another problem which we had not anticipated was the fact that the supply of conductive gel that we had brought with us was calculated based on experiences from lab experiments in Europe. However, our Melanesian participants’ hair turned out in many cases to require more gel than anticipated, and as a result, our supply ran out early. Since we collected our data, the issue of racial and phenotypic bias in recording methods has been discussed by Webb et al. (2022), who note that many EEG devices are not developed to handle, for example, coarse and curly hair (but see Etienne et al. 2020). With a focus on lab-based studies in the USA, they recommend reporting demographic (i.e., racial and phenotypic) characteristics of the participant sample and addressing potential differences in post-hoc statistical analyses. For studies aimed at a population where the data from every participant is subject to being affected by such a methods bias, researchers will need to accept that measurement variability will be higher overall and that setup times (for EEG) will be longer. However, this higher measurement variability can be mitigated by trying to maximize the number of trials in each experiment session (Sauppe, Andrews et al. 2023). In addition, the potential knowledge gains from collecting psycho- and neurolinguistic data on languages that have been under-researched is in most cases going to be valuable

even if the measurements are potentially more variable and more difficult than under lab conditions. Nevertheless, our experience highlights that it is important to consider limitations of the intended methods with respect to the characteristics of the speakers of the language to be studied.

In the remote location where we had originally planned to collect the data, there would have been no way to get additional supplies within the time that we had available to us. In Honiara, however, we were able to have supplies sent to us from a co-author in Australia in time. Furthermore, the issue with temperature highlights another challenge with EEG measurements, which, however, does not to the same extent apply to other techniques such as eye tracking or behavioral paradigms (e.g., self-paced reading): Even though the equipment as such is portable, there ideally has to be a fixed location where the experiments are carried out, if temperature control is to be possible. Wagers & Chung (2023) solved the challenges of recruitment in an unfamiliar setting partly by being flexible in where the experiments took place: they could do it at someone's home, their workplace, a public library, or other available spaces. This would not have been feasible for us, both because of the need for temperature control, and because we needed the venue to be relatively quiet and undisturbed. In general, our experience shows that successfully running an EEG experiment in the field involves more than simply getting the equipment to the speakers and finding power to run it. To minimize the risk of unforeseen complications, it is essential to test the equipment under the conditions that it is going to be used in, or as close as one can get to them. For the specific case of EEG recordings in tropical environments, one possibility would be to test the equipment at the tropical house of the local zoo or botanical garden before embarking on the field trip (Sauppe, Andrews et al. 2023; also cf. Whalen & McDonough 2015, for a comprehensive overview of technical considerations about making linguistic recordings).

4. Experimental design

A crucial aspect of carrying out psycholinguistic research in field conditions is adapting the designs of the experiments to be carried out to the local conditions (Wagers & Chung 2023; Polinsky 2023). In our case, this represented a significant constraint, since we aimed to carry out our work in a remote rural setting. Thus, one main constraint, as also mentioned above, was that we needed our experiments to be possible to carry out under very basic material conditions. While we could not get around the need for electricity to power equipment, we had to reckon with the possibility that the power supply would be unreliable and that we might need to rely on backup power. We could not count on being able to regulate lighting levels or background noise.

Moreover, studies need to be adapted to the cultural and experiential background of the people who would be taking part in them. In and of itself, the concept of researchers carrying out “experiments” in a Melanesian village is potentially problematic. Solomon Islands is a former British protectorate, and a situation in which white foreigners come to carry out “experiments” on local people could obviously be perceived by the community in a very unfortunate light if the tasks to be carried out were not designed and presented in a thoughtful and appropriate way. It would thus be extremely important to explain the purpose of the study and its procedures in detail, take time to answer questions, and make clear that participation was entirely voluntary and that volunteers were free to end their participation at any time, even after having shown up and expressing an interest or after the measurements had already started (as specified in the Declaration of Helsinki, which is commonly applied to research in the psychological domain, also in research with healthy participants, World Medical Association, 2013). Other researchers have relied on close collaborations with locals throughout the process of designing and presenting experimental materials (e.g., Wagers & Chung 2023). This is clearly the most suitable approach, as we will discuss in more detail below. However, given the small size and remote location of the Āiwoo language community, identifying potential collaborators and establishing and keeping up the level of collaboration required to jointly prepare an experiment seemed infeasible,⁵ and thus we relied on preparing the materials ourselves before our trip to the Solomons and recruiting local assistants to help us test and finalize the materials once we arrived.

As this was a study on sentence processing, we needed to test participants' responses to the linguistic structures of our current interest, meaning that they had to be presented with linguistic stimuli. While stimuli in psycho- and neurolin-

⁵ Improved mobile phone connections since we carried out the preparations and the fieldwork in 2017–2018 might render such collaboration more feasible today.

guistic experiments are often presented in written form (at least in Western settings), most Āiwoo speakers have limited literacy in Āiwoo, and are rarely exposed to writing in Āiwoo. A task involving written stimuli would thus likely not have worked well. We therefore decided to use auditorily presented stimuli in the form of pre-recorded sentences that would be played to participants via headphones, a solution which has also been adopted by other researchers in similar circumstances (Wagers & Chung 2023).

