Semantic fieldwork at a distance*

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Abstract: Contemporary approaches to conducting linguistic elicitation with remote speakers are discussed, with an emphasis on research into linguistic meaning. I believe such methods will make for a growing part of the work of linguistic fieldwork in the 21st century, either by necessity or by choice. This paper discusses various technical and methodological options and their tradeoffs, and discusses different approaches in terms of the forms and degrees of shared linguistic and non-linguistic information that they offer between researchers and speakers. Concretely, two models for remote elicitation that have been successfully employed in our lab, allowing for continued empirical work during the Covid-19 pandemic, are described. I advocate for individual researchers to reflect on their data collection goals, technical constraints, and relationships with speakers in order to identify appropriate remote elicitation techniques.

Keywords: linguistic fieldwork, elicitation, remote data collection, video conferencing, computer-mediated communication

1 Introduction

Successful linguistic fieldwork relies on relationships between researchers and speakers, built on mutual trust and respect, and often mutual benefit and friendship.[1] Traditionally, these relationships are forged by physical co-presence — for instance, to name two familiar models, by researchers visiting the speakers' community or by welcoming speakers into their lab or classroom. Many elicitation methods that linguists employ and teach rely implicitly or explicitly on this co-presence, which for example allows for discussion of a shared physical context, gives researchers access to non-verbal cues as responses to tasks, and in some cases serves to eliminate distractions.

Despite the many advantages that it provides, it is not always possible to establish such physical co-presence, and in some cases it may be advantageous or even necessary to conduct linguistic elicitation with remote speakers. Although such remote methods are not themselves new — with one familiar traditional mode being elicitation by phone call — current technology allows for a wider range of different models for working with remote speakers. I suspect that the use of remote elicitation methods will increase over time, given their technical feasibility and effectiveness combined

* This paper began as a joint project with Michael Yoshitaka Erlewine and the ideas in this paper were developed together through discussions of the experiences of members of our lab. I would like to thank our many cooperating speakers and teachers for their time and patience, especially over the past year, which has enabled the experiences reported on here. For comments and discussion that informed this paper, I thank the following members of the NUS Syntax/Semantics Lab: Justin Adhiyatma, Kenyon Branan, Henrison Hsieh, JJ Lim, Joey Lim, Keely New, and Zheng Shen.

[1] Here for consistency I use the terms "researcher" and "speaker" throughout, but other common terms for these roles include "linguist/investigator" and "consultant/community member," respectively. It should however be noted that there are many situations where there is no such clear binary distinction, including in research involving native speaker linguists. Additionally, I note that our discussion here is limited to the study of spoken languages.

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with pressures to reduce travel in light of climate impact, as well as in particular situations that acutely limit travel such as the current Covid-19 pandemic.

In this paper, I discuss different methods of remote linguistic elicitation, with an emphasis on semantic fieldwork, informed by the experiences of members of the National University of Singapore's (NUS) Syntax/Semantics Lab in 2020–2021 during the Covid-19 pandemic. Our lab has traditionally conducted research on various languages of Southeast Asia via in-person elicitation. As many others have also experienced, continuing this work during the pandemic has led to reflection and experimentation with regards to our data collection methods. From these experiences, my colleagues and I conclude that remote data collection for semantic fieldwork is possible, ensuring continued scientific progress when travel is not possible. Furthermore, I believe that such remote elicitation methods will be a valuable option for data collection, even if not strictly necessary, which semanticists will want to develop as part of their professional repertoire. Remote elicitation can lead to the reduction of costs, both financially and in time commitments, and can support a reduction in travel, which is advantageous from a climate perspective. It also potentially allows for working with speakers of a broader range of languages, and can be effective for maintaining relationships with existing contacts between in-person visits. However, these benefits are not without limitations and are subject to various technical prerequisites.

Section 2 begins with a brief background on the goals and needs of semantic fieldwork; I then outline the different degrees of shared information that can be achieved with different technical methods, their benefits and drawbacks, and their relation to more traditional methods in linguistic elicitation. In section 3, I discuss in greater detail two concrete approaches which have been successfully employed in our lab, differing in their forms and degrees of shared information and consequent bandwidth needs and methodological characteristics. Finally, the broader implications of having remote elicitation as a regularly available tool for semantic fieldworkers are considered in section 4. Section 5 concludes.

2 Modes of linguistic elicitation

Modern life and technology allow us to choose to interact with others in different modes. For example, having a face-to-face conversation versus texting with a friend offer distinct advantages and disadvantages, with each potentially more suitable for some conversational goals than others. Similarly, not all modes of speaker–researcher interaction are alike. Here I highlight the importance of considering *the forms and degrees of shared information* made available by different interactional modes, in order to evaluate their applicability for linguistic elicitation.

Section 2.1 begins by reflecting on the process of linguistic elicitation, with an emphasis on common methods established for the study of linguistic meaning, in order to highlight the importance of establishing shared information beyond just the linguistic expressions of interest. I then discuss differences in the availability of shared information amongst synchronous modes of elicitation in section 2.2. I briefly discuss considerations of research ethics and institutional policies related to undertaking remote elicitation in section 2.3.

2.1 Shared information in semantic fieldwork

This subsection begins with reflection on the interactions involved in all processes of linguistic elicitation and then discusses semantic fieldwork in particular, to highlight the importance of shared

information in elicitation. Linguistic elicitation conventionally proceeds by the researchers posing a series of questions or tasks to the speakers. The speakers have working, largely tacit knowledge of the target language, and thus are the language authority in the interaction. Together, the interaction serves to take evidence regarding the speakers' tacit knowledge of the language and put it on the record, in order to make progress towards the shared goal of better understanding, describing, and documenting the target language.

