

HELSINGIN YLIOPISTO

Interruption and
Uncooperativeness in
Academic ELF Group Work

An Application of Linear Unit Grammar

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1 Introduction

In the recent years of research into English spoken as a lingua franca (ELF), a general finding has emerged in which ELF users display a cooperative orientation to the co-construction of effective communication. This is not, however, always the case, and ELF research has focused less on interaction in which participants display an uncooperative or contentious orientation. In the course of my own ELF field work in November 2009, I recorded a series of academic ELF group work sessions which challenged my preconceptions of cooperative ELF users. The participants met over six, 1.5-hour sessions to prepare a scientific group presentation for a course in the University of Helsinki. I observed and recorded sessions two through six, and I was struck by the participants' high levels of individual fluency as well as their struggle to reach a consensus and common direction for their project. In fact, they demonstrably failed to achieve this. One course evaluator who was not present for the planning sessions noted that the final presentation "showed that the group had not reached an agreement or common conclusion on what they had discussed and worked on."

A prominent part of the group's uncooperative orientation was their competition for speaking turns, often interrupting each other in their bids for the floor. This was an interactive feature I had not encountered before in ELF research literature, which typically underscores the cooperative co-construction of discourse. Björkman (2011) provides a review of this literature in her study of pragmatic strategies used to maintain effective communication. Other researchers such as House (2010) have shown how pragmatic strategies are used to cooperatively negotiate meaning and make interaction "normal," as discussed in an early ELF study by Firth (1996). In studies of academic ELF discourse, strategies such as as rephrasing, topic negotiation, and discourse reflexivity have been described (Mauranen 2007). These efforts toward

comprehensibility demonstrate a strong other-orientation, with participants proactively working to prevent misunderstanding before it occurs (Mauranen 2006; Kaur 2009).

This range of cooperative discourse features bears implications for the concept of fluency, especially group-level or dialogic fluency (Hüttner 2009). As an observer to the group work data in this study, I perceived the individual participants to be highly proficient and fluent speakers from a monologic perspective. However, their interruptiveness and turn-taking practices suggested a group-level dysfluency. McCarthy (2009) has highlighted the role of turn-taking as a feature of interactive fluency, or confluence. He proposes that attention to turn openings and closings in interaction are centrally relevant in assessing “the co-creation of fluency in a conversation rather than the fluency of an individual speaker” (ibid.: 19). This is not a question of politeness, but efficiency, as smooth turn-taking enables the “orderly commerce” of interaction, especially with the goal-oriented focus of institutional talk (Schegloff 2000: 1; Heritage 2004). The starting point for this study, therefore, is recognition that turn-taking and interruption bear tangible effects for the participants in their ability to negotiate, plan, and implement a jointly constructed and delivered presentation.

By the time of the sixth and final planning meeting, the effects of their uncooperative interaction were clear for the ELF users in this study. Ahmed,¹ a student from Iran, was seated at the classroom computer, making revisions to the group’s Powerpoint slides based on input from the other members. When he encountered difficulty formulating the suggested changes, a Finnish group member offered to come and make the changes herself (*do you want me to come and write?*). Ahmed remained at the computer, however, and still did not address the group’s recommendations. This elicited a loud sigh from Satu, the Finnish female, who began walking toward the

¹ All names have been changed to preserve anonymity.

computer while a group mentor suggested Satu should take Ahmed's place. As Satu approached the computer, Ahmed stated "you know what you want to write," stood up, and walked out of the room. What happened in the previous group meetings that led up to this display of disharmony? This study seeks to investigate the formative stages of the group's interactive practice, with attention to their tendency to interrupt each other, compete for turns, and exhibit uncooperativeness suggesting group-level dysfluency. I employ a hybrid methodology of Linear Unit Grammar and Conversation Analysis (CA) to examine the group's turn-taking practices, with a focus on assessing interruption.

2 Theoretical background

Although the data for the study is drawn from academic ELF group work, the theoretical foundations are based on two previously unassociated approaches, viz. Linear Unit Grammar, or LUG, developed by Sinclair and Mauranen (henceforth SM 2006), and the prolific research tradition of Conversation Analysis (CA). This section discusses the most relevant aspects of these approaches to how speaking turns are developed. Moreover, I propose that LUG analysis is well-suited for forming the descriptive basis of a CA investigation of turn-taking and interruption. The concept of projectability or prospection serves as a crucial link between these two methodologies. Insofar as prospection is a key factor in this study of interruption, I will further consider LUG's contribution to modeling CA's "turn-constructive unit," or TCU (Sacks et al 1974). Finally, a review of earlier attempts to analyze interruption reveals the need for a new methodology.

2.1 Linear Unit Grammar (LUG)

The LUG system might be summarized as a method of analyzing text as a linear succession of chunks of language. It constitutes a bottom-up description of speech and writing based on the analyst's intuitive judgments about where the boundaries of chunks occur and what role they play in the development of meaning (SM 2006: 9). Though LUG is primarily addressed to the grammar of speech, the model is based entirely on data in written form, including transcriptions of speech, without consulting any audio recordings (ibid.: xx). The analysis begins by assigning Provisional Unit Boundaries (PUBs), which demarcate the boundaries of chunks. There is no attempt to define these chunks, as they are treated as a pre-theoretical term (ibid.). There is also no limit on the number of words in a chunk, though the maximum seems to be about five words (ibid.: 15). A measure of variation is assumed between the chunking of different analysts, but a

systematic series of analytical steps determines chunk classification. In other words, chunking is approximate, but classification is precise (ibid.: 134). The classification process consists of a series of binary, step-by-step decisions constituting a first-order Markov model (ibid.: 51).

Appendix A (based on SM 2006: 154-156) contains a visual summary of the series of binary choices which make up the LUG system of analysis. The **orientation** of the chunk divides it into action-oriented, organizing chunks (group 1 in Appendix A and Figure 1 below) or message-oriented chunks which increment the shared topic (group 2; SM 2006: 71-78). In the following extract from the ELFA corpus (ibid.: 75), a speaker replies to a question of whether someone who can't speak Estonian can get a job in Estonia. The left-hand column shows the division of chunks into organizing O chunks and message-developing M chunks:

O	well
O	i think
M	in certain areas
M	you can
O	but
O	for example
M	in service
M	you can't

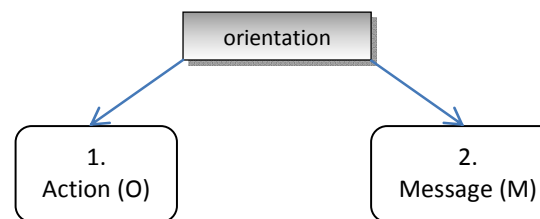


Figure 1: analysis of orientation

The action-oriented O chunks are further divided according to **focus** into those which organize the interaction (OI, group 1.1 in Figure 2) and those which organize the text (OT, group 1.2). OI chunks include filled pauses (*er, erm*), minimal backchannels (*mhm-hm, mhm, okay*) and discourse-oriented chunks like *i think* and *i guess*. Text-oriented OT chunks include conjunctions (*and, or, but*), subordinators (*that, which*), and organizing chunks such as *however, therefore, on the other hand*. Taking these distinctions into account, the extract reproduced above now looks like this:

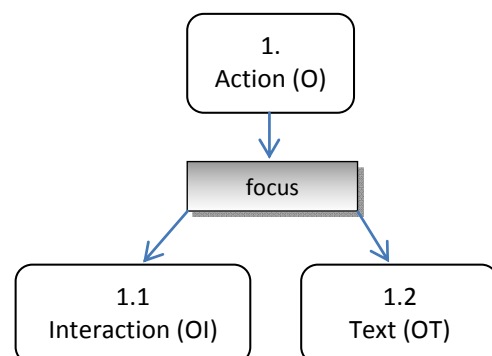


Figure 2: analysis of focus

OI well
 OI i think
 M in certain areas
 M you can
 OT but
 OT for example
 M in service
 M you can't

The message-oriented M chunks function as an “incrementation of the topic, or shared knowledge” (SM 2006: 60). Classifying the M chunks is a more complex task, as their **status** is first evaluated for completeness. A core M chunk (group 2.1, Figure 3) does not prospect an additional completion, though it may not always correspond to a

“complete sentence.” For example, a speaker may introduce a topic with a simple noun phrase as a complete M chunk and then refer back to it with a pronoun in the following chunk (ibid.: 79-80). All other M chunks which are not intuitively complete are classed as qualified (group 2.2). Drawing

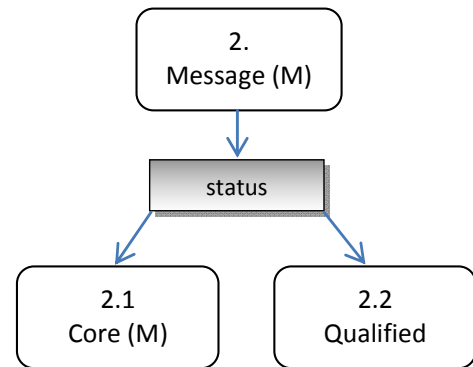


Figure 3: analysis of status

again on the example reproduced above, the M chunks *you can* and *you can't* constitute complete incrementations of meaning, while *in certain areas* and *in service* each anticipate something more to reach completion.

Insofar as the core M chunks are complete units of meaning, there is no further classification needed. The next step is to analyze the qualified M chunks for **linear expectation**, or whether they prospect a complete element (SM 2006: 155; Figure 4 at right). The M chunks which do anticipate a further completion are classed as prospecting (group 2.2.1), while those

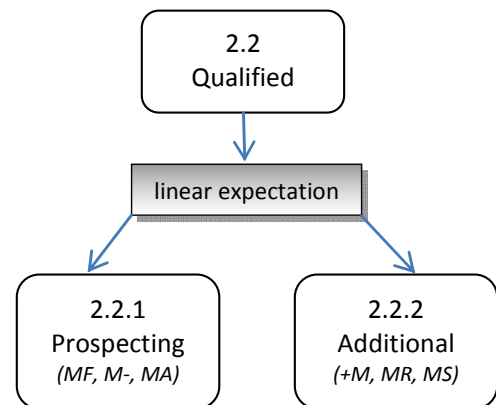


Figure 4: analysis of linear prospection

chunks which do not prospect further completion are categorized as additional (group 2.2.2). These additional, non-prospective M chunks include the completive +M (discussed below) as well as message supplements (MS), which further elaborate a complete M chunk. The MS chunk is often an adverbial of time and place or a prepositional phrase, as in the following extract from the Lexis corpus (SM 2006: 84):

M WE CROSSED TO DENMARK
 MS IN THE MORNING
 OI I REMEMBER
 MS FROM HAMBURG TO GEDSER

Lastly, a reformulation of a preceding M chunk is classed as an MR, or message revision. It does not increment the topic in itself, but rather rephrases an already established topical increment from the preceding context (SM 2006: 85-86). As such, the MR is also grouped as an additional M chunk. Sometimes a message revision appears as a verbatim repetition, while other MR chunks may reword a preceding M chunk, as in the Lexis corpus extract reproduced below (ibid.: 85):

M A: IT WAS POURING WITH RAIN
 OI B: OH DEAR
 MR A: ABSOLUTELY POURING WITH RAIN

If a qualified M chunk prospects a further completion (group 2.2.1), it is again evaluated for **substantialness** to determine “whether a sufficient amount of text has been uttered to make it necessary to retain it as part of a topic increment” (SM 2006: 155; Figure 5 at right). An insubstantial M chunk is a message fragment (MF, group 2.2.1.2) and is typically left unresolved as a speaker reformulates and moves on to a new M chunk altogether (SM

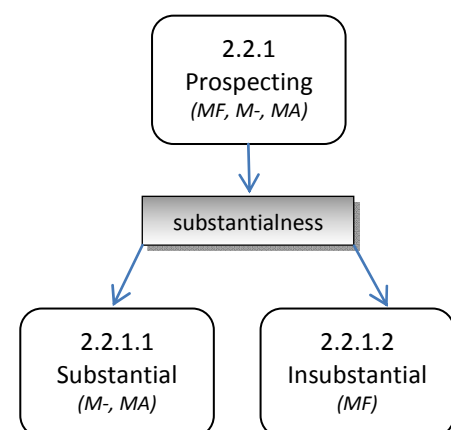


Figure 5: analysis of substantialness

2006: 80-81). The following extract (ibid.: 81) from the Lexis corpus illustrates these insubstantial MF chunks:

MF IT
 MF WE
 M WE CROSSED TO DENMARK

As seen in this example, an MF such as *IT* can be abandoned before any clear direction of the utterance is given. The second MF instance – *WE* – is not developed, but is repeated in the complete M chunk which follows.

Unlike the insubstantial MF chunks, the substantial prospecting M chunks (group 2.2.1.1) strongly prospect a completive part, anticipating a continuation while making a “propositional contribution” to the developing topic (SM 2006: 82). This incomplete M chunk is annotated as an M- (pronounced “M dash”). Unlike the fragmentary MF, which does not make a substantial contribution to the shared knowledge, the M- gives the impression of a topical increment in progress. The completive part prospected by the M- is contained in the +M, the non-prospective, additional chunk found in group 2.2.2 (ibid.: 83; see Figure 4 above). The M- and +M pairs may or may not be contiguous, as in the following extract from the ELFA corpus (SM 2006: 83):

OI erm
 M- if you have a direct contact
 +M with the people
 OT and
 M- you don't have
 MF s-
 +M efficient Estonian

Though the first M-/ +M pair appear consecutively, the second pair has an intervening MF chunk. Organizing (OI/OT) chunks also commonly appear in this position.

Lastly, the second type of substantial, prospecting M chunk is the message adjustment, or MA chunk. This chunk differs only slightly from an M-. Both prospect a completion by a +M, but the MA chunk is partially reformulated in a succeeding completive chunk (SM 2006: 84). The following ELFA corpus extract (ibid.) illustrates this difference:

MA it was a famous Estonian tele-
 +M- television
 OI i don't know
 +M reporter
 OI or something

Unlike the M-/ +M pair, the rephrasing creates some overlap between the MA and its completive +M. This example also shows the final category in LUG analysis, the combination element +M- (ibid.: 86). This chunk combines both the +M and M- functions, as it increments a previous MA or M- while still prospecting a further completion. Taken together, the LUG classification scheme is a robust method of analysis which is capable of handling the fuzzy boundaries and fluidity of spoken interaction. It also attempts to deal with authentic, naturally-occurring spoken data in a way that is faithful to the original event. In this respect, the orientation of LUG is similar to a CA methodology, which also strives for a faithful textual representation of spoken interaction. The discussion now turns to other points of convergence between LUG and CA.

2.2 LUG & Conversation Analysis (CA)

The clearest point of convergence between LUG and CA is their appreciation for the forward-looking, prospective aspect of real-time interaction. LUG's analytical premise is that the analyst can only consider what participants could know at the point of inquiry. Elements are labeled "as they occur in linear sequence, with implications for what happens next but without reliance on it" (SM 2006: 53). In other words, LUG analysis, like online language processing, is strictly prospective. Any retrospective analysis is therefore not allowed, such as when an analyst might look ahead in a transcript to see what a speaker *intended* to say just after a point of overlapping speech. Schegloff seems to agree, as he says that the analyst determining potential transition points, just like the participants to talk-in-interaction, should be prospectively oriented

and resist the temptation to work backward (1996: 82). As a result, analytical decisions are maximally a reflection of temporal online processing. The judgments for chunk classification “are largely determined by the state of the text at the time of choice” (SM 2006: 156).

Considering this shared focus of LUG and CA, it is no surprise that CA literature seems to anticipate a model of grammar such as LUG. The editors of *Interaction and Grammar* (1996) contemplate a “re-theorized grammar for interaction,” though they don’t try to integrate their observations into existing linguistic models (Schegloff et al 1996: 23-24). Though there was no credible alternative available at the time, Schegloff offers further intimations of LUG with vague terms for the units of talk, such as “bits,” “elements” and “bits of elements” (1996: 100). The strongest intimation of LUG, however, comes from Ford & Thompson (1996: 144), who indicate their “syntactic completion points” with slashes that correspond almost exactly with PUBs. The principles of incrementation and prospection again come to the fore, as a completion point “is judged incrementally within its previous context” (ibid.: 144). Throughout Ford & Thompson’s article, my own LUG analysis of these completed units mapped precisely onto their delimited chunks. They were clearly employing the same intuitive chunking mechanism proposed by Sinclair & Mauranen.