We also had to consider that people living in rural communities in Solomon Islands have very limited experience with computers, meaning that we had to keep the interaction between participants and equipment as simple as possible.⁶ Simply listening to sentences presented through headphones while being wired up to EEG equipment would essentially require no interaction at all, but carried the risk of participants' attention wandering if they were not participating in an activity in any way. Given that the experimental task took about twenty minutes to complete, in addition to the time required to apply the EEG electrodes beforehand, we considered it necessary to mitigate against this risk. "Just listen" studies where participants don't need to perform a task when comprehending the experimental sentences have been used in psycholinguistics before and are asserted to lead to the same kinds of responses as tasks that require active attention (see Huettig et al. 2011 for a review). The advantage of a "just listen" task would be that there are no additional demands that are imposed on participants, for example, that they feel the need to remember verbatim what they heard or feel anxious about giving the wrong answers.

However, fieldwork-based data collection is highly costly both in terms of time and effort for both researchers and the speaker community, and because there is usually only a short time window in the field season where a study can be conducted. An experimental task that did not allow for checking whether participants paid attention to the sentences they heard or whether they just let their minds wander and waited for the recording session to be over seemed too risky. It would not have been realistic for us to repeat our study with a different task, both because of the common time constraints around joint fieldwork and because the "participant pool" of a small speaker community may be quickly exhausted. It is good practice in psycholinguistics that each person can only participate in each experiment (or series of experiments) once. Otherwise, participants would already have encountered at least parts of the experimental materials, which could induce other cognitive processes (e.g., recall from memory) in addition to the sentence comprehension processes that are of interest to the researcher. This is less of a challenge in a university context where the participant pool consists of a large student population and recruitment is usually not a severe bottleneck.⁷ For this reason, we included in our set-up a comprehension question after every few sentences, to be answered via a button box with two differently-coloured buttons (for 'yes' and 'no' answers).

Our experimental task was also chosen because it was compatible with both the planned neurophysiological (EEG) recordings and a behavioral back-up version of the experiment. The EEG version of our study aimed at eliciting event-related potentials, a commonly used tool of analyzing the neurocognitive processes during language comprehension (Kutas et al. 2006; Kaan 2007; Bornkessel-Schlesewsky & Schlewsky 2009). The mobile EEG recording setup that we prepared, as with all other systems in use, rely on a constant power supply because two computers are involved, and their batteries would be drained quickly. While a diesel generator for constant power was available in the Reef Islands, our contingency plan was to have a lower-tech version of our study prepared that we could use if the EEG plans failed, but which would nevertheless allow us to answer at least parts of our questions. This back-up relied on the self-paced listening method (Waters et al. 2003; Wagers et al. 2015), in which the audio recording of each stimulus sentence is cut into several segments, and participants start the playback of the segments by pressing a button. Similar to self-paced reading (Jegerski 2013), this method allows to detect sentence parts that require increased processing, for example the verb region in case of reanalysis. While still requiring a computer, a self-paced listening task does not require as much power as an EEG-based task. Two downsides of such a task would have been that it is not widely used in psycho-

⁶ As smartphones are becoming more common even in rural locations, a tablet-based task might have been feasible, like those employed by Wagers et al. (2018) with Chamorro speakers in the Mariana Islands. However, this would also have increased the amount of equipment we would have needed to transport and provide power for.

⁷ One possible future solution for working with small speaker communities might be to build on within-participant statistics to estimate psycholinguistic effects on the population-level because it may require a smaller number of participants. Such an approach would not rely on finding overall mean differences across different experimental conditions (e.g., the comprehension of different sentence types), but would focus on whether each individual participant shows the critical difference, to then estimate the prevalence of people in the speaker community that would show a certain effect (Ince et al. 2022). However, under this approach, participants would need to complete long or multiple sessions of a study, which may not be feasible in all situations.

linguistics, and that it can be difficult to split recordings of sentences into chunks that do not disrupt natural prosody too much. In our specific case, self-paced listening would have been a relatively direct replacement of the task in the EEG experiment, where participants were asked to listen to the sentences and answer comprehension questions about them. Depending on the project, the expertise present in the team, and whether a research question easily lends itself to being tackled with multiple experimental paradigms, back-up experiments can also be designed to be quite different from the original experiment. Wagers et al. (2018), for example, used a picture-matching task (where participants had to select one out of two pictures that was correctly described by a sentence heard) in combination with touch tracking. Touch tracking is similar to mouse-tracking (Kieslich et al. 2018) and records the trajectory of finger movements on a touch screen (of a tablet device) while participants move a marker to the picture they intend to select, to analyze the dynamics of the comprehension and decision-making process.