Translation into the target language, or from the target language (sometimes called 'back-translation'), and judgments of grammaticality are frequently described as the primary tasks for elicitation, especially where the goals are morphosyntactic description; see e.g. Chelliah (2001) and Bowern (2008:ch. 6). For these tasks, a medium for the conveyance of linguistic forms and some discussion of such forms may suffice. However, as many scholars have long pointed out, there are many problems with relying heavily on direct translation tasks for the study of linguistic meaning. For an early elaboration of such concerns, see the discussion of *gavagai* in Quine (1960:ch. 2); for recent discussion of what can and cannot be reasoned from translation, see Deal (2015). Asking for and reasoning from grammaticality judgments also requires care, in addition to being a potentially unnatural or tiring task for some; see e.g. Chelliah (2001:158–160) for discussion from a fieldwork perspective and Schütze (1996/2016) for extensive general discussion on the elicitation and use of grammaticality judgements.

For these reasons, contemporary work on linguistic meaning has advocated for methods of elicitation that involve the discussion of expressions in richer linguistic and non-linguistic contexts.[2] In our work, our lab members follow Matthewson (2004) and subsequent work which advocates for eliciting translations and judgments of truth and felicity "relative to some particular contexts" and interpreting their results as "indirect clues" regarding the meaning of expressions (Matthewson 2004: 380). By carefully establishing a shared context of use, we avoid many of the concerns raised previously regarding unclear translation tasks or the instability of context-less grammaticality judgments. Furthermore, evaluating expressions within multiple contexts allows us to begin to hypothesize their meanings in terms of truth conditions and felicity conditions. From there, we can also begin to reason about the meanings of other subsentential phrases and constructions by how they combine with the expression. See also Bohnemeyer (2015) and Berthelin (2020) for more detailed typologies of semantic elicitation task types that elaborate on Matthewson's discussion, with discussion of the combined use of such techniques.

The establishment of a shared context of evaluation may take different forms. Contexts can be described in the target language or in a shared language of wider communication,[3] either orally or in writing. Some contexts can also be established visually, by means of a picture, schematic diagram, or video, in some cases more naturally and with greater efficiency than through solely linguistic means (Hopkins and Furbee 1991; see also Majid 2012 and citations there). Individual contexts can be somewhat logically isolated from one another or can be part of a larger narrative; see Louie (2015) for her experiences with and endorsement of the usefulness of the later. Recent "storyboard" methods effectively bring together the advantages of both visual context-setting and having an overarching narrative (Burton and Matthewson 2015;Bochnak and Matthewson 2020). Illustrative contexts may also be offered by speakers themselves, as Hopkins and Furbee (1991)

[2] Some earlier works emphasizing the importance of investigating the meaning of expressions in context include Bolinger (1968) and Hopkins and Furbee (1991).

[3] See AnderBois and Henderson (2015) for discussion of considerations regarding this choice.

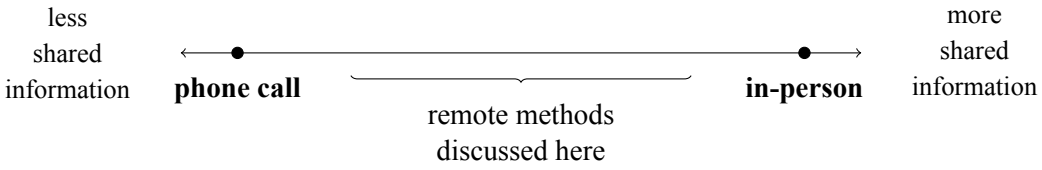
emphasize.[4] In addition, speakers and researchers can also discuss situations in the actual world, or variants thereof, based on knowledge of the physical space or visual field that they share.

The investigation of linguistic meaning — more so than elicitation for the purpose of describing phonological, morphological, or syntactic aspects of a language — requires the careful establishment of contexts for the evaluation of utterances for their truth or felicity. This in turn necessitates careful reflection on how the intended context will be established by researchers and effectively understood by speakers, given the technical channels available. Where in-person elicitation is not feasible, semantic elicitation may particularly benefit from additional channels of communication such as shared written materials, visual stimuli, and real time video of the elicitation participants.

2.2 Modes of elicitation and their degrees of shared information

In this section, in discussions with Michael Yoshitaka Erlewine, we propose to organize and discuss different modes of linguistic elicitation in terms of the form and degree of shared information between researchers and speakers. Here our attention is limited to synchronous forms of elicitation, which involve researchers and speakers agreeing upon meeting times and involving at least a synchronous audio connection. Synchronous remote elicitation can be conceptualised as a continuum with different degrees of shared linguistic and non-linguistic information, which is illustrated in Figure 1:

Figure 1: Modes of elicitation by degrees of shared information



At the right end is in-person elicitations, demonstrating the highest degree of co-presence, involving maximal access to non-verbal cues, shared knowledge and control of the physical environment, and no limits on the choice of materials that can be shared between researchers and speakers. At the left end is the audio-only, 'calling' mode of elicitation, which has been reported to have success in the past; see e.g. Vaux and Cooper (2003:21) and Rice (2006:136). The calling modality by itself provides for a synchronous audio connection but no other forms of co-presence or shared information.

While these two modes in Figure 1 — face-to-face meetings and phone calls — may be the most familiar from earlier work on linguistic fieldwork, currently available telecommunications technologies provide a significant space with different options between these extremes. Synchronous elicitation thus may also involve real time video of the researcher and/or the speaker, as well as written or

[4] In their own words (Hopkins and Furbee 1991:74): "contextualizing language through remembered or hypothetical situations of usage is much more effective in demonstrating the full pragmatic/semantic range of language, and is likely to be a near universal method of explanation, enabling greater accuracy and enlightenment in the difficult task of translation."

visual materials via file-sharing or screen-sharing. Furthermore, as described in section 3 below, the choice to share materials is itself not a binary choice. For instance, researchers may present certain materials such as written forms of examples or visual aids, without also sharing the researchers' own contemporaneous notes.[5] Doing so during an in-person meeting may require positioning some notes or device away from the speakers' view, which may be perceived as distrustful. Alternatively, some researchers may choose to share their own view of their notes directly, allowing speakers to participate more in the documentation process, or to offer corrections or further comments on the researchers' record. This flexibility to naturally choose exactly what information is shared with speakers and when is a unique advantage of remote, computer-mediated elicitation.