Like the developers of LUG, the editors of *Interaction and Grammar* (1996) respect the contributions of existing grammatical theory, but wish to start from “the material with which we believe grammar must come to terms” (Schegloff et al 1996: 27). Insofar as the LUG model was primarily built from transcriptions of spoken interaction, it reflects the CA concerns. In the first place, LUG analysis accommodates the fuzzy boundaries of natural language, which is “not a sharp instrument with absolute or rigid boundaries, but is blurred at the edges” (SM 2006: 61). But this leads to a point of divergence between LUG and CA, which employs a fine-grained, microanalytic

transcribing technique. LUG is instead practically-oriented, making the best out of the available data and resembling the imperfections and limitations of real-life interaction (SM 2006: 61). Participants in interaction don't enjoy the microanalytic possibilities of a meticulously transcribed CA extract, and the present study reflects this fact. In the effort to incorporate as much spoken data as possible, I have adopted the conventions of the SELF Transcription Guide (2009). This approach annotates overlapping speech only to the nearest full word, further allowing for the fuzzy boundaries of language in interaction.

With this less fine-grained approach comes a greater possibility of incorporating a corpus methodology. Larger amounts of annotated discourse might reveal frequency distributions of various interactive phenomena. However, unlike the type/token counts of corpus linguistics, discourse features must be identified in advance. As stated by Schegloff (1993: 102, author's emphasis):

...in examining large amounts of data, we are studying *multiples or aggregates of single instances*. Quantitative analysis is, in this sense, not an *alternative* to single case analysis, but rather is built on its back.

This quote is glossed by Ten Have (2002: 145) as placing greater emphasis on a qualitative pre-analysis of single instances, which enables a meaningful inquiry into their aggregate occurrences. When creating an annotation scheme for interactive features, Ten Have advocates the same sort of bottom-up modeling employed in the development of LUG, in which the analytical framework is developed in the course of analysis, allowing a data-driven sensitivity and responsiveness (ibid.: 150). Most importantly, Schegloff (1993: 116-117) posits a "return to the data," meaning that the aggregate occurrences of a feature should prompt a renewed analysis of single incidents, shedding light on the phenomenon at both levels. This has been the overarching goal of this study, which begins with a case-by-case analysis of

interruption, moves to evaluate its aggregate occurrences, and concludes with a detailed qualitative study informed by these statistics.

2.3 Completion & Turn Constructional Units (TCUs)

Before beginning a study of aggregate occurrences of interruption, the challenge arises of how to identify its individual instances. This question centers on the more fundamental issue of turn-taking. Like topic development, Schegloff conceives of turn-taking as a real-time incrementation (1996: 55). He acknowledges the linearity of turn construction, as each unit “requires design by reference to the immediate sequential context,” including both the immediately preceding talk and the projected talk (Schegloff 1996: 76, 81). These turn-constructional units, or TCUs, are thus “directional,” oriented toward “possible completion” (ibid.: 82). In these respects, the TCU seems to correspond with an M chunk in LUG, which can also be a complete turn with possible (but not necessary) transition to another speaker (Schegloff 1996: 55). This question of determining completion proves to be crucial for a study of interruption.

When Sacks, Schegloff and Jefferson presented their seminal turn-taking model (henceforth SSJ 1974), their description of the TCU resembled the description of chunks in LUG. The various types of TCU “allow a projection of the unit-type under way, and what, roughly, it will take for an instance of that unit-type to be completed” (SSJ 1974: 702). This principle extends beyond M chunks, however, as Schegloff notes that a complete TCU can be an OI chunk such as “oh yeah” (1996: 59), and filled pauses such as “uh” (also OI) are “among the elements from which a TCU is constructed” (ibid.: 100). While various non-sentential unit types are proposed as TCUs (SSJ 1974: 721), the primary unit is still based on the written form as “sentential constructions” (ibid.: 709). Indeed, there is no precise definition or exhaustive taxonomy offered for TCUs, but “whatever the units,” they all have projectable points of completion (ibid.: 720).

Ford & Thompson (1996: 144) acknowledge that SSJ (1974) do not offer any criteria for identifying TCUs. However, the uncertainty surrounding the TCU still points in the direction of the elements of LUG. Schegloff sometimes treats the TCU as an independent unit and other times as “extensions” of a preceding TCU (1996: 59). In other words, he is making the same distinction in LUG between a complete M chunk and a finished utterance, which may contain one or more additional MS chunks as extensions (SM 2006: 136). As with the *Interaction and Grammar* chapter by Ford & Thompson (1996), I performed LUG analysis on the extracts discussed in Schegloff’s chapter within the same volume. Though he doesn’t chunk his extracts, he seems to recognize MS chunks as TCU extensions (Schegloff 1996: 73-74). Likewise, he later analyzes MS and MR chunks as “add-ons” to a TCU which had apparently reached a completion point (ibid.: 90-91). A final LUG feature identified by Schegloff is the MA|M sequence in which part of an M chunk undergoes adjustment and is partially incorporated into its reformulation (SM 2006: 84). He describes these chunk sequences as “insertions” within a TCU, though his description lacks the simplicity and clarity of LUG analysis (Schegloff 1996: 77-78).

The robustness of the LUG model is further supported when intonational data is considered. In their study of completion points, Ford & Thompson (1996) annotated the ends of intonation units, treating a rising or falling pitch as an intonational completion point. They found from their 20 minutes of data that 98% of intonational completion points are also syntactic completion points (ibid.: 154-155). In other words, these intonationally complete units mapped directly onto their chunked units, which in turn mapped directly onto the elements of LUG. Additional intonational evidence supporting LUG completion points was found from the Hong Kong Corpus of Spoken English, or HKCSE (Cheng et al 2008). A transcription from this corpus was used in developing the LUG model (SM 2006: 115-116), and a later study on discourse intonation in

HKCSE analyzed the same transcription for tone unit boundaries, seeking correspondence or divergence between the tone units and LUG chunks (Cheng et al 2008: 77-78).

This comparison found that the 35 LUG chunks in the extract contained 32 tone units, with 26 of the 32 tone units corresponding identically to LUG chunks (Cheng et al 2008: 78). This led the authors to conclude that “the closeness of these totals suggests that there is one chunking process at work, rather than two” (ibid.). Examining the correspondence from the opposite direction, they found that LUG analysis predicted the tone unit boundaries with 74% accuracy (ibid.). Further support for the validity of LUG analysis came from examining backchannel behavior. Cheng et al (2008: 80) found from HKCSE data that backchanneling typically occurred after complete M chunks which corresponded to tone unit boundaries, suggesting a correlation with the findings of Ford & Thompson (1996) and supporting the robustness of LUG for analyzing spoken discourse. More importantly for this study, LUG provides a sound analytical framework for identifying potential completion points. These related issues of prospection and completion points – and how interactants orient to these features – are of primary interest for a study of interruption.

2.4 Interruption

Even with a clearer picture of how to determine potential completion points, the question of how to identify interruption proves to be even thornier. The discussion should begin with the fact that “interruption” is not a linguistic term. As pointed out by Schegloff (2002: 297-298), interruption is primarily a vernacular or folk linguistic term, and vernacular conceptions of interruption are an insufficient basis for professional analysis. We may observe that someone starts to talk when another is talking or a first speaker stops due a second speaker’s startup, but these alone are not sufficient criteria for interruption (ibid.). In Schegloff’s (2002: 301) view, interruption is primarily a

vernacular term of complaint, and he questions how a researcher can objectively analyze a potential interruption for “complainability.” The difficulty begins with the problem of identifying individual occurrences of interruption.

2.4.1 Problems of identification

One of the earliest attempts to apply structural criteria to a study of interruption was carried out by Zimmerman and West (1975). They identified interruption exclusively with overlapping speech, which was treated as unproblematic if it was contained within the last word before a point of completion and transition place; if the overlap reached to the word before the last word, then it was classed as an interruption (Zimmerman & West 1975: 114). This approach has been widely criticized (e.g. Murray 1985), but there are two main problems in relation to the present study. First, there is no attention given to what preceded the overlapped words in relation to the incrementation of meaning. Second, the determination of how many words would have been spoken if overlap had not occurred requires a retrospective analysis. As already discussed above, this involves information not available to participants, who are responding to the state of an utterance prospectively, as it develops.

As for the question of completion points, Zimmerman and West used their “intuitive knowledge” of English to determine possible completion points, but no systematic criteria were used apart from vague references to written forms such as sentences (1975: 114, 126). They later amended their interruptive criteria to an overlap of more than two syllables away from a completion point (West & Zimmerman 1983 in Okamoto et al 2002: 40). Later researchers have adopted this approach, such as Smith-Lovin & Brody (1989). They also employ Zimmerman and West’s “intrusion” framework, but further identify “successful” interruptions – when the initial speaker is prevented from completing a turn – and “unsuccessful” interruptions, meaning the initial speaker continues her turn to a completion point (Smith-Lovin & Brody 1989:

428). As pointed out by Murray (1985: 32, 35), these criteria are essentially mechanical, distinguished only by the duration of simultaneous speech. Moreover, he argues that simultaneous speech is not even necessary for interruption to take place, a point with which Schegloff concurs (Murray 1985: 32; Schegloff 2002: 295).

In an effort to challenge these assumptions, Murray and Covelli (1988) reproduced Zimmerman and West's (1975) initial study with more data spread over different speech events. In contrast to Zimmerman and West's finding that men typically interrupt women, Murray and Covelli found that women interrupted more than men, regardless of who was interrupted. This result served as support for Murray's earlier criticism: "There are no absolute syntactic or acoustic criteria" for determining possible completion points, neither for participants nor analysts (1985: 33). Instead, Murray gave analytical priority to participants' judgments of severity, which depend on a speaker's ability to make a "point" (*ibid.*: 35). For example, being interrupted before making the first point in a speaking turn is more serious than being interrupted after making at least one point (*ibid.*). Though Murray makes no attempt to define a point, his idea seems to resemble in the terms of LUG a complete M chunk, or complete incrementation of meaning.

Murray's (1985) main contribution to this debate is his insistence on a more contextually sensitive approach to analyzing interruption. He argues that individual instances of interruption cannot be evaluated apart from the broader interactional history, including whether the interrupted speaker gets a chance to complete her thought or point (*ibid.*: 34). He posits a scale of severity, the quality of which "cannot be determined by examining merely the immediate environs of simultaneous speech," (*ibid.*: 37). Yet, there is evidence that the mechanical approach of Zimmerman and West (1975) and Murray's (1985) emphasis on participant recognition are not mutually exclusive. An experiment by Okamoto et al (2002) compared the results of the

mechanical Zimmerman and West analysis of interruption with coding by “culture experts” (i.e. participants in the community under scrutiny) without any objective criteria. They found the results “correlated highly enough to measure the same phenomenon by conventional measurement standards,” though the individual coders without objective criteria varied significantly between each other (Okamoto et al 2002: 51).

These findings suggest a kernel of truth in each of these approaches. While the mechanical, retrospective measurement of overlap is clearly inadequate for a detailed analysis, the interest in capturing turn-taking practices around points of completion is sound. However, the attempt to identify individual occurrences of interruption is incomplete without a contextually situated analysis. The question perhaps is not which approach is better, but how the two can best be combined in a manner which is both methodologically rigorous and as faithful as possible to the real-time experiences and interactional history of the participants. Analyzing a large amount of interactive data for instances of interruption “requires an efficient, reliable definition that can be applied systematically” (Okamoto et al 2002: 42). In other words, a model is needed which enables systematic analysis, but which more closely reflects the online perceptions and orientations of the participants. It is perhaps no coincidence that, like Ford and Thompson (1996), Murray (1985) also chunks his transcriptions with slashes mapping closely to my own LUG analysis.

2.4.2 Speaker orientation

As is the case with completion points, the question of participant orientation is also central to Conversation Analysis. Hutchby (2008: 223) has emphasized the centrality of speaker orientation for studying interactants’ understandings and intentions, especially in connection to interpretably impolite acts such as interruption. He claims that the principal way to establish the “moral dimension” of interruption is if it is explicitly

referenced as such by the participants, for example, by saying “I haven’t finished” (ibid.: 227). However, Schegloff (2002) argues that the issue of speaker orientation to interruption concerns complainability, but not necessarily an overt complaint. He points out that speakers can orient to potential interruption without explicitly referencing it, and speakers may also orient to their own interruptions as complainable, for example, by saying “sorry” (Schegloff 2002: 304).

Speaker orientation may also be indicated by features more subtle than a direct reference. In addition to interruption as a locus for speaker orientation, the instances during and after overlap are also opportunities for gleaning speaker orientation (Schegloff 2002: 300). According to Schegloff (2000: 24), much overlap results from minor turn-taking “miscues” with “little interactional investment,” although the extension of overlap in a competitive sense may demonstrate the parties’ orientation to the interaction. He further asserts that competitive overlap is rare and most overlap is resolved by the third “beat” or syllable (ibid.: 24, 29). Insofar as this is not the case in my data, the treatment of overlap by participants is a likely source of valuable speaker orientation. Moreover, Schegloff (2000: 11-12) outlines the range of responses to overlapping speech, namely “hitches” (sound stretch and repetition of words) and “perturbations” (louder speech, higher pitch, and a faster or slower pace). In particular, this study will incorporate the vocal perturbations of louder speech and increasing the speaking pace in overlap.

2.4.3 Turn-taking & culture

Insofar as this study is based on intercultural ELF data, a final consideration concerns the role of culture in turn-taking and interruption. It is not the intent of this research to re-evaluate the Sacks, Schegloff and Jefferson (1974) model of turn-taking nor question the soundness of widely accepted terminology such as “turn” and “floor.” However, the question remains of whether a turn-taking model developed by North Americans using

native-speaker data can be extended to an intercultural, lingua franca speech event. The fundamental premise of the SSJ model is speakers' tendency to minimize gap and overlap at transition relevance places (SSJ 1974: 704), and empirical research suggests this is a culture- and language-independent preference in interaction. In a large collaborative study, Stivers et al (2009) compared naturally occurring data from 10 languages to identify language-specific tendencies toward overlap and silence at turn transition points. They found a negligible difference, with the largest deviation held by Danish speakers, whose gaps at turn transition were 250 milliseconds longer than the cross-language average – the time it takes to utter a single syllable (ibid.: 10591).

Generally speaking, I find the SSJ model of turn-taking to be agreeable in a multicultural ELF context, if only as a skeletal framework. There is, however, a range of pejorative and culture-bound assumptions in the model which may safely be dispensed with. For example, in point 14 of their “grossly apparent facts,” SSJ employ analytically unnecessary deficit terminology for turn-taking “errors” and “violations” while treating any overlap as “trouble” in need of “repair” (1974: 700-701). Moreover, the authors' culture-specific biases introduce a moral quality to interaction. Speakers are “entitled” to one complete TCU in each turn (ibid.: 703), and at a transition-relevance place (TRP), “first starter acquires rights to a turn” (ibid.: 704). These observations are better framed as tendencies or general routines, but not as “rules” or “rights” as though interactants are engaged in a sporting event. After all, these tendencies are regularly flouted without even being noticed. Other culture-bound features include the prescriptive use of modality – speakers “may,” “may not” and “must” do such and such in interaction (e.g. SSJ 1974: 705). The language of purity and defilement also turns up, as a benefit of the model is that a speaker's turn is “cleansed” of gap and overlap (ibid.: 706). Finally, silence is portrayed negatively, as gaps between turns are treated as “discontinuities” or “lapses” (ibid.: 714).

These terminological choices seem to be disposable without affecting the descriptive integrity of the turn-taking model. As for the model itself, SSJ mention a “bias” in their turn-taking system which seems culturally specific, namely that the previous speaker has a special right to reclaim the floor after current speaker (1974: 708-709). They claim this bias is external to the model itself, but that it derives from the tendency of listeners to initiate repairs at the end of a speaker’s turn, which returns the floor to the prior speaker for clarification (ibid.). However, this “bias” may not operate as strongly in ELF interaction. A related assertion by SSJ (1974: 724) clearly does not apply:

...repairs by other than current speaker are not done until a turn’s completion, respecting the turn-taking system’s allocation of rights to a turn even where repair is found necessary.

The readily observed phenomenon of collaborative completion in ELF flouts this supposed truth while underscoring the cooperation typical of ELF interaction. Another speaker commonly supplies a word or phrase mid-turn without any attempt to take the floor, but as an enabling technique for the current speaker to continue her turn more fluently (Mauranen 2006).

In addition to these qualifications of the SSJ model, this study intentionally avoids any intercultural communication (ICC) framework, instead focusing strictly on linguistic and interactive features independent of culture-based speculation. Schegloff’s (2002: 307-309) criticism of gender-based studies of interruption also applies to interculturally based studies, as there is no definite way to determine which membership categories (e.g. gender, age, culture, L1) are informing interruptive behavior. Moreover, ICC studies suffer precisely because of their neglect of linguistic issues. Piller (2007) has argued that in the ICC approach to communicative problems, culture is the presumed source of all trouble with little attention given to linguistic factors, when in fact the problem may be language-based. This study thus avoids the culture-centrism of

ICC, focusing instead on developing a linguistic methodology for studying interruption which is applicable to any group of speakers.