Designing the experimental stimulus sentences in a location far from the speaker community proved a challenge in itself. Stimulus sentences usually need to be of a specific form to display the targeted grammatical construction and to enable a factorial contrast between experimental conditions. At the same time, these sentences needed to be grammatically acceptable and sound natural to native speakers of the language. As noted above, however, no speakers were available for direct consultation at the time when we were preparing our materials. Å.N., who had previously spent about six months in total doing fieldwork with Äiwoo speakers in the Solomons, put together the sentences based on what was attested in her corpus of field data, making sure not to use constructions she was not confident were grammatical. While in all cases, the design of experimental stimuli involves multiple rounds of checks and reassessments of what a suitable form of the stimulus sentences should be, in our case this process would have been smoother had we had a native speaker available to consult directly in this phase. However, the costly nature of narrow field seasons and the challenges of coordinating academic calendars across countries led us to opt for preparing the sentences for our study based on our previous knowledge of the language. Our schedule for data collection thus also involved some buffer time at the beginning of our stay in Solomon Islands, during which we went through the stimulus materials with a native speaker (where, luckily, it turned out that only minor corrections were necessary). The sentences were then recorded by a native speaker for later playback to the participants during the experiment.

The preparation of stimuli for psycholinguistic studies in high-resource languages usually involves controlling for potentially confounding factors which are known to influence language processing. These factors can involve, for example, the lexical frequency of the disambiguating words or the average age of acquisition of different words, which influence, for example, how fast these words are comprehended and thereby deflect from the ability to uncover the structural comprehension processes of interest (Rayner & Duffy 1986; Hernandez & Li 2007). These kinds of information are usually either extracted from large multi-million-word corpora (Brysbaert et al. 2011 recommend a corpus size of at least 20 million words to determine lexical frequencies) or from surveys among a large number (usually multiple dozens) of native speakers. The languages investigated in fieldwork-based studies will rarely have these resources available. This is also the case for Äiwoo; the corpus of digitized and interlinearly glossed texts contains only approximately 72,000 words. However, even if potential confounds cannot be removed from the set of stimulus sentences, the knowledge gain of conducting a language processing experiment in a heretofore unstudied or understudied language is magnitudes higher (Cutler 1985; Norcliffe, Harris et al. 2015) than the risks posed by possible confounds. In our specific case, we annotated all available glossed texts for the semantic role of preverbally occurring arguments to estimate the probability of any given argument to be an agent or a patient.

5. Carefully planned experiments versus the realities of fieldwork

Experimental psycholinguistics relies on careful study design, and testing conditions should be as uniform across participants as possible. By contrast, it is a recognized aspect of descriptive/documentary fieldwork that flexibility is crucial to a successful outcome (Bowerman 2007; Polinsky 2023). A fieldworker needs to be prepared to come up with alternative plans if those originally made turn out to be difficult or infeasible in practice. One cannot be too tightly bound to a time schedule, as there will always be delays and last-minute changes of plan. The fact that this type of fieldwork nevertheless results in usable data in most cases is largely because there is usually more than one way of collecting relevant data for descriptive and documentary purposes. Psycholinguistic studies, on the other hand, are harder to change on the fly because the experimental design, the stimuli, and the planned measurements are to some degree interdepen-

dent and adapted to the space and place where data collection is planned to be carried out.⁸

In our case, we attempted to take this into account by planning an alternative experiment that could be carried out if the EEG turned out to be practically infeasible. However, we ran headlong into the challenges presented by unforeseen circumstances at the very start of our field trip.

We had planned to carry out the experiments in the Reef Islands, where the majority of Äiwoo speakers live. Given Ä.N.'s long-standing engagement with the speech community there, we judged that participant recruitment and community involvement would be easier there than in Honiara, the national capital, which does have a significant number of Äiwoo speakers, but where we had no contacts in the speaker community. We sent information about the project ahead to the islands and planned to hold information meetings in a few villages after our arrival to provide information in Solomon Islands Pijin, the lingua franca of Solomon Islands, with support from local leaders who could provide further explanations and discussion in Äiwoo. The plan was to explain and discuss the project in these meetings, demonstrate the equipment, and answer questions before people would decide on whether they would like to participate. As community meetings are the common way to inform about, discuss, and resolve issues in the area, we judged this to be a culturally appropriate way of introducing our research project to the community.

We recognized the practical challenges inherent in this decision; the Reef Islands is a small island group in Solomon Islands' easternmost province, Temotu, a remote and inaccessible area even by Solomon Islands standards. Facilities in the islands are basic; there is no mains electricity, though most households have one or two solar panels which provide electricity for mobile phones and a lightbulb for the evenings. In 2018, internet access was mostly absent, with the possibility of picking up 2G reception on a smartphone only in the immediate vicinity of one of the two mobile phone towers in the islands. At our intended testing location at a guesthouse, electricity was available from solar panels and a generator, and Ä.N. had in the past quite successfully carried out fieldwork by mainly staying in this guesthouse and inviting Äiwoo speakers to come there for recording, transcription, and other work.

The remote location further placed constraints on travel because crossing the 70-kilometer stretch of open ocean between the Reef Islands and the nearest airfield is only safe at certain times of year, which do not align particularly well with the times in which European academics are typically free of teaching obligations and thus able to travel for long stretches of time. This severely restricted the length of the field stay that we were able to plan for. When flights to the area turned out, after our arrival in the national capital Honiara, to be cancelled indefinitely, we therefore had to change our plans: We would stay in Honiara and try to find Äiwoo speakers in the capital to carry out the experiment there.