Which particular method should be chosen can depend on technical considerations and the needs of the project. Here I first comment on technical considerations, which include the equipment, networks, and tools that are available and that both parties are comfortable using. Synchronous remote elicitation requires both the researcher(s) and speaker(s) to have stable internet connections with enough bandwidth (rate of data transfer) to support the tools of use. An audio connection alone will take the least bandwidth, and thus have the greatest likelihood of providing a reliable connection in a wide variety of situations and environments. Adding other synchronous connection types, such as video or screen-sharing, increases the bandwidth required of the network. Although bandwidth use varies by the specific technical tools used, current bandwidth recommendations for Skype, Microsoft Teams, and Zoom for typical connection types are reproduced in Table 1:

Table 1: Bandwidth requirements for Skype, Microsoft Teams, and Zoom[6]

	Skype	Teams	Zoom
Audio-only	30 $\sim$ 100 kbps	10 $\sim$ 58 kbps	60 $\sim$ 80 kbps
Audio with screen-sharing	128 $\sim$ 300 kbps	200 kbps $\sim$ 1.5 Mbps	150 $\sim$ 300 kbps
Audio and video	128 $\sim$ 300 kbps	150 kbps $\sim$ 1.5 Mbps	2.0 Mbps

To put these bandwidth figures in context, so-called "3G" mobile networks are designed to provide connections of at least 128 kbps speed (OECD 2004), while the International Telecommunications Union (ITU) refers to connections of at least 256 kbps speed as "broadband" (ITU 2011). By this definition, as of 2021, global broadband user penetration is at 51% (ITU/UNESCO 2021:42). This suggests that audio-only connections and audio connections with screen-sharing may be possible in much of the world, whereas the availability of synchronous video work will be more varied due to the faster connection it requires.

[5] Offering partial access to a particular scene or context may also be an effective way of eliciting linguistic expressions related to evidence and possibility; see for example Silva and AnderBois (2016).

[6] Skype figures are from https://support.skype.com/en/faq/FA1417/how-much-bandwidth-does-skype-need, accessed February 27, 2022. For Microsoft Teams, these are figures for "one-to-one" connections from https://docs.microsoft.com/en-us/microsoftteams/prepare-network, dated September 20, 2021. For Skype and Teams, the ranges here reflect "minimum" and "recommended" values from the respective documents. For Zoom, these are described as required bandwidth figures on https://support.zoom.us/hc/en-us/articles/204003179-System-Requirements-for-Zoom-Rooms, dated January 18, 2022. kbps = roughly a thousand bits per second; Mbps = roughly a million bits per second. All figures are for both upstream and downstream rates.

In addition to the network connection, the range of information that can be shared will also depend on the researchers' and speakers' devices that will be used. For example, video and screen-sharing (as described in section 3.1) may be comfortably and productively used with speakers who participate in the elicitation session using a computer, rather than with a phone, whereas an audio-only connection with supplemental materials (section 3.2) may only require a phone, possibly supported by an additional device with even more limited internet connectivity. Finally, as an overarching consideration, I would recommend using technologies and methods that speakers are already familiar with, wherever possible.

The particular type of linguistic research to be conducted and its goals may also necessitate different methods. For example, following our discussion in section 2.1, morphosyntactic fieldwork that depends on grammaticality judgements with only minimal reference to context or discourse may be possible with more limited channels for shared information between speakers and researchers, and thus potentially feasible in a wider range of technical environments. Leemann, Jeszenszky, Steiner, Studerus, and Messerli (2020) and Sanker, Babinksy, Burns, Evans, Kim, Smith, Weber, and Bowern (2021) recently suggest that work involving later acoustic analysis is also possible remotely, and offer a number of suggestions and considerations. Concretely, Sanker et al. (2021) recommend having speakers use an external microphone and make recordings on their own devices (even if that is a phone or tablet) that they then upload to a file-sharing programme, and they also offer practical suggestions for software tools. More generally, Sanker et al. stress the importance of maintaining consistency in recording methods across sessions to facilitate later comparisons.

Finally, I suggest that these additional channels of shared information can be a substantial aid for speakers to stay attentive and engaged during remote elicitation. As many authors note (Bowern 2008; Chelliah and de Reuse 2011; Vaux and Cooper 2003; a.o.), even in-person elicitation sessions can sometimes lead to boredom and fatigue for even the most cooperative and engaged speakers. Concentrating on the details of contexts and particular linguistic expressions remotely may be easier when visual attention can be maintained, whether through visual stimuli or shared notes especially if video of the researcher is unavailable. Video of the speaker is also useful for researchers to detect speaker inattention or fatigue and to adjust the session plan accordingly. For all of these reasons, these visual channels that supplement an audio connection are advantageous from the standpoint of ensuring speaker engagement.

2.3 Research ethics and other policy considerations

This section briefly comments on matters of institutional policies related to undertaking remote elicitation. Before attempting to undertake remote elicitation, researchers should ensure that they have procedures in place for each step of the process that are approved or in line with their institutional policy and other contemporary best practices. This includes the process of recruiting speakers (if new remote speakers are sought), eliciting and documenting informed consent, conducting elicitation sessions, paying speakers, storing and analyzing research data, publishing findings from this data, and archiving and sharing research data for further use. Each of these steps may require particular adjustments to prior practice and approval for revised procedures.

I briefly illustrate some general considerations informed by our own process of beginning remote elicitation work. Research protocols that cover elicitation methods may need to be revised with specific details about the possible locations of speaker participants and technical tools used, as

well as how informed consent will be sought and documented.[7] The use of particular technologies for communications or data storage (especially "cloud storage"), especially involving personally identifiable information, may be restricted by institutional data management and privacy policies.

Protocols should also allow for adjustments to rates of speaker compensation to be fair and in line with an individual speaker's location and economic conditions there, rather than requiring a uniform rate for speakers across different locations. The process for paying speakers remotely (e.g. via bank transfer) and documenting such payments for payment or reimbursement from research accounts should be coordinated with a university finance office.

