Usage-based grammar[1]

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Abstract

This article introduces two major approaches to usage-based study of syntax, Emergent Grammar and Interactional Linguistics. Grammarians studying human languages from these two approaches insist on basing their analyses on data from actual language use, especially everyday conversation in a range of languages. Grammar is viewed as emerging from language use in context, and thus grammatical structure is seen as provisional, negotiable, and ever changing. Linguistic units and categories need to be based on what is found in actual use. Traditional notions are not accepted a priori, unless it is shown that speakers actually orient to them in their everyday use. Findings are stated in terms of both form and function. Since the availability of videotaped data, there has been increasing attention paid to embodied behavior as a component of linguistic communication. Frequently used structures are seen as more basic than rarely used ones, and for this reason, quantitative approaches are common. Building carefully designed, balanced corpora of everyday speech in a range of contexts for multiple languages will be a next major step which would make this usage-based endeavor to human language a viable option.

1. Introduction

This chapter represents Usage-based grammar as it is conceived of in discourse-functional and functional-typological approaches to human languages, such as what became to be called West Coast Functionalism, and more recently in approaches concerned with the use of grammar in interaction. In this article, we focus in particular on two approaches, namely Emergent Grammar (Hopper 1987, 2011) and Interactional Linguistics (Selting & Couper-Kuhlen 2001; Couper-Kuhlen & Selting 2018). These approaches had their beginnings in the 1970s and 80s, when linguists such as Li (1976), Givón (1979), Chafe (1980), Du Bois (1980), Hopper and Thompson (1980, 1984), and Bybee (1985) turned to functional aspects of language, first using constructed examples, and then discourse data, starting with written data and elicited narratives (e.g. Chafe 1980, Hopper and Thompson 1980 and 1984, Du Bois 1987), in search of how language was used in and shaped by actual use. Emergent Grammar originated in Hopper's (1987) critique of the then and perhaps still dominant view of grammar as a stable, autonomous system which exists prior to use, and the promotion of an approach which would see grammar as emerging from language use in context and grammatical structure as "always provisional, always negotiable, and in fact epiphenomenal". These ideas on the nature of grammar, radical at the time, came to have a strong influence on linguistic approaches to everyday talk-in-interaction. Even earlier, sociologists had become interested in the structure of

[1] We would like to thank the editors of the current volume for their timely response and critical yet very constructive comments which have turned our paper into a much more readable piece. In some cases, this has led to clarification of our position on critical issues that we are dealing with. In writing this paper, we have also benefited immensely from our regular discussion with Marja-Liisa Helasvuo, Toshi Nakayama, Ryoko Suzuki and Sandy Thompson.

conversation (Sacks, Shegloff and Jefferson 1974, Sacks 1995), which later resulted in the development of Conversation Analysis (Schegloff 2007; Sidnell 2009; Sidnell & Stivers 2012). By the late 1980s and early 1990s, functionally oriented linguists also began studying grammar in conversation (e.g. Fox 1987; Auer 1992; Ford 1993; Ono and Thompson 1995; Ochs, Schegloff and Thompson 1996). Out of these beginnings developed the approach now called Interactional Linguistics (Selting & Couper-Kuhlen 2000; 2001; Couper-Kuhlen & Selting 2018), which combines insights from the above-mentioned Conversation Analysis and functionally oriented linguistics.

2. Data

As the term usage-based grammar indicates, linguists working in this paradigm generally base their analyses on naturally occurring, corpus-based data, although experimental, elicited and even introspective data are also used[2]. The focus on corpus data, especially in Emergent Grammar, arises from the basic tenet shared by practitioners of this approach, namely that grammar is not only a repository of knowledge but rather a dynamic product of language use in context. The form that utterances take in interaction is strongly influenced by what has happened just prior ('positionally sensitive grammar', Schegloff 1996), and, more broadly, what is going on in the interaction, as utterances are shaped online in response to factors constantly emerging as talk goes on ('online syntax', Auer 2009). That is, grammar does not exist a priori, as a stable repository of items and rules in place in the minds of its users before being put to use, but rather it emerges, is created and constantly modified by the use of language in context (Hopper 1987, 2011).