This meant that everything had to be rethought at very short notice. We had not made arrangements for a long-term stay in Honiara, and hotel accommodation is both expensive and impractical for research work, as we would need space not just for our own accommodation but also to set up our ad-hoc lab in an undisturbed and sufficiently quiet space. Our recruitment strategy for the Reef Islands, where we had planned to use established contacts and work through village leaders, would not work in Honiara where we had no knowledge of the local community of Reef Islanders. Fortunately, Ä.N.'s prior contacts in Honiara allowed us to secure an arrangement with the Solomon Islands Translation Advisory Group (SITAG), the local branch of SIL, to rent rooms in their training centre both for our own accommodation and for our study. This arrangement proved beneficial in providing not only adequate facilities, but also the possibility of calling on help from people whose knowledge of the local context was far greater than our own.

⁸ One important part of the open research toolkit of cognitive science (and thus also psycho- and neurolinguistics) is the preregistration of research plans (cf., e.g., Kathawalla et al. 2021; Hardwicke & Wagenmakers 2023). This usually involves publishing the hypotheses, experimental design, and analysis plans on a public repository before any data are collected, that is, before any outcomes are known, with the goal to increase transparency and reproducibility. In principle, this may be possible for the kind of fieldwork-based research we discuss here. Our examples show that in practice there are more uncertainties involved than in the situations that preregistrations are meant to cover (starting with uncertainty about whether there will be power for the equipment that is intended to be used). There may be feasible variations of preregistration that can deal with the uncertainties of field-based research in the future; currently, however, it seems infeasible to complete preregistrations for most fieldwork-based experiments (cf., e.g., also Szollosi et al. 2020; Pham & Oh 2021 for critical views on the potential of preregistration to solve all research integrity problems). However, this does not mean that fieldwork-based psycholinguistic experiments do not require careful and extensive planning or should be subject to questionable research practices, like selective reporting or *p*-value hacking (e.g., MacCoun 2022).

6. Recruiting participants

Being able to collect enough data in experimental studies is important to perform appropriate inferential statistical analyses. This can either be achieved by extensively obtaining measurements from a small number of participants (Smith & Little 2018) or by testing a sufficient number of participants (Brysbaert 2019; Sommet et al. 2023). However, when working with a language with a very limited number of speakers, as Polinsky (2023: 98) puts it, “the luxury of large numbers is simply not there.” At the same time, the speaker-participants in field-based experimental studies will mostly not be seasoned test-takers like the undergraduate students that usually participate in psycholinguistic experiments. For that reason, extensive testing of a small number of participants may not be feasible or needs to be distributed over many sessions (Speed et al. 2017; Sauppe, Andrews et al. 2023). Additionally, not only may the number of potential participants be significantly restricted in such a situation, but feasible strategies for reaching them, arousing their interest in participating, and ensuring that they show up once an agreement has been reached, are going to vary considerably depending on the local context.

Existing literature on field-based experimental psycholinguistics emphasizes that participant recruitment strategies have to be tailored to the social and cultural context in which an experiment is to be carried out (Wagers & Chung 2023). We had done exactly this in our preparations, designing a recruitment strategy which we judged to be appropriate for the cultural context in the Reef Islands. The change of location meant that this strategy was no longer feasible, and we were faced with the challenge of how to recruit participants from the diaspora community in Honiara, with which we had limited familiarity. Our initial plan was to rely on a snowballing strategy where initially recruited participants would tell their friends about our study to reach the community in different parts of Honiara. In addition, we joined a Facebook group for Solomon Islanders to distribute information about our research and advertise for the study. However, the word-of-mouth strategy, which would likely have worked well in a village environment, met with little success in Honiara, and random strangers posting in a Facebook group also did not seem to convince people to volunteer for an unfamiliar-sounding experimental procedure.

Eventually, we received the tip to send a press release to the main newspaper in Solomon Islands with a brief description of the project and contact information for interested participants.⁹ This aroused enough interest that we received several phone calls from interested Āiwoo speakers, and were able to recruit several people to participate in the experiment. Just as importantly, via this strategy we encountered a member of the local Āiwoo-speaking community who saw that the language could gain recognition through the scientific interest in it, as represented by our project. She volunteered to help us recruit more participants and put in a significant effort to explain the purpose of the project to the community and why she thought it would be beneficial to support it. Because of this assistance, we were able to collect analyzable data from 23 speakers, which is a number of participants comparable to those used in past EEG studies on language processing (e.g., Hagoort, 2003; van Berkum et al. 2003; Bastiaansen et al. 2008). For fieldwork-based studies in low-resource contexts, it is unfortunately not always possible to fully follow more recent advice with respect to sample size for psycholinguistic and cognitive neuroscience experiments (Boudewyn et al. 2018; Brysbaert 2019). It is difficult to plan how successful recruitment will be because the pool of potential participants has a different composition than when it is primarily made up of students on a Western university campus. However, we consider novel psycholinguistic data on an underresearched or heretofore unstudied language to be highly valuable in itself so that the knowledge gain always outweighs potential downsides that are due to the circumstances of working “outside the lab”, given that the experiment is otherwise carefully prepared.