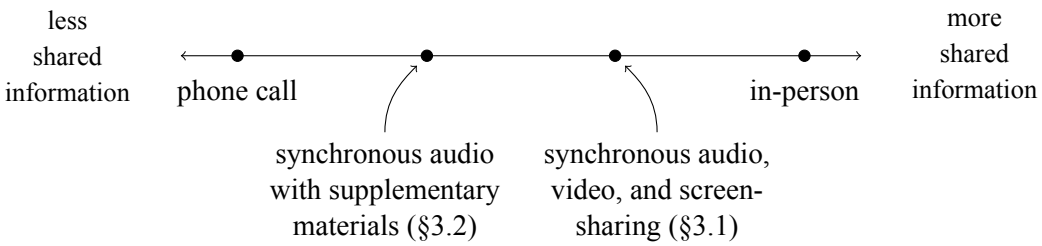
These considerations will vary significantly by institution and country. Make sure all procedures are clear and approved before undertaking this potentially new mode of elicitation.

3 Case studies from our lab

This section discusses two methods in greater detail, which have proven effective in our lab's experience during the Covid-19 pandemic. The first, described in section 3.1, involves the use of the full range of co-presence technologies available with contemporary video conferencing software such as Skype, Microsoft Teams, and Zoom. The second, discussed in section 3.2, involves a synchronous audio connection — for which our lab members most often used WhatsApp, but similar internet telephony applications or POTS (plain old telephone service) would yield similar results — paired with shared materials that are hosted online and accessed directly by the speaker. Both are methods that different pairs of researchers and speakers in our lab independently converged on and which ultimately have proven to be effective, although they vary in terms of their degree of shared linguistic and non-linguistic information as well as their technical requirements.

On the spectrum of degrees of shared information discussed in section 2.2, I approximately place these two methods as follows:

Figure 2: *Our two case studies, on the spectrum of synchronous elicitation methods*



Each additional piece of synchronous shared information, such as video and screen-sharing, brings the remote elicitation experience that much closer to a face-to-face interaction, for both researchers and speakers, but this comes at the cost of greater bandwidth needs (see Table 1 above).

It is important to contextualize these methods here against the goals and needs of the work of our lab. The experiences reported on here are from conducting morphosyntactic and semantic elicitation

[7] See Bowern (2010) and DiPersio (2014) for overviews of human subjects ethics review (i.e. Institutional Review Board, IRB) procedures as they apply to linguistic fieldwork in many institutional contexts.

with speakers of Burmese, Mongolian, Pangasinan, and Tibetan. All speakers are fluent in the target language as well as in English, which is the shared language of wider communication[8] for all of the cases discussed. Remote elicitation has been conducted with speakers in the same country as the researchers (Singapore) as well as with speakers in Myanmar, the Philippines, and India. The ability to access a reliable, high-speed internet connection varies depending on the location of the speakers. Although we already had existing relationships with many of these speakers through pre-pandemic in-person meetings, there are also speakers that were recruited, onboarded, and worked with entirely online during the past year. Considerations and challenges regarding working with new speakers online are discussed in section 4 below.

An important caveat is that almost all of the speakers that we engaged with during this time were in their twenties and relatively tech-savvy, with an existing understanding and comfort level with many of the programmes and interfaces that were used, and had relatively strong and stable internet connections. Although their connectivity requirements differ, both methods that are introduced in detail here below (§3.1, §3.2) are perhaps best attempted with such speakers. In the experiences reported on, all speakers used their own personal devices (mostly laptop computers, but some only using a mobile phone), rather than any equipment that we supplied.

There were also previous speakers that our lab members could not reliably continue to work with over the past year, due to these considerations of technical fluency and connectivity limits. For one speaker, it was difficult to secure an environment from which to participate in synchronous elicitation that was free from distractions and with a stable enough internet connection; ultimately, the latter consideration led to our decision to no longer pursue regular remote elicitation sessions with them. Another speaker that we chose not to conduct remote elicitation with over the past year was an elderly speaker with less technical proficiency. While we had worked with this speaker successfully in person in the past, we chose to prioritize working with speakers who were already well acquainted with the technical tools we used for remote elicitation. While these restrictions have not been prohibitive for our overall work, they may make working with a broader demographic of speakers, or speakers in particular regions, more challenging.

3.1 Synchronous audio, video, and shared materials

A socially distanced world is no stranger to video conferencing. With many forms of work and schooling having moved online during the pandemic, it is unsurprising that fieldwork would make a similar shift. Like many others, some members of the lab relied on video conferencing software such as Zoom to meet with their speakers. This section walks through the different ways this method was carried out by our members.

All of our lab members who used video-conferencing software would synchronously share their materials with their speaker during the session, relying on the built-in screen-sharing function. Speakers would be able to see any relevant contexts or visual aids that were prepared, sentences that required judgements in the target language, and transcriptions in the target language written by the researcher during the session.

While two members additionally allowed their speakers to see their contemporaneous notes during the session by sharing their entire screen, another would selectively share only one window, with their session plan and meta-comments in a separate document. Figures 3 and 4 illustrate how these would have looked for the researchers.

[8] this term is adopted from Grenoble and Whaley (2005) and AnderBois and Henderson (2015:209).