3 Research Design

This study seeks to build on the common ground between LUG and CA to develop a systematic yet contextually sensitive methodology for analyzing interruption. The remainder of this paper will focus on three research questions:

1) How can Linear Unit Grammar be applied to identification of individual occurrences of interruption?

2) What do the aggregate occurrences of interruption reveal about uncooperative practices among members of academic group work?

3) What other linguistic and interactive features co-occur with interruption to influence perceptions of interruption and uncooperativeness?

3.1 Group work data

The data employed in this study was drawn from an advanced studies (MA-level) course entitled “Conservation Biology in Fragmented Landscapes” at the University of Helsinki. The course consisted of a series of lectures interspersed with six group work sessions in which course participants designed a Powerpoint-based scientific presentation. The presentation would be delivered to peers and instructors at a weekend conference organized at the conclusion of the course. In addition, the five groups were determined by course organizers, so the participants had no control over their own group’s composition. I was not present for the course lectures, but I attended and made audio recordings of a selected group’s planning sessions as a research assistant in the Studying in English as a Lingua Franca or SELF project, directed by Professor Anna Mauranen in the University of Helsinki (www.helsinki.fi/elfa/self). I was present as an observer for group work sessions two through six, which constituted eight hours of group work. My general impressions of interruption and uncooperativeness, therefore, were based on a deep familiarity with the group’s interactive practices.

I was not present for the group's first meeting, which consisted mainly of the group mentors (selected from senior Ph.D. students) presenting introductory information on the group's topic – woodland key habitats as a conservation tool in Finland. This study is based on a detailed transcription and analysis of the second group meeting, which lasted 1.5 hours. It was during the second group meeting when the student participants took charge of their preparation and began to negotiate the scope and direction of their group presentation. Each participant had researched and read articles on woodland key habitats in preparation, and the task at hand was to begin consolidating their collective knowledge and interests into a coherent presentation. In this respect, the second group meeting was a critical time in which the group's local norms of interaction were only beginning to be established. As such, it provides a window into the origins of the uncooperativeness which became most marked in the sixth and final group work session.

In addition to the group work data, I had access to the participants' learning diaries, in which they reflected on the course content as well as their group work and group dynamics. None of the student participants agreed to be interviewed at the end of the course, but I was granted interviews by two of the senior mentors. The audio recording and transcription on which this study is based include the five student participants and two senior mentors. There were two Finnish females among the student group members, both of whom were highly proficient ELF users. Satu was the most active contributor to discussion, and she described herself in her learning diary as follows: "I get easily bossy when things are not going forward and I get frustrated. Sometimes it helps, sometimes it just irritates people." One mentor, in his private feedback to Satu, suggested she was "a bit dominant." On the other hand, Pilvi was also very fluent but preferred to speak infrequently. The third female of the group was

Emma from France, who was the group's least proficient ELF user. She was the only participant who clearly indicated that the language limited her participation.

The two remaining group members were male: Monja, a Malagasy speaker from Madagascar; and Ahmed, a native speaker of Turkish from Iran. Both Monja and Ahmed were active contributors to the group work. Two mentors, also male, were present at the second group work session. While not participants in the presentation itself, they were active in the group discussion and attempted to steer the presenters in a fruitful direction. The first of these mentors, Kirill from Russia, was only present in the second meeting. The other mentor, Geert from the Netherlands, would be present throughout the remaining meetings as an active participant in all the discussions. I was the only native speaker of English present, and I remained apart from the group as an observer. My only interaction with the group was to gather consent forms and to greet them at the start of each group work session.

The interaction involving Monja, Ahmed, and Satu were of particular interest to this research. A clear conflict between Ahmed and Satu was evident already in the second session, and both of them displayed interruptive tendencies. I had also observed Monja's tendency to interrupt, but it seemed that his interruptiveness was not as strongly oriented to by other participants. In addition, I was interested in taking a closer look at how the group's interruptive practices affected the less talkative members of the group, especially Pilvi and Emma. Finally, I sought to better understand Geert's mediating role as mentor and the ways he oriented to the group's interruptiveness. Equipped with little more than folk linguistic concepts of interruption and "taking turns" (as if by force), my field notes proved to be of no value for a systematic analysis of the interaction. In an effort to operationalize consistent and empirically justifiable criteria for what is and is not an interruption, I had to develop an analytical model which had only been intimated by earlier research. After observing eight hours of the

group's interaction, there was clearly a strong perception of interruption and uncooperativeness. However, the question remained as to how this perception was realized linguistically.

3.2 Methodological departure

With these general observations in mind, I set out to transcribe the second group work session and develop a bottom-up, LUG-based model for determining a minimum threshold for interruption. The focus of the LUG criteria has been expressed by Schegloff (2002: 298):

...the 'turn-so-far' in its incremental development must be taken to figure centrally, both with respect to its detailed composition and with respect to the position in it at which the intervention occurs.

In an effort to avoid pejorative language and treat each speaker's utterance as a neutral fact of interaction, I have adopted the term "intervening utterance" to designate each incident of startup by a new speaker in the linear stream of speech, regardless of length, content, or position of the utterance. The LUG-based criteria should thus be capable of analyzing each intervening utterance in interaction, without any preliminary judgment of whether it may be interruptive. As a bottom-up model, it should be responsively shaped by the data itself and not limited to a superimposition of the analyst's cultural biases. As noted by Schegloff (2002: 297), a careful examination of the relationship between current and intervening utterances will likely reduce the occurrences of analyzable interruptions. This was my experience, as I gradually restricted the interruptive criteria and broadened those interpretable as within a cooperative range of a point of completion.

In his criticism of interruption research, Schegloff (2002: 307) has argued that interruption is not a first-order category appropriate for professional analysis, but should rather be treated as a target category. Goldberg (1990: 887) provides an example of a "first order set of interpretive strategies" for analyzing interruption, with no attempt to

define what in the structure of talk itself should trigger a potentially interruptive analysis. In response to Schegloff's critique, I employ LUG analysis for first-order categories of chunk classification, upon which evaluative criteria are applied to determine the target category of interruption. But I differ with Schegloff (2002: 303), who suggests that an interrupted utterance can be "retroactively claimably incomplete" based on what the initial speaker continued to say after the second speaker started at a clear transition point. This is not allowed in my analysis; if speaker transition occurs at a point of completion, interruption cannot be claimed retrospectively based on what a speaker intended to say. The analysis should be strictly prospective, not considering information unavailable to speakers at the time an intervening utterance occurs.

Lastly, I have avoided Smith-Lovin and Brody's (1989) division of successful and unsuccessful interruptions. This approach has been criticized insofar as "success" presumes that the intervening utterance is intended to "drive the other out" and that any interruptive act is motivated by a display of power or dominance (Schegloff 2002: 314; Goldberg 1990: 885). Instead, I have annotated partial interruptions (when the initial speaker continues her utterance to completion) and full interruptions (when the interrupted speaker's turn is left incomplete).

The methodological departure for this study is that the basis of Schegloff's complainability is the violation of prospection. One might argue that any utterance – however minimal – in a bid for the turn-space is prospective. The analytical challenge, however, is determining which turns-in-progress are strongly prospective, the violation of which by another speaker could reasonably constitute an interruptive act. This study proposes via LUG analysis that strong prospection is established by an unresolvable M-chunk or a substantial organizing (OI/OT) chunk (these criteria will be outlined in depth in the following section). The intention is to establish a high analytical threshold for complainability. It is important to stress, however, that the LUG-based criteria provide a

minimum analytical threshold of complainability, not an absolute “measure” of interruption. In other words, LUG provides a first-order analysis and “trigger” for further qualitative analysis. This further interpretive task must consider the broader contextual variables (e.g. speaker roles, genre, and interactional history) as well as the aggregate occurrences of minimally interruptive acts. The aggregate occurrences are especially relevant for examining who interrupts whom, under which circumstances, and how the speakers orient to these occurrences.

From the outset, my intent was to maintain a high analytical threshold of complainability. But more importantly, I began with the assumption that interruption is an ordinary feature of spoken interaction, and no single act of interruption is especially meaningful in itself. The LUG-based analysis provides an analytical stepping stone to a broader view of the aggregate occurrences of interruption and their implications for the interactants. It is also important to highlight the intuitive nature of LUG analysis, which does not resemble a blindly mechanical process such as that of Zimmerman and West (1975). For example, there are several well-documented interactive features which are cooperative, though they likely fulfil the proposed interruptive criteria. These features include backchannels or “continuers” (*mhm-hm, yeah*), extended feedback which does not constitute a bid for the floor (e.g. *that’s a good point*), humorous affiliation marked by laughter, and collaborative completions or co-constructions of utterances (Schegloff 2000: 4-6; 2002: 291; SM 2006: 83). These cooperative features were automatically exempt from analysis as interruptive, even if they might structurally fulfil the LUG-based criteria for interruption.

With this caveat, I turn to a detailed overview of the LUG criteria employed in this study. In the same spirit of simplicity which informs LUG analysis generally, I have organized the interruptive criteria based on a binary decision tree such as that outlined by Sinclair and Mauranen (2006: 154-156; this paper, Appendix A). The decision tree

used in this study analyzes any intervening utterance in a linear stream of spoken text for potential interruptiveness, regardless of the occurrence of overlapping speech (Appendix B). The analysis begins by examining the preceding utterance and which chunks have been uttered just prior to the intervening (and potentially interruptive) utterance. The first analytical step concerns the development of the preceding utterance's **turn-space**, classifying it according to turn **opening** (when a complete M chunk has not yet been uttered; see group 1 in Appendix B and Figure 6 at right) or an **established** turn (when a full M chunk has constituted a complete incrementation of topic; group

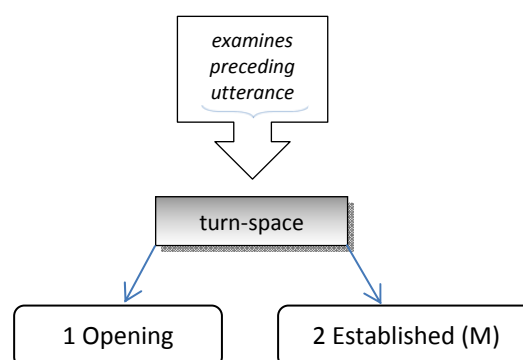


Figure 6: analysis of turn-space

2). With this basic dichotomy in place, I continue with the analysis of turn openings.

3.3 Analyzing turn openings

Employing one of the binary choices from the LUG system itself, the turn opening is classified based on its **orientation**. In other words, the turn-opening chunks are divided into **action-oriented** (OI/OT, group 1.1 in Appendix B and Figure 7 below) or **message-oriented** chunks (M-/MF, group 1.2). Each of these categories is further analyzed according to **substantialness**. This is the final step of analysis, but also the most critical. This analytical model treats substantial, turn-opening chunks (groups 1.1.2 and 1.2.2) as strongly prospective and therefore subject to uncooperative interruption by an intervening utterance. Insubstantial turn-opening chunks (groups 1.1.1 and 1.2.1) are therefore treated as minimally prospective and may be interrupted by an intervening utterance without creating a significant break in the incrementation of topic. The question of what constitutes a substantial/insubstantial turn opening is therefore central to the analysis and requires a set of criteria justified by more than the analyst's intuition.

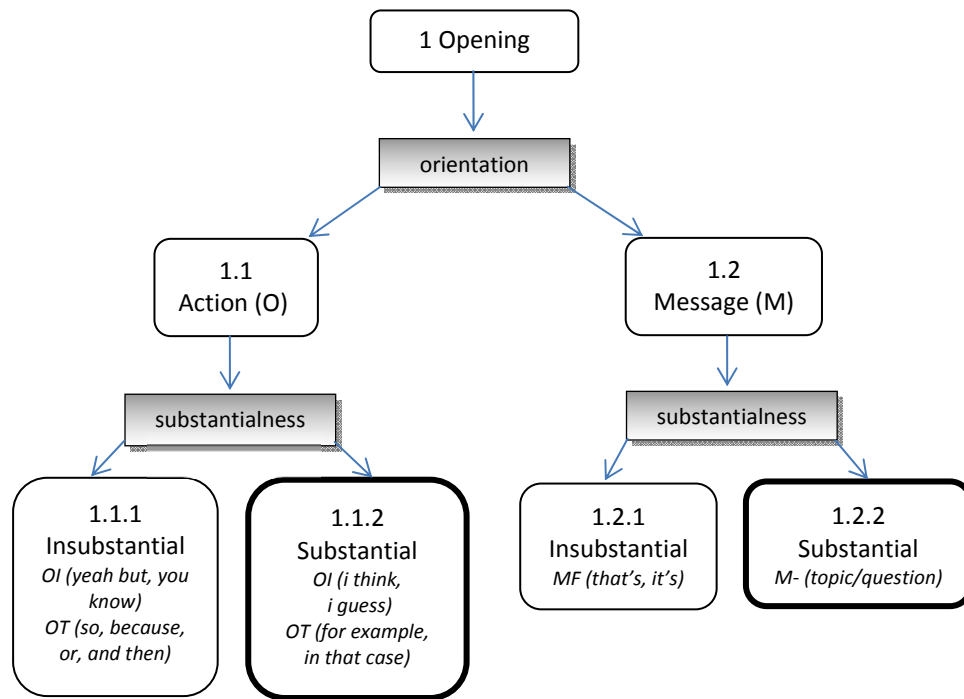


Figure 7: analyses of turn openings for orientation & substantialness

As with Conversation Analysis (CA), I have sought evidence for analytical judgments from within the data itself. The LUG criteria I propose should be flexible enough to adapt to different genres of speech events, and different sets of data may inform the LUG criteria on what constitutes substantialness. I have employed a corpus-based approach to address this concern of data-specific appropriateness. In particular, it is necessary to examine minimal turn openings throughout the group work session for evidence of relative degrees of prospection. In the case of action-oriented chunks (OI/OT), there is a clear demarcation between high-frequency combinations of *yeah, so, but, and, okay, well* (97 turn-opening occurrences altogether) and the lower frequency turn openings such as *i think*. Combinations of *yeah, so, but, and* tend to function as placeholders as a speaker further formulates her utterance, with following chunks either continuing the placeholder or prospecting the emerging utterance (see also the “appositional beginnings” of SSJ 1974: 719). However, these minimal chunks offer no clear prospection in themselves. On the other hand, turn openings of *i think* (24 occurrences) are strongly prospective insofar as they introduce an opinion or

recommendation and are almost always immediately succeeded by a fully formulated M chunk.

Based on these observations, the analysis of this group work data treats collocations of *yeah* and conjunctions such as *so*, *but*, *and* as insubstantial OT chunks and insufficient to trigger an interruptive analysis. Likewise, OI chunks such as *well* and non-continuer *okay* are analyzed as insubstantial. The principal substantial OI chunks are *i think* and *i mean*, while substantial OT chunks include *in that case* and *for example*, as in the following extract:²

Example 1

1	Ahmed	M	i have some ideas		
2		OT	and		
3		OI	er		
4		OI	i think		
5		OI	er		
6		M	we can divide our seminar		
7		MS	in six hot topic		
8	SU	OI	mhm		
9		OI	okay		
10	Ahmed	OT	[(or)]		
11	Satu	MR	[six] hot [topics]		
12	Ahmed	OT	[or]		
13		OI	yes		
14		M-	that's		
15		OT	for example		
16	→Satu	M	that's like [ten minutes		
17		MF		for	
18		OI		no	
19		M		that's five minutes]	
20	Ahmed	+M	[fragmentation		
21		OI		no	
22		OI		i mean	
23		OT		that	
24		MS		in the seminar]	
25	Satu	MS	for each		

In this extract, Ahmed's initial utterance is apparently complete at line 7. When he and Satu begin speaking simultaneously in lines 10-11, the analysis again shifts to that of turn openings. Satu's intervening utterance at line 16 is analyzed as interruptive due to

² Transcriptions are based on the SELF Transcription Guide (2009). Overlapping speech is shown within square brackets [], uncertain transcriptions in curved brackets (), gaps of unclear speech as (xx), laughter as @@ and omitted text as /.../. SU indicates an unidentified speaker.

Ahmed's strongly prospective OT *for example* in the preceding chunk. None of Ahmed's prior chunks are analyzed as strongly prospective; the OT *or* and OI *yes* are minimal turn openings, and the M- *that's* is not substantially prospective (*that's* and *it's* are discussed in the next section). This analysis is supported by Ahmed's ensuing completive utterance of *fragmentation* in line 20 before he and Satu compete for the floor in a long stretch of overlapping speech.