To summarize, our pre-prepared recruitment strategies were not so well suited for the new situation we found ourselves in. However, the contacts that we were able to establish during the process of participant recruitment and from previous stays in Solomon Islands still made it possible to complete our data collection. Of course, it is the case in most fieldwork situations that the outcomes are dependent on finding suitable and interested collaborators locally. We do believe, however, that several lessons can be learnt from our experiences that would significantly reduce the importance of luck in future attempts at carrying out a similar project; these will be discussed in §8 and §9 below.

⁹ We are grateful to SITAG director at the time, Martha Matzke, for suggesting this strategy.

7. Carrying out the experiment

Existing literature on experimental linguistic research in small language communities emphasizes that the procedures and expectations around participating in tests, and hence in experimental studies, are culturally circumscribed and can cause challenges in a field setting. Anand et al. note that the experimental method

relies upon specific societal norms: the importance of test-taking, willingness to maintain exclusive focus on unnatural tasks, and an abstract social contract with the experimenter. Additionally, most experimental tasks are solitary, and require responses to linguistic material presented out of context, often by a machine. (n.d.)

Polinsky states that

MYALS [Monolingual, Young, Available, Literate, Speakers] rarely ask questions about the experiments they participate in. They are accustomed to tests and test-taking, they typically don't expect explanation of the reasoning behind an experiment, and they normally show co-operative behaviour in dealing with the experimenter. In a fieldwork setting, such cooperative behavior and magnanimous indifference are an exception, not the norm. When embarking on an experiment in the field, be prepared to be greeted with curiosity, suspicion, surprise, criticism for engaging in silly activities, or some other reaction that may be hard to predict [...]. (2023: 113)

With this in mind, we were prepared for challenges associated with EEG experiments, which not only require adherence to a particular type of experimental protocol, but also having equipment physically attached to one's body. Having electrodes placed on their heads and listening to sentences on a computer would clearly be something very different from what people in Solomon Islands generally associate with "language research", which is mainly encountered in the context of Bible translation, or sometimes via a language documentation project, where it is easy to see the link between the activities that participants are asked to carry out and the goal of "studying the language". In our case, this link was much more abstract. But moreover – and this was our main worry – the procedure itself, involving unfamiliar equipment, might seem alienating, and we were worried that once we had passed the hurdle of arousing people's interest and getting them to come to our "lab", they would change their minds once they had the procedure explained to them.

This, however, proved one case where things went much more smoothly than we had anticipated. We made sure to carefully and consistently explain to prospective participants what would happen and why it was being done, in the local lingua franca Solomon Islands Pijin.¹⁰ At the beginning of each experimental session, we explained to the participant in layperson terms that the EEG device records electrical activity originating from the brain by placing electrodes for measurement on the scalp and showed them how the EEG data are displayed on our computer, and explained that we would need to compare many people's reactions to the played-back sentences to see whether there are commonalities between these reactions. With this, we tried to make the point that the measurements do not provide an immediate window into participants' thoughts. We used an analogy to explain what the current EEG signal can and cannot provide, from a situation most participants were familiar with: "When a doctor listens to your chest with a stethoscope, he can hear your heart beating, but he can't hear what you are feeling."¹¹ These explanations sufficiently laid out the study's procedure, and all of the people who came to our "lab" decided to participate after having been given the opportunity to ask any questions they had about the procedure and the outcomes, and being assured that they were free to change their minds now that they knew what they would be asked to do.

¹⁰ We thank James Ashley for invaluable help in making our Pijin comprehensible.

¹¹ We thank Karen Ashley for providing us with this helpful analogy.

To obtain each participant's informed consent to participate in our study, one of the authors read out the consent statement in Solomon Islands Pijin (stating that the study procedure and task and the EEG measurement had been explained in sufficient detail, that they understood that they were free to stop participation at any time without consequences and without the need to explain themselves, and that they participated out of free will). Participants then stated their name and confirmed that the read-out statement was correct. The informed consent was audio-recorded, a common alternative to written consent in contexts where participants might not be literate in the language of the consent form or might for other reasons be reluctant to sign an official-looking document (Rice 2011).¹²

While some participants probably experienced the task as repetitive, and having to sit still for approximately 20 minutes while the EEG cap and electrodes were applied as tedious, no one reported experiencing the whole procedure as frightening or inappropriate, nor did anyone have problems carrying out the task as instructed. A practical recommendation may be to prepare some kind of distraction for the participants while the equipment is being attached and calibrated. In our case, many of the participants were happy to browse through Å.N.'s recently published Āiwoo dictionary (Næss 2017), while in other cases, photos from Europe shown on a smartphone provided a basis for friendly conversation during the wait.

Our experiences show that it is important to prepare easy-to-follow explanations of the experimental procedures and to demonstrate the equipment as far as possible (at least for such techniques as EEG or eye tracking), so that participants can become comfortable with carrying out an unfamiliar and somewhat mysterious procedure (Mulak et al. 2021). Since we conducted our study in an urbanized environment, we don't know whether this would have been different in the more rural environment of the Reef Islands, where people are in general less experienced with technology and are in a potentially different cultural context, but we would conjecture that such differences might play a role. On the other hand, in a village environment word would likely have spread quickly about the painless and non-invasive nature of the experiment, which might have encouraged interested but hesitant speakers to consider participating.