Figure 3: *Video elicitations with partial screen sharing of materials (researcher view)*

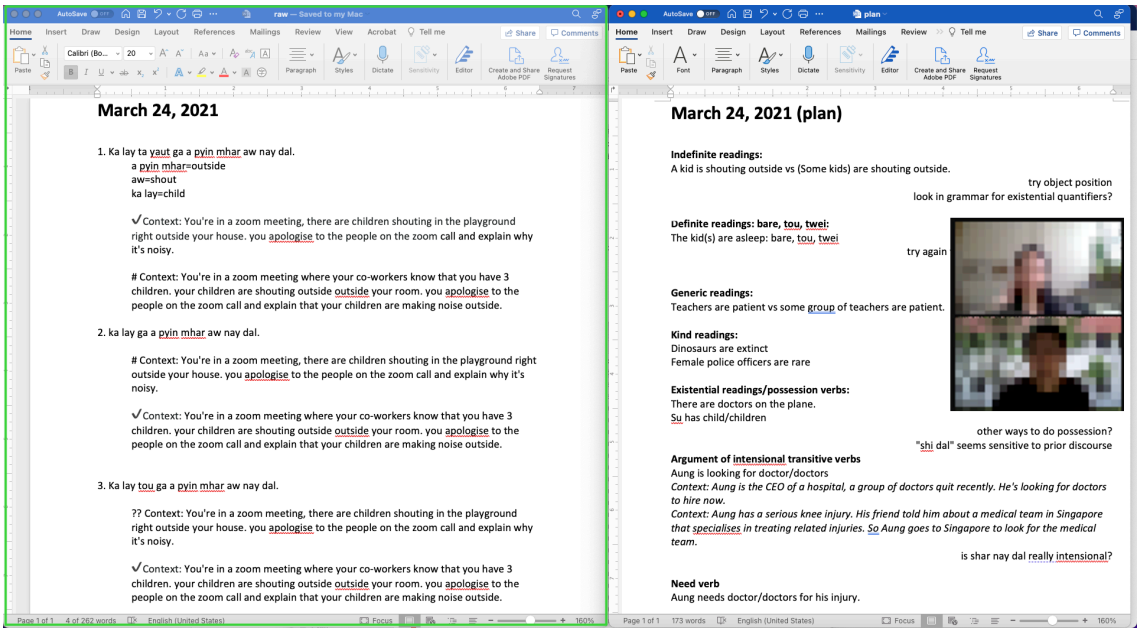
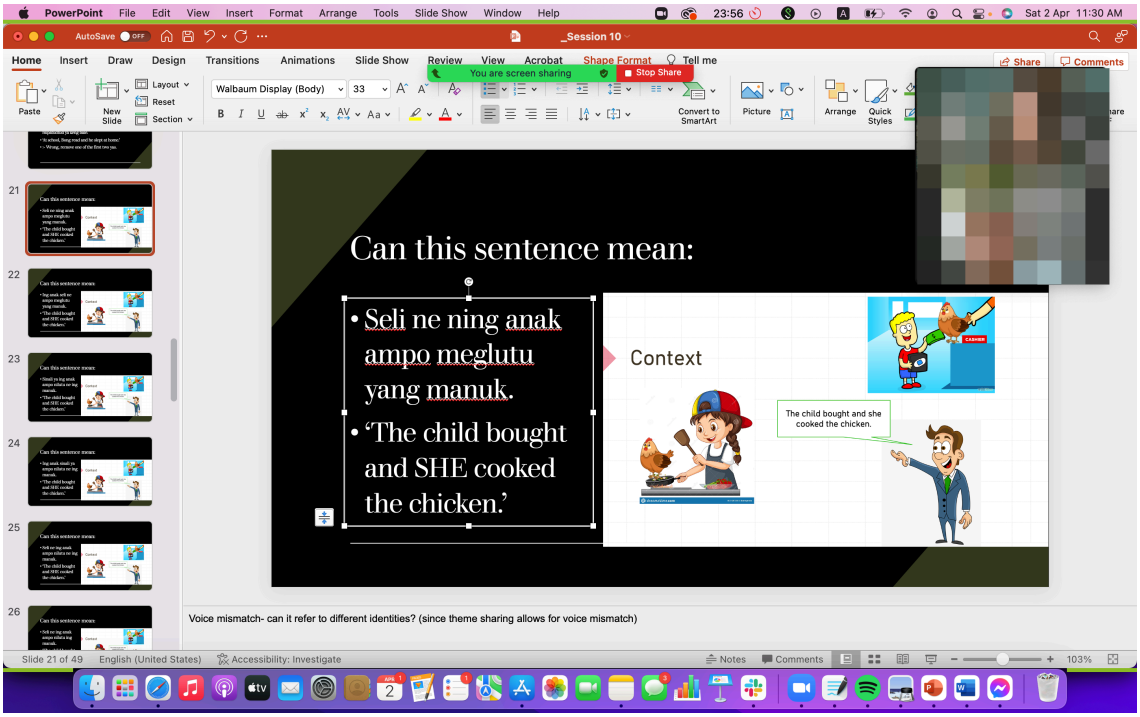


Figure 4: *Video elicitations with sharing of all materials*



In Figure 3, the researcher has two windows open during an elicitation session with a native speaker of Burmese. Only the left (with the green border) was shared with the speaker. The re-

searcher's session plan, notes, and comments remain only on the right window, at the discretion of the researcher. The left window is used by this researcher to share particular contexts and expressions of interest as the session goes forward. In Figure 4 (during an elicitation session with a Pangasinan speaker), the researcher shares their entire screen. In both cases, researchers could also then choose to give their speakers 'remote control,' which allows the speakers to directly enter text into the document or to make corrections.

I note that our lab members that chose to use screen-sharing when conducting remote elicitation had not regularly shared their materials when previously meeting in person. Members mentioned that a consideration when deciding to make the shift was to provide something more tangible for speakers to focus on in the absence of physical co-presence. Sharing the researcher's screen, or a portion thereof, also helps to keep speakers focused on the elicitation session and away from other distractions which may otherwise be present when sitting in front of a device. Multiple members of our lab commented on the advantages of such flexibility in controlling the information that is shared with speakers, with different researchers developing their own practices in terms of what information is presented and what is not.

Video conferencing is arguably the closest that we can get to in-person meetings. While body language is not available, access to facial cues does aid in discerning how well speakers are following a context, their certainty about a judgement, and how engaged they are. An additional advantage is the unique ability to share only one window, rather than the entire screen; this gives the speaker something to focus on visually, without the researcher having to divulge their exact interests. The separation is particularly advantageous as it allows researchers to keep meta-comments on the session or to have access to other resources such as additional, filler tasks which they may or may not introduce depending on how the session progresses.