Having considered the criteria for substantialness in action-oriented O chunks, I turn to the evaluation of substantialness in turn-opening M chunks (group 1.2 in Figure 7 above). The key consideration is whether an M chunk is insubstantial and fragmentary (MF, group 1.2.1) or substantial and strongly prospective (M-, group 1.2.2). In general I treat substantial, turn-opening M- chunks as those in which the topic is established through a content word or in which a question-forming word is deployed, such as *what*, *who*, *how* and fronted forms of *to be* and *to do*. On the other hand, turn openings composed of a combination of *yeah*, *it('s)* and *that('s)* are treated as fragmentary and do not trigger an interruptive analysis. The rationale for this judgment is based on the same premises as that of the O chunks. The *it('s)/that('s)* turn openings (43 occurrences) mainly introduce extended feedback to another speaker (e.g. *that's a good point*) or are followed by additional minimal turn-opening elements. In addition, four of the *it's* start-ups are reformulated or repeated and all three *yeah it's* openings are interrupted by another speaker. The corpus evidence therefore suggests that these minimal M chunks function mainly as placeholders and are not strongly prospective in themselves.

Turning back to the so-called "wh" words and other question formations, these are analyzable as substantial, turn-opening M- chunks, although they may appear fragmentary. Apart from the fact that these prospect an imminent M chunk in the same way as *i think* discussed above, there is other evidence supporting this analysis. One of the strengths of the CA approach is its emphasis on analytical support from the

speakers' own orientations to the interaction. I have likewise sought to identify instances in which speaker orientation coincides with the LUG criteria, and there are two examples of this in relation to “wh” words in turn-opening position.

Example 2

1	Kirill	M-	who is [selecting]
2	→Ahmed	OI	[so
3		MF	in the]
4		MF	in [the]
5	Pilvi	M	[huh]
6	Kirill	M	who is selecting woodland key habitats
7		MS	in practice
8		MA	what is the
9		+M	the body
10	Satu	OI	mhm
11	Kirill	MS	to tell

Prior to Ahmed's overlap in line 2, the mentor Kirill has only uttered *who is*, which is the only part of the M- chunk considered in the LUG-based analysis. As outlined above, the question formation is sufficiently prospective to treat Ahmed's intervening utterance as interruptive. However, there is additional justification coming from Pilvi's interrogative *huh* (line 5) directed to Kirill, who in turn repeats and completes his question, regaining the floor. While Pilvi's treatment of Kirill's turn opening as substantial and deserving of repair could be seen as her orientation to Kirill's status as mentor, it also suggests the substantialness of the *who is* in its own right.

Another example of an interrupted turn-opening *what* also offers a significant speaker orientation. In this case, it is the interruptee himself who orients to his own interrupted turn opening as sufficiently prospective to legitimately claim the floor.

Example 3

1	Ahmed	M-	what i [wanted]
2	→Satu	M	[we have] still a quarter [left]
3	Ahmed	OI	[er]
4		M-	may i
5		OI	er
6		+M	mention one [question]
7	Satu	M	[sure]
8	Ahmed	MS	or just ideas
9			/.../

In this case, Satu's intervening utterance (line 2) is analyzable as interruptive due to Ahmed's pre-overlap *what i*. Interestingly, this is not an actual question formation, but the "wh" word alone seems sufficient to claim the turn space. Ahmed orients to Satu's interruption by sarcastically requesting permission to speak, clearly indicating his orientation to a violation of prospection. His orientation, however, must also be understood in light of the overall interactive history, and Ahmed was the most frequently interrupted participant in the course of the group work session.

To conclude this section on interruptive criteria for turn-openings, the overall corpus frequency data suggests a general distinction between the substantial and insubstantial turn-openings and their relative markedness. Taken together, the insubstantial turn openings discussed above (*so, but, and, well, okay, it('s), that('s)* with optional *yeah* preface) account for 140 occurrences. In order to calculate a standardized frequency, I have taken the total utterances in the group work transcription (935) and removed minimal backchannels (e.g. *yeah, mhm, mhm-hm*) and vocal features (e.g. laughter, coughing, sighs). This figure of adjusted utterances (535) therefore includes all utterances in which a speaker can be seen to potentially increment the topic. Using this figure as a baseline, the 140 insubstantial turn openings account for 26 percent of the adjusted utterances. Conversely, the turn openings analyzed as substantial (*i think* with an optional preface of *yeah, and, but* and question-forming openings of *what, who, how* and fronted forms of *to be* and *to do*) occur only 50 times altogether, or nine percent of adjusted utterances. The likelihood of the relatively unmarked insubstantial turn openings to be cut off by an intervening speaker is further explained by their frequency, occurring nearly three times as often as the more strongly prospective substantial turn openings.

3.4 Analyzing established utterances

Returning to the top of the decision tree for LUG-based criteria, the initial analysis of turn-space also branches off to analyze an utterance established by an M chunk, or full incrementation of topic (group 2). In this case, the next level of analysis considers **intervention**, or what types of chunks (if any) are uttered between the M chunk and the potentially interruptive intervening utterance.

An utterance is classified as **independent** (group 2.1 in Figure 8) if it concludes with a complete M chunk or optional additions of a message supplement (MS) and/or message revision (MR). This intuitively complete utterance represents the prototypical

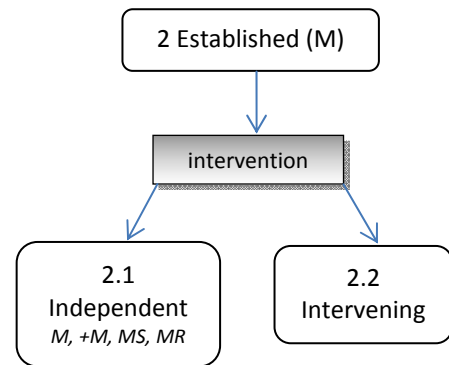


Figure 8: analysis of intervention

“transition relevance place” proposed by SSJ (1974). Actual interaction, however, is rarely so sanitized as imagined in the SSJ model of turn-taking, and it is unremarkable to find any number of **intervening** chunks (group 2.2) between a complete M chunk and an intervening utterance. While SSJ (1974: 701) would likely treat any concomitant overlap as an “error” or “violation” in need of “repair,” only further analysis will reveal if the intervening chunks did, in fact, establish sufficient prospection to suggest complainability.

3.4.1 Action-oriented (O) chunks

The next step of the analysis, therefore, examines these intervening chunks (group 2.2). As with the analysis of turn-opening chunks, intervening chunks are divided based on **orientation** into action-oriented (O, group 2.2.1 in Figure 9) or

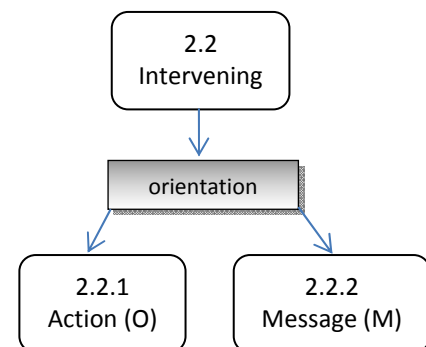


Figure 9: analysis of orientation

message-oriented (M, group 2.2.2). Once again, a further analysis of **substantialness** is

applied with the same criteria as for turn-opening chunks. Unlike the turn-opening analysis, however, an extra analytical step is required which is unique for intervening chunks. I will first examine the analytical steps for action-oriented (O) intervening chunks. The insubstantial OI/OT chunks (group 2.2.1.1, Figure 10) are the same as those discussed in section 4.1 (see group 1.1.1). It is common for a speaker to conclude an M chunk with a minimal OT conjunction such as *so*, *and*, *but* with no intention of extending the utterance. Moreover, these “optional elements” following a transition relevance place (TRP) are a likely occasion for overlapping speech (SSJ 1974: 707).

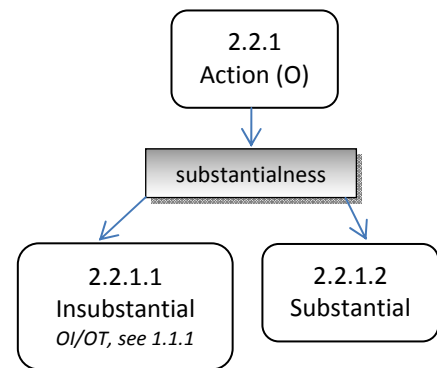


Figure 10: analysis of substantialness

Listeners seem to be conscious of this, and an intervening utterance following an M|OT sequence can only be seen as unproblematic. Consider the following extract:

Example 4

1	Monja	M-	<READING> [even] if this area is not a woodland key habitat
2		+M-	treating the surrounding forest area
3		MS	according to demands of of the particular plant
4		+M	should preserve this (place) </READING>
5		OT	so
6	→Kirill	OT	so
7		M	we see two aspects here
8			/.../

After reading an excerpt from one of the articles under discussion, Monja adds a *so* (line 5) to the complete M chunk. This is not a strongly prospective addition, and Kirill responds to it as an invitation for another speaker’s uptake, as he repeats the *so* and effectively creates a syntactic bridge between his comment and Monja’s initial point. In this case, Kirill’s intervening utterance should be interpreted as a form of collaborative completion or co-construction. With this additional possibility in mind, an intervening utterance which follows an M and insubstantial O chunk is not analyzable as interruptive.

When substantial O chunks (group 2.2.1.2, Figure 11) such as *for example* (OT) or *i guess* (OI) follow an M chunk, a further evaluation of **linear expectation** is needed. This final step determines prospection based on the speaker's intonation. Intonation is a key criteria because these substantial O chunks may function either as an introduction to an M chunk or as its conclusion. Placement in a linear sequence is therefore insufficient for evaluating function in the case of an intervening chunk. This dual function can be seen with *i guess* and whether it is uttered with rising or falling intonation, as in the following extract:

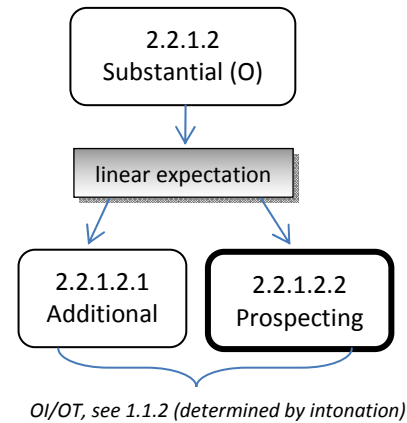


Figure 11: analysis of linear expectation

Example 5

1			/.../
2	Geert	M	you only use territorial components
3		OT	and then
4		M	you go back
5		OT	and
6		M	test it
7		MF	it's
8		M	it's kind of different
9		OI	i guess
10	→Ahmed	MF	that's a good
11		M	that's good point

When evaluating Ahmed's intervening utterance (line 10) for interruptiveness, the concern is whether Geert's intervening substantial OI *i guess* creates a linear expectation of a completive chunk. In this case, *i guess* is uttered with a falling intonation and can be safely interpreted as a conclusion or addition to the M *it's kind of different* (group 2.2.1.2.1). In the following extract, however, Ahmed displays a different function of the substantial OT *for example*. It occurs during a debate over why polypores (a type of fungus) are used so frequently in studies on woodland key habitats.

Example 6

1	Ahmed	OI	[yeah
2		OT	because
3		M-	in finland]
4		+M-	the background of finnish
5		OI	er
6		+M	mycology
7		M-	i think in finland
8		+M	there are (several) mycologists
9	Satu	OI	mhm
10	Ahmed	M-	that's why they put
11		OI	er
12		+M-	now
13	Satu	OI	er
14		OI	yeah
15		OT	[but
16		MF	how
17		OI	yeah]
18	Ahmed	OI	[er
19		+M	more energy]
20		MS	for that
21		OT	for example
22	→Satu	OT	but
23		M-	how well does it indicate
24		+M	other species [richness]

Ahmed's initial utterance, *in finland the background of finnish er mycology* (lines 3-6), is classed as a complete M chunk because it establishes the topic being developed (SM 2006: 80). The next M, *i think in finland there are (several) mycologists* (lines 7-8) sets up his final point: *that's why they put er now er more energy for that* (lines 10-12, 18-20). Satu's intervening utterance in lines 13-17 is not now under consideration for interruptiveness.³ Of interest, however, is her intervening utterance of lines 22-24 and Ahmed's preceding *for example* (line 21). In this case, the substantial OT is not uttered with falling intonation, but instead is part of Ahmed's broader attempt to preserve his speaking turn. When Satu intervenes with her OI *er yeah* in lines 13-14, Ahmed deploys a "rush-through" technique in which he increases his rate of speech in lines 18-21, prompting Satu to drop out of their overlap (Schegloff 2000: 11-12). Ahmed's *for example* is appended to this rush-through with rising intonation in an

³ Satu's intervening utterance is discussed in section 3.4.3 below when considering the resolvable M-, or M(+) chunk.

attempt to establish strong prospection and hold the floor (group 2.2.1.2.2 in Figure 11 above).

Satu's intervening utterance (lines 22-24) is thus analyzably interruptive, but an apparently strategic choice. At the same time Ahmed deploys his rush-through and attempt to hold his turn, Satu recognizes his attempt, allows him to complete his M chunk, and interrupts him to respond with a counter proposition. This exchange, along with Ahmed's interactive history, further supports the analysis of an intervening *for example* as strongly prospective. While most participants in the group work session use *for example* infrequently (Monja, five times; Satu, three times), Ahmed uses it 23 times as a regular feature of his turn construction. Oftentimes he uses it as a general linking device or placeholder, i.e. as a reliable signal of prospection while he formulates his utterance. Satu's interruption in Example 6, which comes late in the group work session, is likely informed by Ahmed's well-established strategy. That said, it is still an interruption of a strongly prospective OT chunk deployed for this very purpose of letting her know that he intends to continue. Moreover, this phenomenon was rare in the data; this was the only example I found in which an intervening O chunk led to an analyzable interruption.

3.4.2 Message-oriented (M) chunks

Having considered the criteria for strongly prospective intervening O chunks (group 2.2.1.2.2), I return to those intervening chunks which are message-oriented (M, group 2.2.2 in Figure 12). Insofar as they follow a complete

M chunk, they will be classified as a message fragment (MF), incomplete message (M-), or incomplete message supplement (MS-). As with the intervening O chunks, a further evaluation of **substantialness** is needed. Similar criteria are used from the

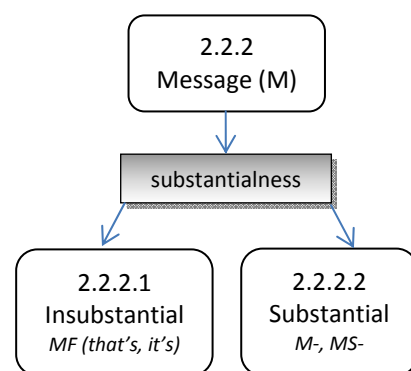


Figure 12: analysis of substantialness

analysis of insubstantial turn-opening M chunks (group 1.2.1). The prototypical insubstantial MF chunks are *that('s)* and *it('s)*, though they are also infrequent in the data in the intervening chunk position (group 2.2.2.1). The following example nicely illustrates this feature:

Example 7

1	Ahmed	OI	[yeah
2		M	we are getting now close
3		OI	yeah]
4		MF	that's
5		MF	that's
6	→Geert	OT	but
7		OT	but
8		MF	i still
9		M-	i still question
10		OT	that
11		OI	er
12		MF	i
13		OI	i mean
14		OI	i think
15		MF	it's
16		M	it's a good question
17		M	are indicator species used in finland
18			/.../

Ahmed's M *we are getting now close* is uttered in overlap, and upon emerging from overlap he only utters *that's that's* before Geert's intervening utterance (line 6). Like Example 6, this extract comes late in the group work session and Ahmed has established his repeated criticisms of polypores as indicator species. This example appears to be the mentor Geert's attempt to manage the topic and prevent Ahmed from dominating the discussion. Insofar as Geert's intervening utterance follows two insubstantial intervening MF *that's*, it is not analyzed as interruptive. Geert's utterance is significant not for its interruption of Ahmed's prospection, but rather for Geert's effort to *prevent* Ahmed's strong prospection *before* such prospection could be established. This is evident from the fact that Geert's intervening utterance was not formed prior to his taking the floor. Lines 6-15 consist of little more than Geert's placeholding and reformulating before he finally increments a complete M chunk at line

16 with *it's a good question*. It demonstrates that Geert, a highly proficient ELF user, was concerned less with what he wanted to say than what he didn't want to hear from Ahmed (viz. redundant and off-topic criticisms of polypores). While this is not analyzable as an interruption, it sheds light on Geert's interactive practice of managing and directing the topic.