8. Why are we-INCL doing this? Aligning researchers' and communities' motivations

8.1 Teamwork versus individual interests

Unlike experiments carried out in a major language in a Western, industrialized country, psycholinguistic research in small language communities necessarily interfaces with descriptive and documentary linguistic work. In a situation where a language is completely undescribed, the issue is trivial, since having no knowledge of the grammatical properties of a language provides no basis for identifying aspects of the language's structure which might lend themselves to interesting insights via experimental investigation. But the available knowledge of the grammar of a language must be enough so that the relevant constructions are understood in sufficient detail and stimuli materials can be constructed. As Polinsky (2023) puts it, you cannot analyze the language and run an experiment at the same time. Moreover, it is beneficial if a certain amount of corpus data is available to extract information about frequency and usage; in a language with little or no written tradition, this corpus is likely to have to come from documentation work.

As, for example, Wagers & Chung (2023) and Polinsky (2023) have pointed out, this means that experimental research on low-resource languages is necessarily teamwork. The team needs to involve a linguist with competence on the grammatical structure of the language in question, which will normally have been acquired via fieldwork. The latter means that this linguist is also in most cases going to be the contact into the language community, and be tasked with finding ways of convincing the community that such work is worth participating in.

There are potential drawbacks to this for the descriptive linguist. Not only are they contributing their time and effort to a project which may be rather peripheral to their primary interest of analyzing the grammatical structure of the language; they are also putting their credibility with the language community, the most valuable resource a fieldworker

¹² When obtaining ethical approval for our study from one of the University of Zurich's ethics committees, we included the possibility to obtain audio-recorded, oral informed consent. It is important to consider this possibility already in the ethics proposal to make sure that this practice will be covered by the approval. Not obtaining written informed consent might otherwise constitute an ethical violation.

has, on the line in suggesting that they get involved with a type of research which may not necessarily be perceived as interesting or useful to the community itself. The optimal situation, then, is for the interests of the psycholinguists, the descriptive linguist, and the language community to align within the project; below, we will discuss some ways in which this may be achieved.

8.2 Engaging the community

A core feature of modern linguistic fieldwork is community participation, to whatever extent is appropriate in any given context. It is generally agreed that the language community should have some influence over the way in which research on their language is carried out, whether this is limited to each individual's right to decide what kinds of materials to contribute or extended to involving the community in planning the project as a whole (e.g., Dobrin 2005; 2008; Rice 2006; Austin 2010; Gasser 2017). This would appear to clash with experimental psycholinguistics both in methods and in aims: The distinction between the researchers and the participants is sharp in experimental research, and the questions which psycholinguistic research seeks to address are often removed from the interests of a language community which might have more need for basic documentation and description. At the same time, both for practical and ethical reasons, experimental research in the field cannot be carried out without the collaboration of the language community. This raises the question of what shape such a collaboration should take, but also, more fundamentally, of what's in it for the community. Why should they devote time and resources to research which may appear rather abstract and distant from the immediate interests of language users? To paraphrase Terrill's (2002) question "Why make books for people who don't read?", why conduct psycholinguistic studies with people who have little immediate interest in the kinds of questions it can answer?

Polinsky (2023) notes that small communities are often (though not always) pleased by outside interest in their language, and that local community activists are often interested in promoting work on their languages, as long as it contributes to the recognition of the local communities and cultures. This aspect can easily be brought to the forefront in research of the type we are discussing here. In our case, we did not choose to go to Solomon Islands at random or because it was where convenience sampling led us. We went there because the Āiwoo language shows a specific and cross-linguistically rare combination of features which would allow us to test a key question of language processing. This identification of a unique feature or combination of features in a specific language provides a potential starting point for mobilizing community interest. The fact that their language has unique properties which can help answer big research questions is a powerful indication that the language has value in a rapidly changing world. A common reason for speakers to shift away from a minority language is that they perceive it as less useful, valuable, or empowering in the modern world than the majority language in which education, governance, commerce etc. is generally carried out (e.g., Grenoble 2011). The type of research that we are describing here, however, imbues the language with value precisely *because of* ongoing technological developments, as it is these that make it possible to ask and test these kinds of questions. Experimental research can help to signal to the community that their language does have a place and a function in a modern, globalized world, without requiring the language to adapt to the changing conditions – on the contrary, it is precisely its unique, inherited features that create the value. Indeed, it has been argued in the literature on language documentation that the discourse around "endangerment" may itself, if unintentionally, reinforce the power imbalance between outsider researchers and speaker communities, in the sense of perpetuating a narrative in which minority language communities are helpless victims of outside forces with no independent agency (see Czaykowska-Higgins 2018 and references therein). As such, shifting the focus away from endangerment and onto the speakers of a minority language as active contributors to knowledge about language may contribute to redressing this imbalance. It can be argued that language materials should take priority over psycholinguistic research in a situation where speaker numbers are dwindling. However, approaching the language as a valuable resource with something important to teach the rest of the world and providing its speakers with the opportunity to contribute to this knowledge, should they so choose, also imbues the language with inherent value and recognition which may in itself benefit the language and its speakers.