The biggest drawbacks of this technique relate to the use of the video-conferencing tools, both in their technical demands and in the comfort level of speakers with such software. Establishing a video connection depends on a strong, stable internet connection that cannot always be guaranteed and may be unrealistic for some situations. (See discussions of bandwidth needs in section 2.2.) There are additional challenges if speakers are not already familiar or comfortable with the use of such software. Speakers may not be comfortable installing or using such software; as recently reported by Leemann et al. (2020:12) as this led to a number of potential participants declining to participate in their study. Speakers may in particular be hesitant to use the video features of the software. In addition, while the built-in recording function of these video-conferencing tools can be useful, a member of the lab comments that it feels more intrusive than having a recording device present in in-person sessions. The use of such features will thus have to be considered on a case-by-case basis, with consideration of the technical and cultural backgrounds of individual researchers and speakers.

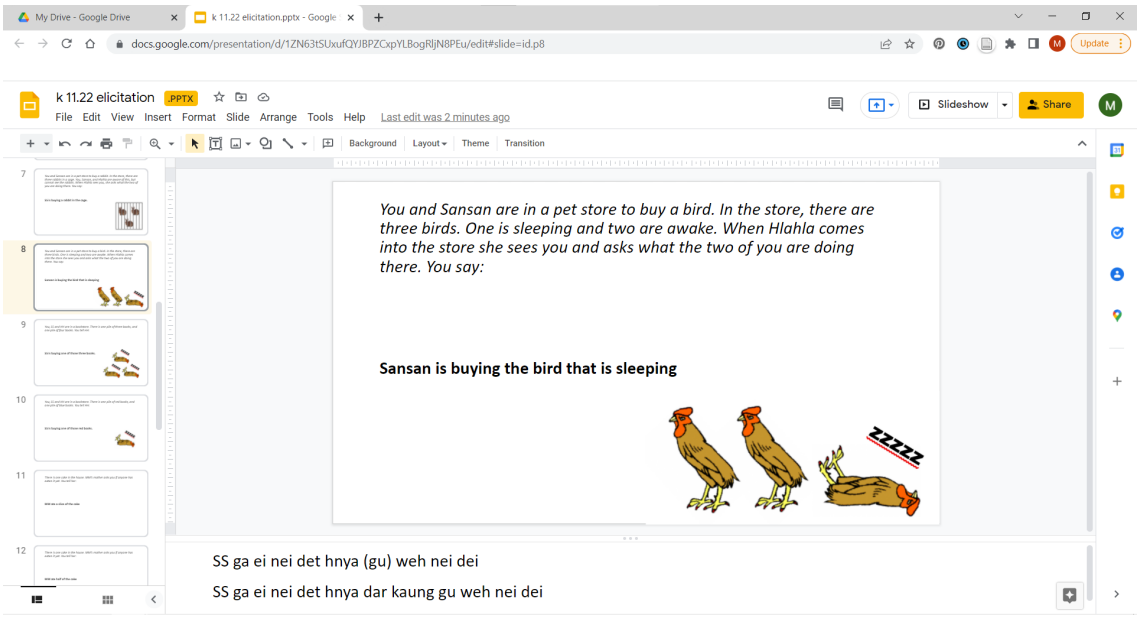
3.2 Synchronous audio with shared materials

Given that consistent use of synchronous video and screen-sharing as described in the preceding section is not always a realistic option, a worthwhile alternative to consider is synchronous audio elicitation supported by separately shared reference materials. This method has substantially lower bandwidth requirements than the use of full video-conferencing tools (see section 2.2), while retaining many of its advantages over the audio-only (phone call) method. In addition, it may require no new or unfamiliar tools for speakers, if they are already accustomed to making voice calls online

and if documents can be shared so they can be accessed simply via a web browser or email. This was the primary elicitation method for one member of the lab, while another would switch to this method only when they or their speakers lacked a more reliable internet connection that supported the methods described in the previous section.

There is some flexibility in how and when the supplemental materials are shared. They may be uploaded to a file-sharing application before the session so speakers can choose to download them and have their own local copy — thus requiring no internet connectivity beyond the audio connection (which could even be a phone call) during the session itself — or they may choose to access it online directly during the session. The session is then conducted entirely through the synchronous audio call with the researcher verbally walking speakers through the materials. Figure 5 is an example of the materials shared with the speakers.

Figure 5: *Supplemental online materials to accompany audio elicitations*



In the materials in Figure 5, the relevant context is in italics at the top of the slide, supported by a visual aid. The expression to be translated or judged is in bold in the center of the slide. The translated expression, is transcribed in the target language (here Burmese) in the notes section. Sharing these documents through a tool such as Google Drive (pictured here) offers the further possibility of continuously editing the documents during the session. Real time editing allows the researcher to make notes taken during the session visible to speakers or to present variants of particular contexts or expressions that were not pre-planned.

A clear benefit of this approach is the low bandwidth required for both parties, practically translating to fewer connectivity issues. Speakers are also more likely to be comfortable and familiar with this set-up given the ubiquity of voice calls. The addition of supplementary materials then aids in keeping speakers on task, and gives them something tangible that they can refer back to. Sharing slides, rather than a single continuous document, makes for easy reference to particular examples or contexts for speakers to focus on (e.g. ‘please go to slide 5’).

It is worthwhile to note that by sharing materials in this manner, as opposed to screen-sharing, the

researcher effectively gives up direct control over the presentation of materials. That is, speakers are free to go from page to page as they please, which may be an issue if working linearly and if strictly no backtracking or look-ahead is desired. In addition, if speakers have downloaded the materials to their device ahead of the session, further modifications cannot be made during the session, for example to present a variant of an example which occurs to the researcher during the course of the session.