While these insubstantial intervening MF chunks are rare in isolation in the data, there is a common occurrence of multiple intervening insubstantial chunks. In these cases each chunk is analyzed according to the criteria outlined above, though the collective chunks must be further assessed for prospection as a group. The following extract exhibits an unusually long stretch of intervening chunks.

Example 8

1	Geert	OI	[well
2		M	that's] really interesting
3		OT	because
4		MF	i
5		MF	i'm
6		MF	i'm
7		OI	yeah
8		M-	[ilkka]
9	→Pilvi	OT	[and
10		M-	he also] said
11		OI	like
12		OT	that
13		+M-	there's no point
14		OI	like
15		+M	only protecting them
16			/.../

After Geert emerges from overlap with a complete M *that's really interesting* (line 2), five insubstantial chunks are uttered before Pilvi's intervening utterance (line 9). None of the individual chunks establish strong prospection, though they maintain the floor as placeholders. Moreover, the five minimal chunks do not establish any significant prospection as a group, and the final *yeah* in line 7 is interpretable as Geert's relinquishing of the floor in the absence of any clear incrementation of his utterance. Pilvi's intervening utterance is therefore interpreted as non-interruptive, as she has

apparently responded to Geert's cue in line 7 and resumed the incrementation of the topic established prior to Geert's aborted turn. In addition, line 8 shows Geert reintroducing the prior topic as a candidate for uptake. The overlapped *ilkka* is a reference to an earlier lecture by Professor Ilkka Hanski, which Pilvi references with *and he also said*. The non-interruptive analysis is thus further supported by the contiguity of topic incrementation.

Having considered the range of intervening O and MF chunks, the main analytical challenge is found in intervening substantial M- chunks (group 2.2.2.2 in Figure 12 above). Altogether the group work transcription yielded 25 examples of these intervening M- chunks which were cut off by an intervening speaker. Not all of them are analyzable as interruptive, and distinguishing between interruptive and non-interruptive utterances in these cases is a highly interpretive task. It is, however, in line with the intuitive task of LUG analysis and underscores the fact that this approach is not mechanical. In addition to utilizing the analyst's intuition, a key question is what the participants know up to that point and how it factors into their interpretation of the unfolding utterance. I will first discuss two examples which received an interruptive analysis. I will then present some instances in which an intervening utterance created an M- chunk in the preceding utterance, but within a demonstrable range of cooperativeness. First, consider this extract from early in the group work session, when the topic and interactive histories were beginning to be established. Satu has just read a definition of woodland key habitats in Sweden and moves to contrast this with the situation in Finland.

Example 9

1			/.../
2	Satu	OT	so
3		M-	in sweden they really emphasise
4		OT	that
5		+M	there is red-listed species
6		MS-	[in]
7	SU	OI	[[mhm]]
8	→Monja	OI	[yeah
9		OT	but even]
10		OI	i think
11			[(xx)]
12	Satu	+MS	[in the] woodland key habitats
13		OT	and
14		M-	in finland
15	Monja	OI	mhm
16		OI	mhm
17	Satu	+M	[it's not that important]
18	→Monja	OT	[even for example
19		M-	in] sweden
20		OI	like
21		MF	they're trying to find
22		MF	they
23		M	they're not really able to find the red list species
24			/.../

The analysis is concentrated on Monja's intervening utterances at lines 8 and 18. In the first case, his intervening utterance immediately follows Satu's complete M chunk in line 5, which is therefore classified as an independent chunk (group 2.1) and a cooperative transition point. However, the transcription shows that Satu had formulated a contrast between the Swedish and Finnish criteria for woodland key habitats and her intended utterance was incomplete. LUG analysis, however, is strictly prospective, and Monja cannot be held responsible for what Satu *intended* to say. This creates an analytical challenge as Satu extends her turn despite Monja's *i think* in line 10. On one hand, Satu's extension of *in the woodland key habitats* (line 12) can be seen as interrupting a strongly prospective OI chunk in line 10. However, when considering the full range of interactive features at work (esp. the momentum of Satu's fully formulated, multi-M turn-in-progress as well as multiple overlap), Satu's turn extension

is better viewed in the context of turn holding, a phenomenon I will discuss below in section 4.2 (“Additional uncooperative features”).

With Satu having emerged from the overlap with an extension of her turn, she prospects her full point by introducing the contrast with a strongly prospecting *and in finland* (line 14). Anxious to regain the floor after dropping out of overlap, Monja utters two anticipatory *mhm* OI chunks before taking the floor at line 18. The analytical question then centers on Satu’s M- *in finland*, which is syntactically and intonationally prospective. This introduces the final step in the LUG-based analysis, **resolvability**. Did Monja have sufficient contextual clues to anticipate Satu’s completion and therefore start his utterance as though her incrementation of meaning had been tacitly complete? In this case, interactional history is key. The exchange in the extract occurs about 10 minutes into the group work. As the topic of woodland key habitats is only beginning to be defined among the participants, we can see the early stages of topic development alongside the emerging competition for speaking turns. Due to this early stage of topic development, Satu’s M- *in finland* is treated as **unresolvable** (group 2.2.2.2.2 in Figure 13) and Monja’s intervening utterance (line18) as interruptive.

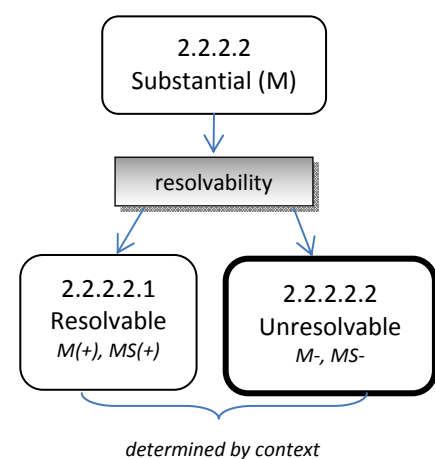


Figure 13: analysis of resolvability

Another example of an unresolvable M- comes early in the group work session but involves different participants. In Example 10, Pilvi comments on why polypores are important for evaluating woodland key habitats because of their connection to dead wood.

Example 10

1	Pilvi	OI	[well
2		OT	because
3		MA	they indicate the]
4		+M	the history
5		MS	of the forest
6		OI	i mean
7		M	they need some dead wood
8		OT	and
9		M	some sort of history
10		MS	with the wood
11		M-	how it's
12	→Emma	M	(there are some statistics)
13			[(xx)]
14	Pilvi	OI	[like]
15		+M	different age
16		OT	and
17	Emma	OI	mhm
18	Pilvi	M	certain structure
19			/.../

Pilvi completes an M chunk at lines 9 and 10 with her M|MS *some sort of history with the wood*. The intervening M- occurs at line 11 and begins with an interrogative phrase (*how it's*) already discussed in connection with substantial M- turn openings (group 1.2.2). Emma's intervening utterance (line 12), however, disregards the strong prospection and begins a divergent incrementation of topic. Pilvi's response further supports the interruptive analysis, as she treats Emma's intervening utterance as an illegitimate bid for the floor and simply continues her statement with no change in her speed or volume of delivery. Emma drops out of their overlap and Pilvi further increments the unresolvable M- with a +M in line 15.

3.4.3 M(+) as resolvable M- chunks

Among the 25 instances of intervening M- chunks, only 13 were analyzed as unresolvable, while 12 cases were treated as demonstrably **resolvable** M- chunks (group 2.2.2.2.1 in Figure 13 above). These cases are annotated in this study as M(+), implying that the complete elements of the incrementation are inferred, which Jefferson (1984) has described as "recognitional onset." In Example 6 above, an

intervening utterance by Satu in an exchange with Ahmed was deferred for later discussion. I return to it here as an example of how an apparent M- is interpreted as an M(+). In the extract from Example 6 reproduced below, Ahmed is speculating why polypores have been researched so thoroughly in Finland.

1	Ahmed	OI	[yeah
2		OT	because
3		M-	in finland]
4		+M-	the background of finnish
5		OI	er
6		+M	mycology
7		M-	i think in finland
8		+M	there are (several) mycologists
9	Satu	OI	mhm
10	Ahmed	M-	that's why they put
11		OI	er
12		+M-	now
13	→Satu	OI	er
14		OI	yeah
15		OT	[but
16		MF	how
17		OI	yeah]
18	Ahmed	OI	[er
19		+M	more energy]
20		MS	for that
21		OT	for example

When Ahmed makes his main point about the prominence of mycologists in Finland (line 8), Satu offers a backchannel response of *mhm* as a comprehension signal. Ahmed's continued utterance in lines 10-12 does not substantially increment this point, despite the fact that he has uttered an unfinished M- chunk. His M- *that's why they put* (line 10) is an explicit reference back to his point concluded in line 8 and serves to conclude or emphasize his prior incrementation of the topic. Any number of words could readily fill the anticipated slot (e.g. attention, focus, priority, energy, resources). As such, it is interpretably an M(+) chunk and Satu orients to it as such with another comprehension signal (*er yeah*) when her intervening utterance begins at line 13. Due to the M(+) interpretation of Ahmed's preceding chunk, Satu's intervening utterance is not classed as interruptive and the interactive feature of greater interest is Ahmed's and Satu's competition for the floor.

It should be mentioned that the tendency to anticipate the completion of a speaker's ongoing utterance is not a symptom of dysfluency. Those speakers who begin their intervening utterances in the midst of an M(+) are doing several things skillfully at once – monitoring the current speaker's incrementation of topic, projecting how that incrementation is likely to be resolved, and formulating an intervening utterance which is relevant to the turn-in-progress. It should come as no surprise, therefore, to find that the most fluent ELF users do indeed create M(+) chunks with their intervening utterances. Among the 12 annotated instances of M(+) chunks, six of them arise due to Monja's intervening utterances. As one of the group's more fluent ELF users, Monja demonstrates his preference for this strategy for entering the discourse, as well as its range of typical occurrences. The three main types of M(+) in the data involve: 1) "terminal onset" (Jefferson 1986: 156-157), or starting an utterance at the interpretable last item(s) of the turn-in-progress; 2) the first part of an if-then statement in which the "then" portion is transparent; 3) resolutions based on preceding context (as shown in Example 6); and 4) two individual instances involving a list and reported rhetorical speech. The first two of these types – terminal onset and if-then statements – deserve closer inspection.

The cases involving an M(+) chunk created by terminal onset appear to involve both prior context as well as a likely collocation. In the following example of terminal onset, Monja appears to be evaluating context as well as anticipating an M-concluding collocation. Emma is offering her suggestion on why a potential woodland key habitat should be protected.

Example 11

1	Emma	OI	i think	
2		MF	it's	
3		OI	[er]	
4	Ahmed	M	[that's good]	
5	Emma	MF	it's	
6		OI	erm	
7		M	it's because it's really linked	
8		MS	with the species	
9		OT	and	
10		MS	with the red list	
11		OT	and	
12		MS	with the threatened [species	
13		OT		because]
14	→Monja	OI	[yes	
15		OT		but]
16	Emma	M	here it's right on the article	
17			/.../	

Monja has proffered an intervening utterance in lines 14-15 (though he ultimately drops out of the overlap), creating an MS- *with the threatened* in Emma's preceding utterance (line 12). This preceding chunk, however, is interpreted as an MS(+) in light of the preceding context – the word *species* along with *red list* (a list of endangered species). In addition, the final word of Emma's MS chunk – *species* – regularly collocates in the data with a preceding adjective indicating a threat (e.g. *red-list(ed) species*, *rare species*, *threatened species*, *extinct species*, *endangered species*). This relevant contextual information suggests that Monja anticipated the imminent resolvability of Emma's MS(+) and his intervening utterance is therefore not classed as interruptive.

While this may be a clear case of starting an utterance when the current speaker is nearly finished, an M- chunk in the midst of an if-then statement requires a different analysis. Lerner (1996: 252) points out that the completion of the first part of an if-then statement can lead to “recognitional entry” by another speaker, including as an attempt to pre-empt the current speaker's completion. After the extract in Example 11, a lively discussion ensues in which Emma emphasizes the interconnectedness of species. Competition for turns heats up as she makes the following observation:

Example 12

1	Emma	OI	yeah
2		OT	that
3		MA	all of the species (are
4		MF	all)
5		+M	all species are linked
6		OT	so
7		M-	if
8		OI	er
9		+M-	one or two are threatened
10		OT	or
11		OT	or
12		+M-	goes extinct
13	→Monja	OI	yeah
14		OT	but
15		M	what are those species
16		M	that my question
17			/.../

In this case, Monja's intervening utterance (line 13) begins after a clear +M- with no demonstrably imminent completion. On the contrary, he seems to have interrupted a clearly prospected if-then sequence: 1) *all species are linked*; 2) *so*; 3) *if one or two are threatened or goes extinct*. The fourth and complete part is left unsaid, but any proficient speaker can infer the logically necessitated conclusion, viz. that all other associated species are concomitantly threatened. It is therefore arguable that in this extract Emma has already made her point and Monja, having recognized this transparent M(+), offers his rebuttal cooperatively in the context of a lively scientific debate.⁴

Having outlined the full set of LUG-based criteria for analyzing potential interruptions, I should mention one additional contingency before moving on to the analysis of aggregate interruptions. Insofar as prospection may involve multiple M chunks (e.g. in a list or sequence), the possibility exists of an interruption which follows a complete M chunk. One example of this was found in the data when Ahmed began a

⁴ Although the resolvable M(+) group has been categorized as an intervening M chunk, it may also occur at turn-initial position (group 1.2.2). Insofar as the M(+) interpretation largely depends on preceding context, this turn-initial position is unlikely and only one of the 12 M(+) occurrences was found as a turn-opening chunk.

proposed list of “six hot topics” for the group presentation. After Ahmed offered the first two items in his list, Monja began to raise his concerns about the lack of published data on woodland key habitats. Monja’s intervening utterance followed a complete M chunk (i.e. independent, group 2.1) and thus seems to fall outside the LUG criteria. However, Monja’s utterance is still analyzable as an interruption of a clearly prospected list, and this analysis is supported by speaker orientation. Upon starting his intervening utterance with *yeah but still*, Monja inserts a conciliatory *sorry to cut you* before continuing with his reservations. It is therefore necessary in some cases to extend the analysis of interruption beyond the individual M chunk, which itself may be prospective.⁵

⁵ Though it is beyond the scope of this study, it seems likely that the phenomenon of prospective M chunks will correspond in large part to metadiscourse features which announce an organizational shift in direction. For example, an utterance such as “there’s one more thing I want to mention” (more likely realized as just “one more thing”) constitutes a complete M chunk, but it strongly prospects the “thing” which follows. Recent research by Mauranen (2009, 2010) suggests a fruitful convergence between chunking, metadiscourse, and ELF research.

4 Presentation of Results

The methodology described above was developed throughout the transcribing and proofreading process. The transcription was made in a hybrid markup blending the SELF Transcription Guide (2009) with XML (Extensible Markup Language). I employed empty XML elements to flag utterances for a particular discourse feature such as partial or full interruption. All instances of analyzable interruption were annotated, as were all instances of M(+) chunks. Several examples of the other non-interruptive groups in the LUG-based criteria were also annotated for reference. After the transcription was completed, re-checked, and all discourse annotations reanalyzed, I wrote a series of scripts in XSLT (Extensible Stylesheet Language Transformations), an XML-based programming language. These scripts performed raw frequency counts of the various discourse features and their distributions among the speakers. I also used XSLT scripts to output this data as comma-separated lists which can be automatically converted to tables in spreadsheet software. This format was useful for seeking patterns in the data, including who interrupted whom and how often.

It is important to not overestimate the value of these figures. I earlier emphasized the point that the LUG-based interruptive criteria are not intended to be an absolute measure of interruption. In other words, the counts presented here are not “scores.” Instead, the frequency data of aggregate interruptions should facilitate a targeted and contextually sensitive qualitative analysis. This qualitative re-evaluation of the data was further aided by XSLT scripts, which were used to extract the transcribed utterances around each annotated discourse feature and group them in a single document, facilitating a side-by-side qualitative analysis. Moreover, a program was created to extract each speaker’s unique utterances and collect them in speaker-specific subcorpora, further aiding the inquiry into features related to interruption and uncooperativeness.

Only after applying LUG as a first-order model, then further applying the LUG-informed criteria to establish the target category of interruption, can interruption as an interactive practice begin to be assessed systematically. Having applied this analytical approach to the 1.5 hour group work session, a picture of this group of ELF users begins to emerge. This section will present an analysis of the aggregate occurrences of interruption along with other associated features which influence the interpretation of uncooperativeness. Lastly, I will discuss an additional feature of group-level dysfluency which I have termed “turn competition.”