Thus, Terrill's answer to the question cited above of why one should make books – in Terrill's case, a dictionary of the Lavukaleve language – for people with no tradition of reading, applies even more strongly, under the right circumstances, to psycholinguistic research: It "suggests in a direct fashion that [the language] is to be compared on a level with other languages. It is a powerful symbol that [the language] is not a language of the past" (Terrill 2002: 217). This sense of value can be an important factor in motivating communities to continue speaking their language and to pass it on to

new generations (e.g., Dobrin 2008; Hinton 2011; Gasser 2017).

For such an approach to succeed, it is crucial to engage with the language community, preferably at the planning stage, to discuss the aims of the project and bring these perspectives across. This was another aspect of our project which was challenged when we changed our field site on short notice. We had plans for how to involve the community in the Reef Islands, based on long-standing collaborations and well-established contacts. When we ended up staying in Honiara, we were faced with the challenge of attempting to collaborate with a community where we had no previous contacts. The lesson that may be learnt from our attempts to navigate this situation is that what applies in a village context applies no less in a more urban and dispersed speech community: One needs to identify appropriate channels through which to contact the relevant communities and invite discussion about the project. In our case, we struggled initially to find such channels, but the attempt at recruiting participants via the newspaper eventually provided us with one. Through this, we encountered a community member who immediately grasped the points discussed above, and she became our entry point into the Äiwoo-speaking communities in Honiara. She conceived of the project as a great opportunity for the language and its speakers to be seen and heard by the wider world, and considered it a point of great pride for the community that their language was unique enough to attract interest not just as an object to be preserved for its own sake, but as a contribution to a wider body of knowledge about language and the human brain.

We would like to emphasize that we do not believe that it is the responsibility of minority language communities to contribute to knowledge about language processing, and certainly not at the expense of documentation work or other resources directed at supporting the continued use of the language by the community. We are rather arguing that in a situation where descriptive and documentary work on a language is already ongoing, there may be benefits to the community in contributing to other kinds of research, such as psycho- and neurolinguistics. In situations where little previous work has been undertaken, we do not believe the issue is likely to arise anyway, since solid knowledge of the structure of a language is necessary to be able to create experimental materials.

8.3 What's in it for descriptive and documentary linguists?

As noted above, the team required to carry out experimental research in the field will necessarily include a linguist with expertise in the local language, whose own research program may initially not have included any plans to study the phenomena targeted by the experiments and whose resources both in terms of working hours and of credibility with the community will have to be drawn on for the project to succeed. Can anything come out of this collaboration which is directly relevant to the task of documenting and describing the language?

Wagers & Chung (2023) discuss the ways in which constructing many stimulus sentences with specific grammatical properties can lead to new discoveries about the grammar of a language; the discoveries made by their team included a complex constraint on *wh*-dependencies formed on the possessor and the optionality of *wh*-agreement in certain relative clauses. In our case we found, for example, certain lexical constraints which were not apparent from the available corpus data. For example, where Ä.N. had constructed a sentence describing a lizard sitting on a branch, the speaker who checked the stimuli corrected *tokoli* 'sit' to *ko* 'lie'. This provided novel information about the use of Äiwoo posture verbs and the role that horizontal extension plays in the choice of verb, which can be followed up in further field research. Similarly to the Chamorro member of Wagers and Chung's team, who had "strong but difficult-to-pinpoint intuitions about the infelicity of certain passives in prenominal relative clauses" (Wagers & Chung 2023: 499), when asked whether a clause could have an initial prepositional phrase in Äiwoo, Ä.N. felt strongly that this was problematic, if not outright ungrammatical, but had never before reflected on why. This eventually led to the interesting hypothesis that it is infelicitous for different prepositions for different reasons – again, something that can be followed up and tested in future descriptive work.

The preparatory work which must be carried out as the basis for an experiment usually involves collecting further information about grammar and language use and may thus also be helpful to a descriptive linguist in future descriptive work. For example, the systematic syntactic annotation of the semantic roles of preverbal NPs in the available glossed texts in Äiwoo that we generated to confirm the language's default word order is a valuable tool in further work, and while going through all the texts, new grammatical questions came up, and glossing errors could be corrected.

Finally, with a listening task, the materials themselves may serve as data for additional descriptive analyses. In our case, the recordings of the stimulus sentences, while being different from spontaneous speech, provided a set of audio

recordings with significantly better sound quality than any of the previous data recorded in field conditions in the Reef Islands. They could provide a basis for acoustic analysis, thus saving the need to try to set up suitable conditions for high-quality recordings in the Reef Islands, where background noise is all but impossible to avoid or block out. In a recent MA project on intonation and information structure, Viken (2024) used the recordings to provide a baseline against which to compare corpus examples. One strategy to make materials useful for different research questions could also be, for example, to design a language production experiment so that it elicits certain phonological or phonetic contrasts from speakers, thereby collecting many instances of spoken sentences for answering multiple questions at once.