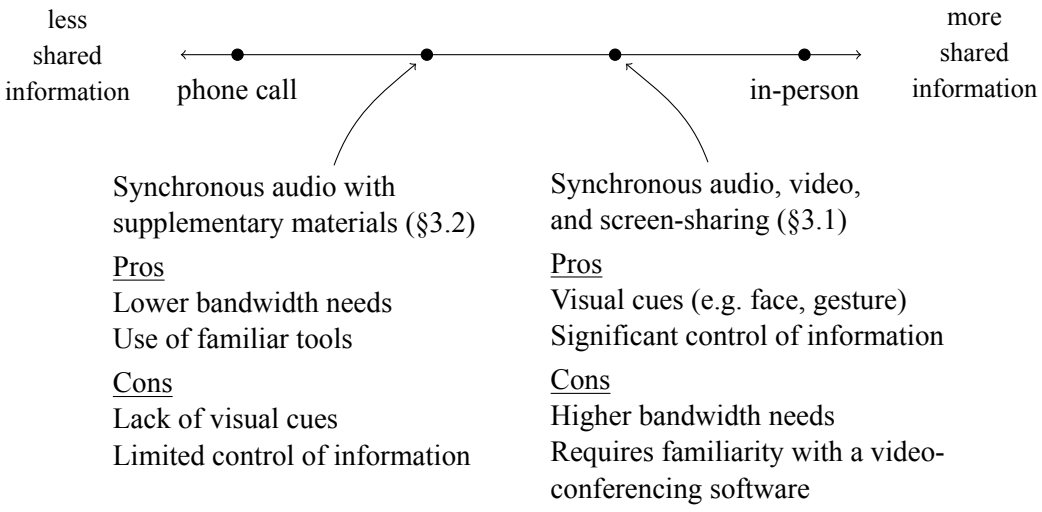
The greatest difference between this method and the use of a video conferencing software, as discussed in section 3.1, is the lack of bidirectional video feedback. This means the researcher is unable to access facial and other nonverbal cues of the speaker, which may communicate their reaction to a particular task or example, as well as overall information about their level of engagement and attentiveness during the session.[9] Lab members also reported that the lack of video can make the elicitation meeting feel less of a human interaction and instead more transactional. For these reasons, I suggest that the video-less technique described in this section would have the best chance of success when working with seasoned speakers that the researchers already have an existing relationship with, and who understand the researchers' goals and task types.

3.3 Summary of methods and experiences

This section details two methods for remote synchronous elicitation that were found to be particularly effective for our lab members over the past year. I offer these descriptions as two examples along a spectrum of different options, with different degrees of shared information between speakers and researchers. Again, I place our two methods approximately on this spectrum in Figure 6, with some key advantages and disadvantages of each method summarized below.

[9] At the same time, however, recent work by Tomprou, Kim, Chikersal, Woolley, and Dabbish (2021) shows that, in an online setting of joint problem-solving, participants "*without* visual cues [facial expressions] are more successful in synchronizing their vocal cues and speaking turns, and when they do so, they have higher Collective Intelligence," i.e. are more successful in their joint problem-solving (emphasis theirs).

Figure 6: *Our two example methods, with key characteristics*



Our lab members who have used both methods found no differences of note in the overall effectiveness of the full video-conferencing method versus the audio-only method with supplementary materials. The right choice between these methods or variations thereof will thus be largely dependent on the goals of one's research (what degree of shared information is necessary), one's technical environment, and the researcher–speaker relationship. And although I've discussed these methods to some degree in opposition, their use does not need to be mutually exclusive. Familiarity and proficiency with methods involving different tools and features, with different technical requirements and different degrees of shared information, will offer researchers maximal flexibility. In particular, the strength of network connections varies not just from place to place, but also from day to day. Fieldworkers can for instance default to video elicitations with speakers, but defer to an audio-only connection when the need arises, as has been the regular practice of one of our lab members. Designing elicitation plans and materials with such possibilities in mind allows us to flexibly employ these methods as appropriate.

I would however like to emphasize the advantage of both methods detailed here over the audio-only (phone call) elicitation method. As discussed above, the shared information made available by the use of supplementary materials — even if they are delivered as static reference documents — is extremely helpful for the needs of semantic fieldwork, where clearly establishing contexts of use is of paramount importance. Furthermore, even for the purposes of morphosyntactic description, visual materials help keep speakers' attention and can be useful for presenting data in writing to minimize miscommunication. For these reasons, all of our lab members who shifted to regular online data collection decided to share materials in some capacity, even if this was not a regular part of their process for in-person meetings in the past.

Minimally, most lab members chose to at least present example sentences in writing. It should be noted, however, that doing so also has the potential to introduce its own set of challenges. Having sentences available orthographically made speakers more likely to skim over them, requiring

researchers to put more care into prompting their speakers to actually say the target sentences out loud, as intended, and then carefully consider them. Another issue, less easily remedied, arises when the target language variety is a colloquial or stigmatized variety. Presenting examples in a written form, based on the experiences of our members working on Mongolian and Tibetan, would easily lead speakers to defer to what is considered prescriptively correct or correct in a written register, instead of judging the examples in terms of their naturalness in casual speech. Despite these considerations, lab members individually concluded that the pros of written presentation outweighed the cons for their research purposes.

What materials are shared ultimately depends on the goals and concerns of the individual researcher. Regardless, given the current technologies available, I would advocate for a shift away from audio-only remote elicitation and towards another point on this spectrum for remote elicitation.

4 Broader considerations

Now that various options for remote elicitation and their characteristics have been considered, we should step back and ask: How does remote elicitation, as a whole, compare to in-person elicitation? From the experience of our lab members, remote elicitation is a viable tool that may even be preferable to in-person elicitation under certain circumstances. However, a large caveat to this assessment lies in the particular goals of our research and the pool of speakers that our lab members have worked with.

First, I note that the work that is done in our lab has a relatively narrow, scientific focus, using elicitation data as our primary data source. If researchers wish to engage in more community-driven work or more holistic language documentation, the physically divorced nature of remote elicitations would likely pose a significant issue. I however remain unable to comment on the feasibility of such work based on our own experiences. Our work is also limited to the investigation of semantic and morphosyntactic phenomena, and thus has not necessitated high-quality audio recordings which would allow for fine-grained acoustic analysis.