4.1 Aggregate occurrences of interruption

First and most generally, the LUG-based analysis of intervening utterances reveals the types of interruptive practice within the group. Among the 32 cases of interpretable interruption, only four of them involve strongly prospective O chunks. Interruption was primarily realized in connection with an unresolvable M- chunk and distributed equally between turn-initial (14 occurrences; group 1.2.2) and intervening positions (13 occurrences, group 2.2.2.2.2).⁶ Also of interest is the observation that 27 of these 32 interruptions resulted in turn change. I found only five cases of partial interruption, meaning the interrupting speaker drops out and the initial speaker continues the turn-in-progress. This suggests that the group was strongly oriented toward interruption as a strategic practice of turn-taking, not as an “error” which is “corrected” by abandoning an interruptive utterance. With this overall picture in view, the analysis turns to the interruptive practices of individual participants.

In an effort to acquire a representative view of the relative impact of interruption among participants, it is first necessary to assess their overall contribution to the discourse. As I earlier discussed in connection with evaluating prospection in turn

⁶ The earlier example of Monja’s interruption of a list of “six hot topics” forms the additional instance, bringing the total interruptions to 32.

openings, I calculated the number of substantial, potentially topic-incrementing utterances by removing minimal continuers/backchannels (e.g. *mhm*, *mhm-hm*, *yeah*) and vocalizations such as coughing and laughter. Within this figure of 535 adjusted utterances in the group work session, individual contributions varied widely. The following table shows the distribution of adjusted utterances for each speaker:

Table 1

	Adjusted utterances	%
Satu	130	24.3
Ahmed	93	17.4
Geert	89	16.6
Monja	76	14.2
Kirill	66	12.3
Emma	44	8.2
Pilvi	37	6.9

There is a wide gap between Satu's dominant representation in the data and Pilvi's minimal contribution. These two Finns provide an interesting contrast, as both were perhaps equally fluent, but each exercised widely divergent approaches to their interaction. Although the Sacks, Schegloff and Jefferson turn-taking system places no predefined limit on number of turns, they suggest that in small groups these statistics indicate relative power or dominance by excluding the other speakers, proportional to the size of the group (SSJ 1974: 711-712). Moreover, any assessment of a participant's interruptive practice should take this issue of relative contribution into account. For this reason, I have tabulated the analyzable interruptions of each participant according to both raw frequency and standardized frequency (interruptions per 100 adjusted utterances). These figures are shown below and sorted by raw frequency:

Table 2

	total int.	per 100 u
Satu	12	9.23
Monja	7	9.21
Ahmed	6	6.45
Emma	3	6.82
Geert	3	3.37
Kirill	1	1.52
Pilvi	0	0.00

Of the 32 analyzable interruptions, 25 of them were performed by Satu, Monja, and Ahmed. The standardized frequencies do not, however, seem to adequately reflect the participants' orientations to interruptive practices. For example, Satu and Monja each interrupted about 9.2 times per hundred utterances, although Satu's raw frequency was almost twice as large as Monja's. In addition, Emma's standardized frequency of interruption is exaggerated by her few speaking turns. There is ample evidence that speakers oriented more strongly to Ahmed's interruptiveness (see section 5.3 below), despite his smaller standardized frequency and despite having nearly the same raw frequency as Monja. These observations suggest that more than just interruption factors into a perception of uncooperativeness. In addition, the perception of uncooperativeness is likely accumulative, making raw frequency of interruption a better indicator of a speaker's cumulative impact on an equitable incrementation of topic within the group. With these observations in mind, the interruptive practices of Satu, Ahmed, and Monja indicate a clear direction for a more detailed qualitative analysis.

Also of interest is the reverse analysis of who are the recipients of interruption. This figure is best expressed by standardized frequency, as interrupted speaking turns will have a greater impact on those with a smaller contribution (e.g. Emma and Pilvi). The following table shows the recipients of interruption, sorted by standardized frequency:

Table 3

	recipient	per 100 u
Emma	4	9.09
Ahmed	8	8.60
Pilvi	3	8.11
Monja	5	6.58
Kirill	4	6.06
Geert	5	5.62
Satu	3	2.31

Not surprisingly, the relatively few interruptions received by Emma and Pilvi are made more significant when their fewer utterances are taken into account. This suggests that their attempts to contribute to the topic development may have been impeded by the group's interruptive tendency. Of greater interest, however, is that Ahmed is the recipient of the largest number of interruptions with a high standardized frequency, despite his large contribution to the discussion. A further consideration of who interrupts whom reveals a notable pattern. Of the eight analyzable interruptions of Ahmed, five of them are performed by Satu, shedding light on their interactive history. Interestingly, Ahmed does not interrupt Satu, who is the recipient of only three interruptions. There seems to be no obvious explanation for this, though it stands in sharp contrast to her role as the most active speaker and interrupter.

4.2 Additional uncooperative features

Having looked at these aggregate occurrences of interruption, it seems that interruption alone does not fully account for the perception of uncooperativeness or the relative severity of participants' interruptive practice. Satu, Monja, and Ahmed were the principal interrupters, yet my eight hours of group work observation suggested a qualitative difference between their degrees of dominance and how strongly other participants oriented to these features. With an expectation that additional features contributed to these perceptions, I reanalyzed the group work session, annotating other notable characteristics. Already during the transcription process, I noticed Satu's

recurring tendency to extend her speaking turns immediately following a minimal intervening utterance. These were not analyzable as interruptive, as the intervening speaker typically started at a clear transition point (e.g. after a complete M chunk) but only managed to utter an insubstantial turn-opening chunk before Satu's turn extension. I have termed this feature "turn holding," and I further made a systematic search for these instances of turn holding across all speakers. The results are shown below, sorted by standardized frequency.

Table 4

	hold turn	per 100 u
Satu	14	10.77
Pilvi	3	8.11
Ahmed	7	7.53
Emma	3	6.82
Kirill	4	6.06
Geert	2	2.25
Monja	1	1.32

Insofar as Satu and Ahmed are the predominant users of the turn holding practice, it suggests a further source of their perception as dominant participants. Also of interest are the high standardized frequencies of the quiet Pilvi and Emma, who, despite their smaller contributions to the group work, still exercised this turn holding feature. In particular, Pilvi's first utterance of the group work session was interrupted, and despite her few utterances, she quickly adapted and was proportionally likely to hold her turn and complete her intended contribution to the topic development. Moreover, I only found one instance in which Monja employed this turn holding technique. This feature, while not technically satisfying the interruptive criteria, suggests a source of the differing perceptions of Satu's and Ahmed's interruptiveness on one hand and that of Monja, who did not practice this interpretably dominant strategy of completing one's intended thought in spite of cooperatively located intervening utterances.

An analysis of this turn holding practice may be further extended to include associated vocal characteristics. Turn holding often results in overlapping speech, and, as Schegloff (2000) discusses in depth, there are ways in which speakers signal their intention to continue, prompting the other speaker(s) to drop out of overlap. He terms these “perturbations” or “marked departures from the prosodic character of the talk’s articulation to that point” (ibid.: 11-12). Two common forms of this response to overlap are the rush-through technique already discussed (see Example 6) and raising one’s voice, sometimes in conjunction with each other. My analysis of turn holding therefore took these features into account for their likely interpretation as dominant or even aggressive. Among the 34 identified occurrences of turn holding in Table 4, 14 were performed without noticeable “perturbations.” The majority of these occurrences (20) were accompanied by rush-through and/or raising one’s voice. The following table shows the distribution of these raise/rush features among the participants.

Table 5

	raise/rush	per 100 u
Satu	8	6.15
Ahmed	5	5.38
Emma	2	4.55
Kirill	2	3.03
Pilvi	1	2.70
Monja	1	1.32
Geert	1	1.12

The majority of Satu’s and Ahmed’s turn holding coincides with these additional vocal features, which further distinguishes them from the interactive practices of the other participants. Insofar as Satu and Ahmed perform 13 of the 20 identified examples of “perturbations” in their practice of turn holding, this characteristic should also be seen as a source of their perceived dominance in the interaction.

Because these efforts to extend one’s turn often coincide with overlapping speech, it raises an additional question of who drops out of overlap. Having extracted the unique utterances of each speaker into speaker-specific subcorpora, I performed a

survey of how many of each speaker's utterances ended in an unresolved segment of overlapping speech (i.e. overlap in which an M chunk does not come to completion). The results of this analysis are shown in the following table and sorted by standardized frequency.

Table 6

	Drops out	per 100 u
Emma	12	27.27
Monja	16	21.05
Pilvi	6	16.22
Satu	21	16.15
Ahmed	15	16.13
Geert	14	15.73
Kirill	7	10.61

Although Satu drops out of overlap the most times (21), her large number of adjusted utterances situates her standardized frequency in the middle of the list. The most striking figure belongs to Emma, for whom 27 percent of her utterances end with her dropping out of overlap. This figure, along with that of who is the recipient of interruption, begins to paint a picture of Emma as being marginalized in the interaction. In addition to her overt orientations to her limited English skills, Emma's contribution to the discourse appears to be limited by her more dominant peers. Furthermore, Monja's subcorpus shows that 21 percent of his utterances end with his dropping out of overlap, another important indicator of the differing perceptions of his interruptive practice. Though his frequency of interruption is similar to those of Satu and Ahmed, Monja does not share their preference for turn holding or vocal perturbations, which likely factor into an overall perception of uncooperative interaction. Insofar as Monja also tends to yield to other speakers by dropping out of overlap, his interruptive practice may be ameliorated in the perceptions of an observer.

The speaker-specific subcorpora further offer a final statistical measure which is useful for interpreting perceptions of uncooperativeness. In my interview with the mentor Geert, he suggested that one of Ahmed's distinguishing features was his

tendency toward long monologues. In Geert's experience, it is uncommon in discussion groups that participants talk at length about something they've brought up themselves without inviting feedback or giving the floor to someone else. In addition, Sacks, Schegloff and Jefferson claim that the larger the group of interactants is, the more pressure exists to minimize turn size, suggesting tokens per utterance as another relevant measure of dominance (1974: 713). In response to this, I used each speaker's sub-corpus of adjusted utterances to determine an average number of tokens per substantial utterance. These results are as follows, sorted by average tokens per adjusted utterance:

Table 7

	adjusted utterances	total tokens	average tokens/u
Kirill	66	2630	39.85
Ahmed	93	2761	29.69
Geert	89	2222	24.97
Emma	44	905	20.57
Monja	76	1359	17.88
Satu	130	2180	16.77
Pilvi	37	589	15.92

As indicated by my own observations, Kirill tended to speak at length with a few exceptionally long monologues. Both Kirill and Geert, in accordance with their roles as mentors, tended to have longer speaking turns as they worked to clarify and direct the developing topic. Ahmed's position in Table 7, however, is more remarkable. Apart from being situated amongst the mentors in terms of length of utterance, his quantity of speech is clearly distinguished from that of Monja and Satu, the other two group members with the largest contribution. These figures suggest a potential source of Satu's tendency to interrupt Ahmed, as well as a general perception of Ahmed's dominance within the discussion. One of the observations I made while transcribing the group work was that during Ahmed's longer monologues, he received strikingly few backchannels from the other participants. Considered in light of the group's otherwise

strong backchanneling tendency, the absence of these continuers constituted the group's negative orientation to Ahmed's long-windedness, which at times seemed overly pedantic.

4.3 Turn competition

Before moving on to a qualitative discussion of these findings, an additional feature emerged which, although falling outside the interruptive criteria, was demonstrably uncooperative. I have termed this phenomenon "turn competition," though I attempt to define it precisely to distinguish it from a more general conception of competing for turns. There were ten identified sequences of turn competition in the data, which I define as when three or more speakers initiate intervening utterances in rapid succession, preventing any of the initial speakers from moving beyond a turn-opening utterance. These intervening utterances may be interruptive, but often they are initiated before strong prospection can be established. In many cases there exists a grey area between interruption and turn competition. In these cases, if three or more speakers are involved, I have favored an interpretation of turn competition over interruption, as the turn competition criteria capture a perceived jostling to gain the floor *before* other speakers can establish strong prospection. The following extract occurs about an hour into the group work session, after Geert asks the group if they have a definition of a woodland key habitat.

Example 13

1	Geert	OI	(maybe)
2		M-	[do you think you should]
3	Emma	OI	[more or less]
4		OI	[er]
5	Monja	OI	[maybe]
6	Emma	+M-	[global]
7	Geert	OI	[wait wait] wait
8	Monja	M-	i don't
9	Emma	OI	i think
10		OI	more or less
11		M	we have a global definition

In analyzing this extract, it is first necessary to clarify who is overlapping whom. Geert utters *maybe* before he and Emma enter into overlap (lines 2 & 3). Emma's intervening utterance is not analyzable as interruptive, and Geert in turn drops out of their overlap. Lines four and five overlap, as Monja enters the stream of discourse with a loud *maybe*. This triggers Geert's intervening utterance (line 7), which overlaps Emma's continuing utterance (line 6). When analyzing these types of successive segments of overlapping speech, I have favored a judgment of turn competition. For example, when Monja enters with *maybe* at line 5, his utterance follows the overlapping stretch of lines 2 and 3. Rather than enter into arbitrary speculation of which stretch of overlapping speech he may have interrupted (or even heard clearly), it seems preferable to assess these sequences as a phenomenon independent from the linear analysis of interruption.

Although the extract of Example 13 is not classed as interruptive, it can be regarded as an uncooperative expression of turn competition. This assessment is supported by Geert's orientation to the intervening utterances with a pleading *wait wait wait* (line 7). This orientation is significant as it comes an hour into the group work session, at which point the group's practices of interruption and turn competition has been well established. Geert's exhortation is not heeded, however, as Monja again attempts to take the floor with *i don't*, only to be interrupted by Emma, who repeats and continues her initial utterance. To borrow a metaphor from Schegloff (2000: 12), this phenomenon of turn competition appears to be the group "spinning their wheels," i.e. there is speech in progress, but no forward movement. Insofar as this is a very brief extract of just a few seconds, it represents little more than minor turbulence. On the other hand, Geert's negative orientation to it suggests that, as with interruption, its significance is not in the individual instance, but rather in its aggregate occurrences.

Among the ten sequences I annotated as constituting turn competition, three of these involved the minimum three speakers and are best described as minor turbulence. Five of these instances are more easily classed as uncooperative due to a larger number of competitors (from four to six), a participant orientation such as Geert's described in Example 13, or a topical development which is demonstrably counterproductive. However, two cases of turn competition were not interpretable as uncooperative. In other words, the structural criteria of turn competition outlined above were satisfied, but they occurred in the context of topical convergence or an extended negotiation of meaning in which multiple parties entered into the exchange. While this may not be the "orderly commerce" envisioned by Schegloff (2000: 1), it is likely a common cooperative function of the turn competition framework and difficult in practice to distinguish from extended backchannelling.

These cooperative realizations of the turn competition criteria were, however, less frequent in the data than those which manifested an uncooperative or counterproductive episode. This feature provides an interesting complement to the main analysis of interruption, as we cross over from individual traits (i.e. the individual speaker's tendency to interrupt a turn-in-progress) to a potential gauge of group-level dysfluency. Unlike the speaker-specific analysis of interruption, the turn competition criteria involve multiple parties who nearly simultaneously make bids for the floor, disregarding the other bids and often speaking over each other in extended overlap. This calls to mind the importance of turn openings for confluence or the "co-creation of fluency" (McCarthy 2009: 17-19). It is tempting to automatically assign a negative value to these instances of turn competition, but the possibility of a cooperative manifestation of the turn competition framework demands a more thorough analysis. The remainder of this section will therefore illustrate the demonstrably counterproductive realization of turn competition in the data.

The most striking example of counterproductivity occurs about halfway through the group work session, with the discussion centered on woodland key habitats in Sweden. When Geert asks the group if anyone has found statistics for Sweden, Emma begins to read from a published article. The question is: what is the median size of a woodland key habitat in Sweden?