Thus, working with psycholinguists to construct experimental stimuli can benefit a descriptive linguist in several ways. Corpus annotations can be of use in further descriptive work; the need to construct stimuli satisfying specific constraints may provide perspectives on syntax, lexical semantics, and other aspects of language structure which do not necessarily arise from working with natural corpus data. The stimulus materials themselves may be useful for further analysis of different kinds. While our study focused on language comprehension, the materials and results of language production experiments can also be beneficial for description. For example, stimulus materials in picture description studies allow the (semi-)structured elicitation of utterances, which can be informative, for example, about word order preferences under different argument-animacy combinations (Sauppe et al. 2013; Norcliffe, Konopka et al. 2015; Nordlinger et al. 2022).

9. Lessons from Solomon Islands: Bringing psycholinguistics to the field

Our experiences show that it is feasible, subject to certain restrictions, to carry out experiments with techniques such as EEG under fieldwork conditions. This counters some of the more critical recent voices who fear that unnatural tasks, and the possible perception of neuroimaging as being too invasive, make field-based psycho- and neurolinguistic studies infeasible (Hellwig 2019: 9). Our discussion also shows that we think it can be done better and with fewer glitches and less reliance on luck than what we managed in our first attempt at an EEG study in Solomon Islands. The key, as always, is in proper preparation – which becomes more challenging when the constraints and requirements of experimental work need to be combined with those of successful linguistic fieldwork.

Given the concerns discussed in §8.2, we believe that if experimental psycholinguistics in the field is to be done in the best possible way, it needs to involve a process of engaging the community where the proposed work is to be carried out. This means discussing the project locally to achieve the alignment of interests, involving the community in preparing appropriate materials, and extensively testing the equipment. Had we followed these preparatory steps more closely, our experience when it came to carrying out the work would likely have been less arduous. Such a procedure will usually require multiple field trips, which is expensive both in terms of time and money – much more so than doing research under in-lab conditions. In hindsight, we may have been too optimistic in our strategy to start out from the requirements of psycholinguistic experiments and trying to adapt them to field conditions, rather than factoring in *both* the demands of community-based fieldwork and those of experimental psycholinguistic research from the start.

The first lesson to learn, then, is that such projects are demanding in terms of time and funding. It is crucial to avoid the misconception that experimental psycholinguistics and descriptive/documentary field linguistics can somehow piggyback off each other and thus require fewer resources if done collaboratively than would be needed for each enterprise separately. On the contrary, taking each side of the equation seriously means allocating adequate resources both for sufficient consultation with the community in the field and for the practical execution of the experiments themselves. We agree with Hellwig (2019: 23) that such projects can only be done collaboratively between descriptive/documentary linguists and psycholinguists “by playing to the strengths of both”.

At the same time, the mode of community collaboration needs to be balanced against practical feasibility. We believed that the most appropriate approach would be to carry out the work in the main Āiwoo-speaking community in the Reef Islands, where we would have been able to seek broad community engagement. In an ideal world, this would certainly have had significant merits. In light of the practical challenges that we encountered even in Honiara, though, our recommendation would be to choose a relatively central, urbanized location if it is at all possible to find or bring speakers of the relevant language(s) there. These locations will usually provide better infrastructure, such as constant electric power and access to air-conditioned rooms. Studies working with eye tracking or behavioral measures (such as,

e.g., reaction times or word choice in a naming task) may have fewer demands in terms of infrastructure and can thus be employed in lower resource environments, but would still benefit from conditions that recreate a laboratory space to the extent possible. Even with our portable equipment and plans for how to access a power supply, we do not think that we would have succeeded in carrying out the EEG experiment in the Reef Islands, because it would not have been possible there to find solutions to the heat problem and the unexpected need for additional supplies. In that case, we would have been able to leverage the self-paced listening version of our study as a back-up, which, however, would have meant that we could not have made the contribution to the neurophysiology of sentence comprehension that we set out to make. If one is going to invest the time and resources to attempt experimental research in the field, it is better to aim for an environment that provides the best possible chances of using the envisaged techniques. At the same time, it is important to have a back-up plan to be able to still collect some data should the infrastructure or other circumstances make the original plan (e.g., of using EEG or eye tracking) infeasible. Alternative, behavioral paradigms like self-paced listening or sentence-picture matching can serve as such back-up plans in many cases if they allow one to answer at least parts of the initial research questions.

To summarize, field-based experimental psycholinguistics is possible, but requires more resources than psycholinguistic studies on the usually studied population and also more than field linguistics on its own. Is it worth the investment? Our answer is “definitely yes!” Studying the processing of diverse languages has the potential to answer core questions of language and cognition, and ultimately about how the human mind and brain co-evolved, something which cannot be achieved with the current focus on only a few, mostly European and “WEIRD”, languages (Evans & Levinson 2009; Norcliffe, Harris et al. 2015; Blasi et al. 2021). If we take such questions seriously, we must commit to acquiring the data required to answer them, and such data necessarily reflects the world’s linguistic diversity. Moreover, working with communities in planning and carrying out experimental language processing research can help provide communities with new perspectives on the value of their language which are rooted in more than simply its status as ‘endangered’. As such, psycholinguistics in the field has the potential to contribute to the goals of a cognitive (neuro-)science of language and documentary linguistics alike.

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