Second, as mentioned in section 3, most of the speakers we have worked with remotely have been young. All were already very comfortable with computer-mediated interactions, making the transition to remote elicitation relatively seamless, and all have had personal devices that supported such work. Researchers in the lab have expressed hesitancy with using the same methods with speakers who are less technically inclined. While our lab members have been able to concentrate on working with more tech-savvy speakers with little detriment to our research, *SFM* editor Lisa Matthewson has emphasized to us that working with elderly or less technically adept speakers is a necessity for some communities. In such cases, she suggests recruiting help from other family or community members to teach or assist the more fluent speakers. Griscom (2020) also describes a similar process of training remote community members to carry out elicitation tasks within their community and outlines relevant considerations for such research.

Third, the relationship between researchers and speakers may be affected and in some cases limited by their ability to establish and maintain a relationship of trust through computer-mediated interactions. Our lab members report that their relationships with speakers who they have only met online have felt more transactional and limited to the task at hand. As many authors note, the building of trust with speakers is crucial for successful data collection, facilitating candid and more natural judgments and often more detailed comments about the language from speakers.

For this reason, a reviewer suggests that remote elicitation should perhaps only be attempted with speakers that one has pre-existing relationships with. While such cases do have a greater potential for creating a successful ongoing remote relationship, I hesitate to offer such a blanket prescription as it severely limits the speakers and languages that researchers could work with, and in our view also undersells the possibility of developing strong and productive working relationships with fully remote speakers. For instance, one of our lab members has had success in recruiting speakers in another country through word of mouth and working with them exclusively remotely; this has given the lab member the opportunity to conduct research with speakers they would not have been able to meet in person. While such fruitful, fully remote relationships are possible, I would encourage researchers to be extra attentive to the progress and status of these relationships.

Technical and environmental factors that are specific to remote elicitation also must be considered. All forms of computer-mediation generate latency, which is technology-generated transmission delay (Seuren, Wherton, Greenhalgh, and Shaw 2021). Seuren et al. (2021) highlight two outcomes of latency: silences where there should be talking and talking over each other due to issues with turn-taking. Noticeable silences exacerbated by latency can result in the perception of an interlocutor refusing to follow an instruction, or an indication of a dispreferred or non-straightforward response. This can also lead to difficulties in turn-taking, resulting in overlap. Such experiences were also reported by our lab members in their remote elicitation experiences. Extended pauses from speakers may affect the perceived confidence in a speaker's judgement, where it is unclear if the pause is due to latency, hesitation about the judgement, or uncertainty about the context. In contrast, overlap seemed to be less problematic, but could be distracting and may complicate later transcription and analysis.

Broader considerations regarding the strengths and weaknesses of remote work as observed during the Covid-19 pandemic (see e.g. Wang, Liu, Qian, and Parker 2021) also apply to remote linguistic elicitation. Our lab members have found that the lack of physical presence makes it easier for speakers to occasionally get distracted, even with the use of visual stimuli and materials, as discussed above. Additionally, it can be harder to control for environmental distractions that could disrupt a session, especially when speakers access sessions from home or another shared space. Not all speakers are able to guarantee a private space at an agreed-upon time.

Despite such challenges, there are clear reasons for researchers to develop proficiency in remote elicitation methods. The experiences of our lab members are again shared for illustration. Despite having regained the ability to meet in person at times, our lab members have continued to take advantage of remote elicitations for various reasons. For one, our members and consultants were all in the practice of traveling to a public location to conduct in-person elicitations. Being able to meet online instead significantly cut down on the time that had to be committed to participating in an elicitation session. One researcher cites this lowered barrier to participation as an opportunity to conduct shorter, but more frequent sessions with their speakers. Sessions have also been easier to schedule.

5 Conclusion

By necessity or by choice, familiarity with remote elicitation methods is an important tool for linguistic fieldwork in the 21st century. While remote elicitation necessarily results in the loss of shared presence that is traditionally a hallmark of fieldwork, we have found that these losses are not so detrimental to rule it out as a viable technique for linguistic elicitation. Remote synchronous elicitation

is not only possible, but has proven to be useful for our scientific purposes.

Concretely, I have described two different approaches which have proven successful in our lab as examples along a spectrum of possibilities, relating these methods to more traditional methods in linguistic elicitation. Each technique in this range of methods has its own characteristics and resulting considerations. They each differ in how comfortable they are to conduct for speakers and researchers, how well speakers' attention can be held, and how much is required technically from both parties.

Researchers must also consider how appropriate each method is for their own research goals and subfield. From our experiences, we see a primary contrast between semantic work, where being precise about contextual information is paramount, and phonological and morphosyntactic work which is much less sensitive to speaker knowledge and discourse context. As such, a researcher may prefer having more control over the materials through screen sharing and visual cues from the speaker through video conferencing for semantic work. However, regardless of the type of work, the degrees of shared information and presence required ultimately depends on the preference and comfort of both the researcher and the speaker. I hence would recommend researchers develop a practical familiarity with the spectrum of different technical options now available and to then choose a style of remote elicitation that is most suitable to their research.

Although being limited to only remote elicitations is certainly a disadvantage, having it as an option in conjunction with, or as a supplement to, in-person elicitations is ultimately a gain. It aids in maintaining relationships with speakers when researchers are not in the same location and may be a way to initiate contact with speakers who are in locations that are otherwise inaccessible to the researchers. The possibility of remote elicitation also has the potential to significantly extend the researchers' reach. Having developed proficiency with these methods, members of our lab have now been more open to meeting with speakers in different countries; while location would have been a limiting factor before, this is no longer the case. Some research topics, such as working with disparate members of a diaspora population (see Kaufman and Perlin 2018), may in fact be uniquely facilitated by regular remote elicitation.

Different individuals will have different levels of comfort with remote elicitations, but whether it becomes a fixture in a researcher's process or not, these options and their trade-offs are things that I suggest field semanticists should have at their disposal.

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