Example 14

1	Emma	M-	<READING> the total area amounts to almost
2		OI	er
3		+M	164,000 hectare
4		MS	on private forest land
5		MS	which correspond to 1.14 per cent
6		MS	of the productive forest land
7		M-	the average size of
8		OI	er
9		+M	a key habitat is 3.1 [hectare] </READING>
10	Monja	OI	[yeah]
11		M-	from the median [it's]
12	Satu	MF	[here it's]
13	Monja	+M	[1.4]
14	Pilvi	M	[huh]
15	Ahmed	M-	here three point
16	→Monja	MR	the median is [1.4]
17	Pilvi		[(xx)]
18	Geert	M	(no not that)
19		MF	[i]
20	SS		[[xx]]
21	Emma	OI	[(i think
22		M-	it's)] about
23		OI	erm
24		OI	erm
25	Pilvi		<CLEARS THROAT>
26	Emma	+M	swedish website
27		OI	(i guess)

When Emma begins reading, the first figure she reads is the average size of a woodland key habitat in Sweden. Monja, however, in line 10 anticipates her M(+) and his intervening utterance overlaps with Emma's *hectare*. He seems anxious to interject with the crucial statistic of median size, which he offers in lines 11 and 13. However, I was able to obtain the article from which Emma was reading, and the figure of median size immediately followed the average figure. If Monja had waited a moment longer, Emma would have provided the needed statistic of 1.4 hectares. Instead, he sets in motion a

sequence of turn competition. Before Monja can utter the complete median figure, Satu also interjects with her own attempt with *here it's* (line 12), which overlaps Monja's utterance and triggers Pilvi's indirect signal of misunderstanding (*huh* with rising intonation) in line 14 (Mauranen 2006: 133-135).

The topical development has nearly broken down when Ahmed enters at line 15, repeating the average size in hectares. His statistic, however, is interrupted by Monja, who attempts to complete his prior utterance and respond to Pilvi's misunderstanding. Monja's interruptive repetition (line 16) is also not heard clearly, as he utters it quickly and softly and the end is overlapped again by Pilvi. When Geert enters with *no not that* in line 18, he seems to be referring to Ahmed's attempt to repeat the average figure. Geert never clarifies the statistic, as several unidentified speakers enter into simultaneous overlap, with Emma emerging in the clear. Perhaps as a signal of frustration, Pilvi clears her throat (line 25) as Emma concludes with an off-topic summary (*it's about Swedish website i guess*), indicating that the entire sequence of turn competition had only resulted in her confusion.

Immediately after the Example 14 extract, Satu offers the median figure of 1.4 hectares from another article. Rather than attempt to reorient the group after the turbulence recounted here, Geert repeats the figure and takes the opportunity to continue developing the topic. While this extract is relatively brief, it illustrates the disruption of topic incrementation which turn competition can effect. Furthermore, it demonstrates that despite its short duration, the sequence resulted in confusion and misunderstanding for two group members. Considering that the topic would have developed according to Geert's intended direction if the turn competition sequence had not occurred, this extract provides an excellent example of the counterproductivity and uncooperativeness of the turn competition feature. Also of interest is that only one

intervening utterance (Monja, line 16) is analyzable as interruptive.⁷ Yet interruption and turn competition seem to be qualitatively related (both involve “cutting off” another speaker), and their co-occurrence offers support for treating turn competition as a primarily uncooperative feature.

A further example of the co-occurrence of turn competition and interruption follows the extract in Example 13, in which Geert pleads *wait wait wait* in vain. After Emma suggests they have a “global definition” of a woodland key habitat, Geert goes on to ask the group if they should choose a more particular definition. Emma is the first to respond:

Example 15

1	Emma	OI	yeah
2		OT	but
3		M-	what about
4	Pilvi	OI	[mhm]
5	→Satu	OI	[like
6		M-	what's] our
7		M	[are we searching for information]
8	→Monja	OI	[yeah
9		OT	but
10		M	it would be a mess]
11	Satu	MS-	about
12	Ahmed		(xx)
13	Satu	+MS	swedish [situation]
14	Monja		[@@]
15	Satu	MS	or finnish
16		OT	[because
17		MF	that
18		M	it makes a difference]
19	Monja	OT	[because
20		M-	it's
21		OI	kind of
22		+M	(everything)]
23	Satu	MS	what

Emma establishes strong prospection in line 3 with a question formation *what about* (classed as a turn-opening M-, or group 1.2.2 in Appendix B). Satu's intervening utterance in lines 5-6, *like what's our*, is therefore analyzed as interruptive. Satu's

⁷ Satu's intervening utterance *here it's* (line 12) is not classed as an interruption, as Monja's preceding utterance *yeah from the median* (lines 10-11) is interpretable as a complete M chunk clarifying the figure which Geert had, in fact, requested.

interruption in turn establishes strong prospection with a question formation of her own, which then informs the analysis of Monja's intervening *yeah but it would be a mess* (lines 8-10) as interruptive as well. Thus, the basic criteria for turn competition are fulfilled – three speakers begin turn openings in quick succession, with each intervening speaker disregarding the prior turn opening. In most cases, these turn openings are minimal and do not trigger an interruptive analysis. In this case, however, the turn competition phenomenon directly coincides with interruptions.

Also of interest in Example 15 are the long stretches of overlapping speech in which neither Satu nor Monja drop out of the overlap. Earlier I discussed the related phenomena of turn holding and overlapping speech, and this extract suggests a likely connection with the practice of turn competition. One might hypothesize that the motivation for turn competition also informs the practices of turn holding and continuing to speak in spite of overlap. Example 15 shows Satu and Monja engaged in all three practices at once. In addition to long stretches of overlapping speech, Monja seems to disregard the intervening utterances altogether, with his statement *because it's kind of everything* (lines 19-22) referring back to his previous statement, *it would be a mess* (line 10). This creates the perception of speakers talking past each other, attempting to simultaneously increment divergent topics. Furthermore, the co-occurrence of these various features underscores the observation that multiple linguistic features interact to create perceptions of uncooperativeness and group-level dysfluency.

5 Discussion

The research cycle proposed in this study begins with a systematic transcription and annotation of spoken data, followed by an analysis of the aggregate occurrences of interruption and related features, and finally concludes with a qualitative analysis informed and directed by the statistical aggregate. This section will therefore discuss the findings from a narrower perspective, viz. a qualitative profile of several key participants. This section will not address the mentor Kirill, who played a relatively minor role in the interaction and who was only present at this second group work session. In addition, Monja's role will not be further discussed, as the ameliorating features of his often interruptive speech have been discussed at length in section 4.2. The following discussion will focus on how the remaining interactants respond and orient to each other, particularly in relation to their own and others' interruptions.

5.1 Defending the turn-space: Emma and Pilvi

It was already pointed out in the discussion of Table 1 that Emma and Pilvi were the quietest members of the group, together contributing only 15 percent of the group's adjusted utterances. Because of their limited number of speaking turns, the relatively few times in which they were interrupted take on a greater significance, as reflected in the figures of Table 3. Although Emma and Pilvi were interrupted only four times and three times respectively, their standardized frequencies of receiving an interruption are among the highest in the group. This raises the question of how they responded to these interruptions and to what extent their participation was inhibited by being less active members of the group.

As already noted, Emma was the least proficient ELF user in the group. On three occasions during the first half of the group work session, she encountered limitations in her vocabulary which led to her loss of a speaking turn. When struggling to formulate a

contrast between lichens and polypores, she appeared to solicit help by saying *i don't know how to explain* and apparently code-switching into French. Her attempted request, however, did not result in the corresponding term in English. Instead, Emma lost her turn. On another occasion, upon encountering a gap in her vocabulary, she softly said *it's for the interest of all erm i don't know* and relinquished her turn. Lastly, as competition for turns started heating up, Emma was only able to express her frustration at not being able to enter the discussion: *i want to explain but <GROAN>*.

Despite her limited proficiency, Emma still responded to the interruptive practice of the group by employing the turn holding technique. She seemed intent upon defending her turn-space, particularly during a lively exchange around the one-hour mark of the discussion. During about a five-minute period, she was interrupted four times and initially responded by twice holding her turn in spite of intervening utterances. This included the sequence of turn competition discussed in Example 13, in which Emma ignores Geert's *wait wait wait* and completed the thought she had initiated. Though this suggests that she was not marginalized by the more assertive group members, Emma's participation decreased throughout the ensuing group meetings, as she could not keep up with the pace of the discussion. Her profile suggests a further source of uncooperativeness within the group, viz. the inability or unwillingness to accommodate the less proficient ELF users.

Pilvi's profile is similar to that of Emma, but with an important difference – Pilvi was one of the most proficient ELF users in the group, and her relatively few speaking turns had no correlation to her language skills. It is interesting to note, therefore, that Pilvi's response to being interrupted was similar to that of Emma; both were keen to defend their turn-space. Perhaps as a function of her greater proficiency, Pilvi's response was even more marked, as she adapted early on to the group's interactive practice and consistently defended herself by means of holding her turn

when her message was not complete, raising her voice to hold her turn when needed, and continuing to speak when interrupted.

In accordance with her taciturn style, Pilvi made her first comment at 20 minutes into the group work session. Her statement about the definition of woodland key habitats was interrupted by Geert without overlapping speech; he simply started talking in the midst of an M chunk. Pilvi's initial utterance ended with "*it could be like in the swedish definition maybe more like erm like a r- relic of old forests or something but like or the special.*" The final chunk, *the special*, is clearly an M- which has been introduced as an alternative definition with the coordinating conjunction OT *or*. In his paper on interruption, Murray (1985: 35) suggests that the most severe type of interruption is when a speaker is cut off before making her "first point" in a discussion. Insofar as this is Pilvi's first speaking turn in the group work, one might expect that Geert's interruption made an impression on Pilvi and informed her future interactive practice. This was indeed the case, as she held her turn in her second main utterance. Ahmed and Monja began speaking at a clear transition point, but Pilvi extended her turn in spite of their intervening utterances. Her third main statement comes in minute 26, when she argues why polypores are important for determining woodland key habitats:

Example 16

1	Pilvi	OI	[well
2		OT	because
3		MA	they indicate the]
4		+M	the history
5		MS	of the forest
6		OI	i mean
7		M	they need some dead wood
8		OT	and
9		M	some sort of history
10		MS	with the wood
11		M-	how it's
12	→Emma	M	there are some statistics
13			[(xx)]
14	Pilvi	OI	[like]
15		+M	different age
16		OI	and
17	Emma	OI	mhm
18	Pilvi	M	certain structure

19		OT	and
20	Ahmed	MF	if [we]
21	Monja	OI	[yeah]
22		OT	but
23		M-	[from that]
24	Pilvi	M	[to be there]
25	Monja	+M-	question

Emma’s intervening utterance in line 12 is analyzable as interruptive due to Pilvi’s unresolvable M- of line 11. However, the interruption is partial insofar as Pilvi ignores the interruption and continues her utterance. A transition point arises at line 18, and Ahmed and Monja begin a sequence of turn competition. Pilvi again extends her turn with *to be there* (line 24), her third M chunk describing the relevant characteristics of dead wood. This trend continues, as Pilvi is not fully interrupted for the remainder of the group work and she holds her turn by raising her voice in the lively latter part of the session. Her interactive profile thus suggests a proficient ELF user who is not a frequent contributor, but who is prepared to defend her speaking turns when she wishes to make a contribution. While Pilvi and Emma are not notably uncooperative in the group work session, they seem quick to adopt other participants’ uncooperative features in order to ensure their contribution to the discourse.

5.2 “A bit dominant”: Satu

The principal motivation for this study has been to investigate the empirical linguistic features which inform perceptions of uncooperativeness, including dominance. In her course learning diary after the fourth group work session, Satu wrote:

Again, I was very active in the discussion session. Maybe even too active – I get easily bossy when things are not going forward and I get frustrated.

When Geert gave private feedback to each group member at the end of the course, he advised her: “As you mentioned yourself in the diaries, you indeed were a bit dominant.” As previously discussed, these perceptions seem to arise from the interaction of multiple linguistic features. Satu was clearly the largest contributor to the

second group work session, as she alone accounted for nearly a quarter of all adjusted utterances (Table 1). In addition, she showed the strongest preference for interruption within the group, performing just over a third of the group's 32 interruptions (Table 2).

Other factors, however, also shed light on these aggregate statistics. Satu is the only speaker who interrupts all the other speakers at least once. She also showed a preference for interrupting others' turn openings, with eight of her 12 interruptions occurring before a complete M chunk is uttered. Altogether during the group work session, there were 17 interruptions of turn openings, with nearly half of them performed by Satu. Consulting again with Murray's "judgments of severity" (1985: 35), this act of "cutting off a speaker before s/he makes his/her first point in a speaking turn" is second only to the severity of Geert's interruption of Pilvi's first main statement of the session. Moreover, Satu's practices of turn holding and employing "vocal perturbations" (i.e. voice-raising and rush-through techniques; Schegloff 2000: 11-12) have already been discussed in connection with Tables 4 and 5. All these interpretably dominant features co-occur and interact to create perceptions of uncooperativeness.

It is also interesting to note that Satu herself is interrupted only three times in total, and all three of these are performed by Monja. However, none of these interruptions constitute Satu's turn being fully "cut off." She holds her turn in each case (i.e. they are partial interruptions), succeeding in extending her utterance despite Monja's interruptive attempts to take the floor. Satu's general preference for the turn holding technique is indeed interpretably dominant, suggesting a determination to finish one's thought "at all costs." As previously noted in the discussion about turn holding (Table 4), this feature was examined independently because it rarely co-occurred with an interruption. However, among the six instances in which a turn hold was also interruptive, four of these were performed by Satu as she interrupted a strongly

prospective utterance which had begun at a clear transition point. The interaction of all these features undoubtedly informed Geert's assessment that Satu is "a bit dominant."

When the dynamics between participants are taken into account, there was clearly an ongoing tension between Satu and Ahmed. Satu was strongly oriented to Ahmed in various ways, including as the main recipient of her interruptive practice. Of Satu's 12 interruptions, five of these were directed to Ahmed, who did not interrupt her once. Furthermore, in accordance with her preference for interrupting turn openings, three of these five interruptions occur before Ahmed had uttered a complete M chunk. These instances offer supportive evidence for Murray's (1985) scale of severity, as I already have shown an example in which Ahmed orients to one such turn-opening interruption (Example 3), sarcastically asking permission to speak. Ahmed is also the main recipient of Satu's practice of sighing to show disapproval. In the introduction I described the final group work session in which Ahmed walked out of the room, and this incident was also preceded by one of Satu's loud sighs. This feature of Satu's interaction, however, was already established in the second group session.

Among the six audible sighs by Satu which I transcribed in the second group work session, five of these were directed toward Ahmed (one sigh occurred during her own word search). From these five occurrences, two sighs were in response to Ahmed's interruptions of another speaker and two sighs were when Ahmed was displaying strong argumentativeness. The final instance, which occurs early in the session, is more revealing. In this exchange, Kirill asks about the factors toward which polypores are sensitive.

Example 17

1	Kirill	OT	but
2		M	into what they are sensitive
3		M	to air pollution
4		OT	and
5		OT	and
6	Ahmed	M-	they are sensitive
7		+M-	[for]

8	Kirill	+M-	[to]
9	Ahmed	+M-	also sometimes
10	Kirill	+M	logging history
11	Ahmed	MR	logging
12	Kirill	OI	yes
13	Ahmed	M	it's mean that cutting
14	Kirill	MR	cutting
15	Satu		<SIGH>

This example demonstrates a cooperative negotiation of meaning between Kirill and Ahmed, who is unfamiliar with the word “logging.” Ahmed repeats the word in line 11 to signal a problematic item (Mauranen 2006: 133), which he rephrases to receive a confirming repetition from Kirill (line 14). Note that Ahmed and Kirill do not interrupt each other in this sequence; instead, this is an example of typically cooperative ELF interaction in which speakers co-construct utterances, reflected here by the smooth progression of M chunks in spite of speaker change (Mauranen 2006: 137-138). Satu, however, seems dismayed that one of her group members is unfamiliar with the word “logging,” and her audible sigh constitutes a public display of her disapproval. This study has intentionally set aside questions of politeness, but this extract suggests a severe face-threatening act which likely embarrassed Ahmed (see O’Driscoll 2007). Not only is this demonstrably uncooperative, but it sets the tone of disharmony between Satu and Ahmed for the remainder of the group work sessions.

5.3 Interruptive argumentation: Ahmed

Like Satu, Ahmed was one of the most active participants, and though his interruptive practice was less marked than that of Satu, he elicited strong orientations from other participants. The source of these reactions perhaps lies less in interruptions of individual utterances, but rather in the interruption of topical development. Ahmed’s uncooperativeness revolved around his ongoing and redundant criticisms of polypores as indicator species for woodland key habitats. He returned to this dispute enough times

that it quickly became a distraction to the group's progress, and in his interview Geert mentioned that he had to address this directly:

I think after either the third or fourth session I actually talked with him about a hour in the coffee room to just to go over the issues that he brought up so often and why I actually thought that they were maybe side issues.

Ahmed's argumentativeness was established early on the first group work session. In fact, his first comment of the meeting expressed his objection to using red-list species as indicators of a woodland key habitat. This objection was further characterized by emphatic and forceful language, such as *i am against this one, we have to find out, and we cannot say*.

Ahmed's argumentative tendency was typically conveyed through a rhetorical style which could be interpreted as too unilateral or pedantic. In addition, his average utterance length of 30 tokens per utterance was the highest of any non-mentor group member (Table 7), which contributed to the perception of long monologues. One such utterance early in the session consisted of 162 tokens with only one backchannel. It conveyed a long criticism of polypores as indicator species as well as phrases such as *i would like to just emphasise* which were markedly pedantic. When Ahmed's monologue was finished, Geert took the floor with *er sorry*, as if he was orienting to his own interruption. Insofar as Ahmed had clearly concluded his statement, Geert's orientation should be seen as a response to the long, lecture-like utterance. Another long monologue began with a list of forest inhabitants (*in woodland we have a tree we have a fungi /.../ insects animal rat or rabbit*) which, apart from being superfluous, might be seen as condescending. Moreover, Ahmed's rhetorical style could be subject to a similar interpretation, with his penchant for highly formal organizing chunks such as *as we understood from the course* and *as i conclude and my own experience says*, even when it is not a conclusion.

Though these features of Ahmed's speech often accompanied his argumentation, the strongest participant orientations arose when his argumentativeness coincided with interruptions. In a heated exchange late in the group work session, Geert presses Ahmed to formulate his key question about polypores:

Example 18

1	Ahmed	M-	the key question is
2		OT	that <pause 2-3 sec>
3		+M	why polypores selected
4		MS	in finland
5	Geert	OT	but
6		OT	but
7		MF	is
8		M	is that really the key question
9		MR	why polypores are selected
10		OI	i mean
11		OT	then
12		M	you go back to historical contingency
13		OT	that
14		M	many people [study polypores
15		OT	but
16		OT	but
17		MF	what]
18	→Ahmed	OI	[yeah
19		OT	and
20		M-	i myself believe
21		OT	that]
22		+M	polypores is not good enough
23		MA	for s-
24		+MS	[indicators]
25	Geert	OT	[so
26		M	that's] your question
27		OI	right
28		OT	so
29		OT	so
30	Satu	OI	<SIGH>
31	Geert	M-	are [polypores]
32	Pilvi	OI	[<SIGH>]
33	Geert	+M	good indicator species
34		MS-	for
35	Ahmed	+MS	for woodland key habitat
36	Geert	MR	for woodland key habitat
37		OT	[but]
38	Ahmed	OI	[yeah]
39	Geert	OT	but
40		M-	are they [good]
41	→Ahmed	MS	[for] [identification
42		OT	or
43		MS-	for]
44	Monja	OI	[okay okay]
45	Ahmed	+MS	detecting woodland key habitat
46		MR	for choosing

Ahmed's first interruption occurs at line 18, when he cuts off Geert's prospective M- *many people* (line 14). The interruption results in a long stretch of overlap in which Ahmed loudly asserts *yeah and i myself believe*, which elicits successive sighs from Satu and Pilvi (lines 30 & 32). When Ahmed again interrupts Geert's M- *are they* on line 41, he is nearly shouting and Monja (line 44) overlaps with a pleading *okay okay* in rising intonation, as if the argument had become too heated.

These were some of the strongest orientations to Ahmed's interruptive argumentation, but they were characteristic of the latter part of the session. Ahmed mounted a renewed criticism against polypores just a few minutes later, and he held his turn when Geert attempted to take the floor with *okay okay*. Satu can then be heard to click her tongue and sigh as she and Pilvi whisper a private exchange. These participant orientations were not lost on Ahmed, who seemed to perceive himself as somewhat persecuted. He ended his turn with a sarcastic comment about being allowed to speak: *i will try to answer you if that's (let me) @answer@*. These exchanges show a circle of participant orientation, as Ahmed's argumentativeness elicits responses from his peers, which in turn elicit Ahmed's orientation toward them. When considering these features as group-level uncooperativeness, it seems that none of these responses are without merit. In the final exchange of the session as the participants are leaving, Ahmed once more attempts to draw his peers into a dispute on species identification, but without success. When he starts again with *i mean*, Satu cuts him off from the start with an imperative *stop*. With that conclusion, the group dynamics are in place for the remainder of the group work sessions.

5.4 Interruptive Mediation: Geert

In the midst of the interruptive and uncooperative interaction described in depth above, the mentors were tasked with guiding the group in their planning of a scientific presentation. I have focused on Geert in this study, mainly because he was present for

all the group work sessions, but also because he was actively engaged as a mediator of the interaction. Though I identified only three instances of interruptions by Geert, he was strongly oriented to his own interruptions, even when they did not meet the LUG-based criteria. He typically marked these potentially interruptive utterances with *sorry*, even though they were directed toward his efforts to manage the topic and direct the group in a fruitful direction. I earlier discussed his intervening utterance prefaced with *sorry* after Ahmed's long monologue early in the session. Geert also used *sorry* at a cooperative transition point when he was changing both the topic and addressee. His heightened awareness, therefore, was responsive to interruption of topical development as well as interruption of an utterance.

As for his three instances of analyzable interruption, Geert was oriented to all three occurrences. His interruption of Pilvi's first statement of the session was discussed in section 5.1. This interruption, however, seemed to be an inadvertent slip, as Geert oriented to it by clumsily attempting to cohesively link her interrupted utterance to the direction of his own. His next interruption was clearly intentional and prefaced with *sorry*. In this case, there was a misunderstanding within the group about a figure dealing with the size of woodland key habitats in Finland. Geert's interruption was a direct response to Ahmed's specific question, *how much zero point six?* In addition to this mediating role, Geert's final interruption was directed toward Ahmed's argumentativeness in an effort to manage the topic. This seemed to be necessary, as Ahmed had displayed a determination to hold the floor. Just before the sequence discussed in Example 18, Ahmed was debating the value of polypores and instead promoting lichens, his own area of specialty. When Geert prospected an ensuing startup with a minimal *er*, Ahmed held his turn and continued. Geert then interrupted him intentionally in the middle of a scientist's name, orienting to his own interruption with *sorry i i i get the point*.

These observations are significant for showing the various functions of interruption. Like turn competition, which was found to have both cooperative and uncooperative realizations, the practice of interruption can be used as a cooperative means to manage interaction. In the same way that Geert's *wait wait wait* at the start of a sequence of turn competition (Example 13) was an attempt to reign in an uncooperative exchange, his interruption of Ahmed was an attempt to prevent his continued off-topic argumentation. These findings support the claims of authors such as Murray (1985), who stress the need for contextual factors to determine the relative severity of interruptions. While the LUG-based criteria are needed to establish a minimum threshold of complainability, the analysis of interruption only reaches fruition when the interruptive acts are viewed in their fully situated context, being strengthened or mitigated based on the full complexity of participants' interactive histories. This discussion has thus attempted to bring the analysis of aggregate occurrences of interruption to a more nuanced resolution while supporting the legitimacy of a linear approach to detecting individual occurrences of interruption.

6 Conclusion

This study began with my own observations of eight hours of group work and the resulting impressions of interruption and uncooperativeness in the group's interaction. In the effort to investigate these impressions, I found that no satisfactory method existed for systematically identifying and analyzing interruptions. With the help of Linear Unit Grammar's approach to spoken discourse as linear text, I developed a decision tree of LUG-based criteria for analyzing intervening utterances for interruptions of strong prospection (Appendix B). With this system in place, I was then able to evaluate the aggregate occurrences of interruption as well as co-occurring features which further influenced the perception of uncooperativeness. Finally, these aggregate statistics directed a return to the data and a contextually sensitive, qualitative analysis. This research cycle has illuminated the interactive features which contributed to my own impressions of uncooperativeness, as well as the group members' orientations to their own interruptive practice.

6.1 Limitations

Although this study has attempted to employ a reasoned, justified set of analytical principles for identifying individual instances of interruption, the question of relativity in these judgments is inescapable. While the LUG-based criteria outlined above are not as arbitrary as the strictly mechanical criteria employed, for example, by Zimmerman and West (1975), this study is still vulnerable to a criticism of arbitrariness. Indeed, any absolute empirical criteria for determining interruption are inherently arbitrary and constitute an analyst's superimposition of judgments onto natural occurring data. There is truth to Murray's (1985: 33) assertion of "no absolute syntactic or acoustic criteria" for determining completion points, and, by inference, interruptive intervening utterances. This truth, however, does not diminish the analytical interest in studying

interruption, nor does it invalidate the reality or relevance of interruptive behavior in the context of group-level fluency or confluence.

The LUG-based criteria employed in this study have been compiled with these limitations in mind. As a result, I have sought a qualitative return to the data to obtain both the nuanced, contextually situated interpretation of the aggregate occurrences of minimal interruptions as well as a validation of the LUG-based criteria themselves. The fact that so much of the speaker orientation to interruption in the data corresponds with individually annotated instances of minimal interruption lends support to the validity of this approach. That said, it is premature to speculate whether the LUG-based criteria are applicable outside this particular group's data. The bottom-up, data-driven approach to this study is informed by a corpus methodology, seeking empirical criteria which are responsive to the data in question.

In spite of this effort, there is little chance that the approach developed here would ever be accepted by a true practitioner of Conversation Analysis. The extreme microanalysis and situational relativism of CA could not accept the application of an external set of criteria, regardless of the question of arbitrariness. But although this study draws upon the valuable findings of CA research, it is fundamentally a corpus and text-based approach, as is LUG itself. As noted by Sinclair and Mauranen (2006: 61), LUG is a practically-oriented approach which does not attempt to capture the minutiae of the actual event, instead acknowledging the inherent artificiality of analytical work. There will always be a trade-off when practically-oriented analysis is accepted over microanalysis (and vice versa), with gains and losses on each side. This study does not claim that one approach trumps the other. Instead, this study has attempted to split the difference, incorporating valuable elements from each of these approaches.

Even if this approach is accepted, the principal limitation remains a paucity of data; one group session is not enough to draw conclusions about the proposed model or

its range of applicability. More data from the ensuing group work sessions are needed, though further transcription and analysis were beyond the scope of this study. An analysis of several group work sessions would likely reveal patterns and developments in the group's interaction over time. A further aid to evaluating the model would be a systematic analysis of all intervening utterances (including backchannels), not just the potentially interruptive ones. This would provide the truest picture of the group's interactive practice and shed light on how interruption might fit into this bigger picture. Moreover, the need exists for comparison data from different academic speech events such as doctoral defenses, where interruption might play a different role. Finally, similar data involving different interlocutors, including equivalent speech events involving native speakers of English, would further foreground unique aspects of the interruptive behavior of the ELF users in this study.

6.2 Future research

Although these limitations seem to point a clear path forward, the demands of transcribing spoken interaction, performing LUG analysis, examining intervening utterances, and annotating their classification are daunting and require significant resources. A major step forward will be the automation of LUG analysis, a development already foreseen by Sinclair and Mauranen (2006: 158-162). This is a project I plan to undertake in conjunction with doctoral research. The ability to automatically chunk existing transcriptions with reasonable accuracy would enable much more sophisticated analysis with less cost to the researcher, who would only need to check and correct the more intuitive judgments LUG requires. A fully LUG-annotated transcription would further invite a preliminary analysis of intervening utterances performed automatically, though this too would require some innovative programming. While interpretive tasks such as identifying potential M(+) chunks would be reserved for human analysis,

automating these preliminary analyses would enable LUG research to move beyond single speech events to larger corpora.

Fortunately, these transcribed spoken corpora already exist. This study of academic ELF group work could be extended to the University of Helsinki's one million word Corpus of English as a Lingua Franca in Academic Settings, or ELFA (2008). In addition, a comparison corpus of native-speaker speech events exists in the Michigan Corpus of Academic Spoken English, or MICASE (Simpson et al 2002). Both of these corpora are now available in XML format, which would facilitate the development of automated tools. The ability to perform LUG analysis on these larger corpora would constitute a huge step forward in identifying recurring patterns and distributions of chunks among various speech events and language users. Moreover, a partially automated analysis of intervening utterances could eventually lead to an understanding of contextually situated turn-taking norms, leading to a further refinement of the LUG-based criteria developed in this study. As such, this research constitutes a pilot study, the full potential of which depends on a deeper integration of Conversation Analysis, corpus linguistics, and natural language processing.

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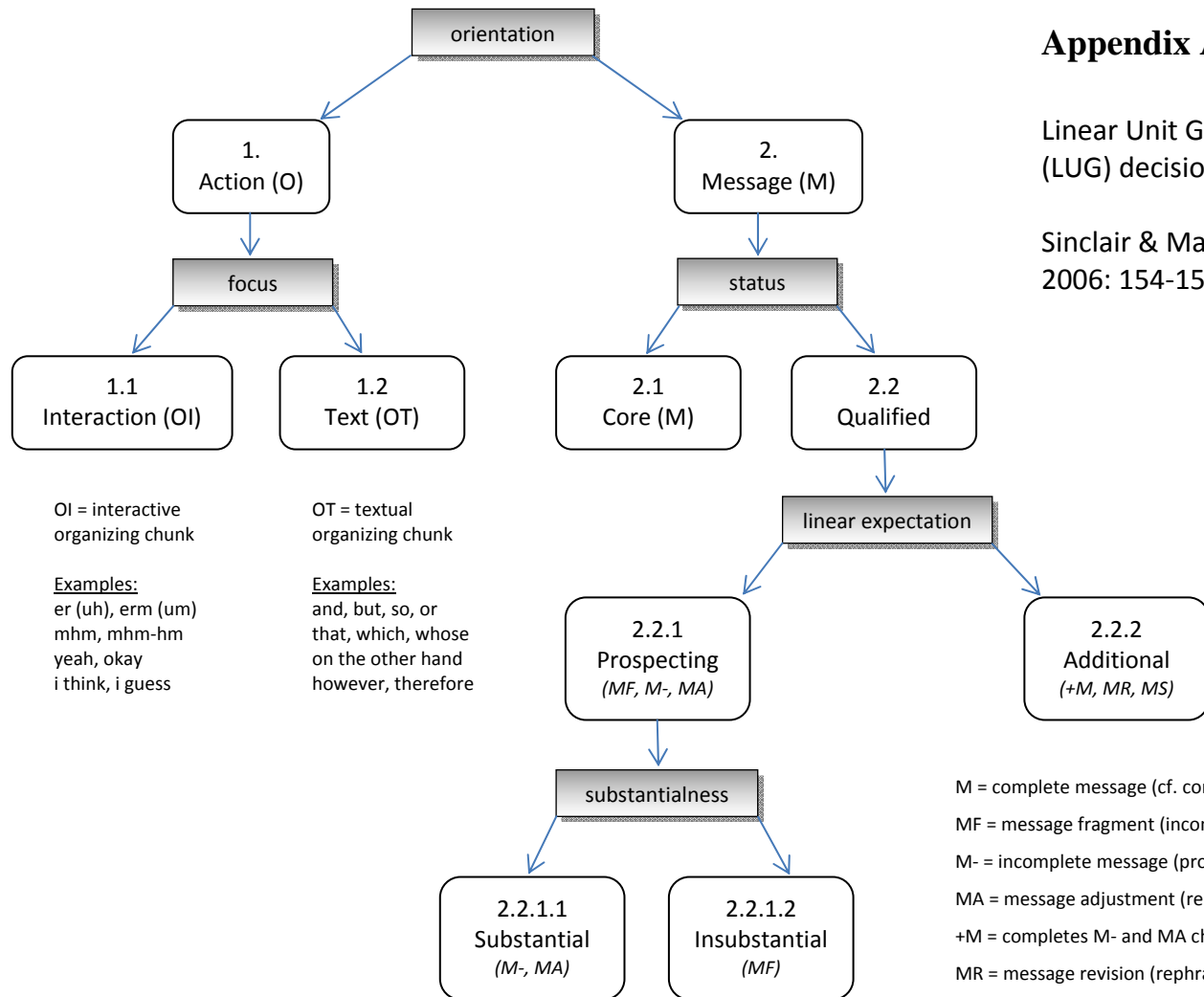
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Appendix A

Linear Unit Grammar
(LUG) decision tree

Sinclair & Mauranen
2006: 154-156

OI = interactive
organizing chunk

Examples:
er (uh), erm (um)
mhm, mhm-hm
yeah, okay
i think, i guess

OT = textual
organizing chunk

Examples:
and, but, so, or
that, which, whose
on the other hand
however, therefore

M = complete message (cf. complete sentence)
MF = message fragment (incomplete, left unresolved)
M- = incomplete message (prospects continuation)
MA = message adjustment (rephrasing with prospection)
+M = completes M- and MA chunks
MR = message revision (rephrasing without prospection)
MS = message supplement (follows a complete M chunk,
often adverbials, prepositional phrases)

Appendix B

LUG-based model for analyzing intervening utterances (borders in black indicate interruptive criteria)