In many usage-based approaches, and especially in Interactional Linguistics, there is an emphasis on the role of ordinary everyday spoken language as the primary and most basic form of language (see, e.g. Schegloff 1996). This is because it is acquired first, exists in a language community before the written form of language is developed, and is still the only form used by speakers of many, probably most, human languages. While written corpora are also studied, especially by grammarians working on diachronic issues from a usage-based perspective, it has been observed that our understanding of human language in general has been skewed by a traditional focus on written language, what Linell (2005) calls 'written language bias'. In this article we will focus on those approaches to usage-based grammar which take spoken language as their primary focus, as that seems to be a common trend among many usage-based grammarians examining discourse data in recent years.[3]

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[2] One approach where introspective data are used is Langacker's Cognitive Grammar (Langacker 1987, 1991); the creator of the approach, Ronald Langacker, uses constructed data in his English-based research. However, many cognitive grammarians also use both spoken and written corpus data (see Langacker 1999; Barlow & Kemmer 2000; Broccias, this volume). These types of data are also examined in other usage-based approaches to grammar, such as experimental and quantitative corpus linguistics, not focused on in this article (on a useful introduction, see Gries 2009). On the use of experimental data in Conversation Analysis, see e.g. Stevanovic 2016.

[3] It seems at the very least premature to assume that there is one grammar which would account for both written and spoken language (see the Multiple Grammars Hypothesis, Iwasaki 2015). Crucially, our understanding of how spoken language functions is still incomplete. Since speech is the most fundamental form of language, that should be

In the study of language in interaction, there is an increasing emphasis on videotaped data, as it has become clear that much of what goes on in face-to-face language use involves embodied action. For example, knowing who is targeted as the recipient of a particular utterance and turn is difficult or even impossible to determine without visual access (e.g. Lerner 1996), and it is known that speakers design their turns for their particular addressee(s) ("recipient design", Schegloff 2006: 89). However, while significant insights into language use have been obtained from the study of embodiment (see especially the studies by Charles and Marjorie Harness Goodwin (e.g. Goodwin 1986, 2003; Goodwin & Goodwin 1986) and Lorenza Mondada (e.g. Mondada 2007); see also Haddington (e.g. Haddington 2012)), our knowledge of what all is involved in it, and how it is integrated with verbal aspects of interaction is still limited.

A complicating factor in the study of the role of embodiment in language is that since videotaped data has been more widely used by interactional linguists only in the last ten years or so, the availability of videotaped data is still also very limited even for heavily studied languages. Furthermore, the study of embodied action is extremely time consuming; for this reason, it may not be compatible with quantitative approaches which are often required for significant generalization. Issues that arise regarding the protection of the identity of the speakers and other sensitive personal data in the collection, processing, storage and publication of corpus data are becoming increasingly prominent; they are even more demanding with video data than audio data.

When choosing among alternative hypotheses, corpus data count more than other kinds of data. Ultimately, researchers are interested in knowing what occurs, what does not occur, and what occurs most often in particular contexts. This shows what participants orient to in carrying out actions with others (on participant orientation, see Thompson, Fox & Couper-Kuhlen 2015; Couper-Kuhlen and Selting 2018; Laury, Ono, and Suzuki to appear). Furthermore, usage-based linguistics has long emphasized the role of frequency in grammar (see, e.g., Bybee & Hopper 2001). Frequently occurring structures are more basic than rarely used ones and have a role to play in language change, contributing to the spreading of systematicity in language, what we think of as grammar. As Du Bois has put it, "grammars code best what speakers do most" (1985: 363). Frequently used patterns may also create economically motivated asymmetries in grammar (Haiman 1983; Haspelmath 2008). Frequently used expressions are known to receive less coding than expressions that are rarely used. Similarly, predictable entities receive less coding than unpredictable entities; what is predictable does not need to be specified or even mentioned. Consider, for example, reflexives. Haiman (1983: 803) argues that in Max washed the reflexive is not mentioned because the object is expected, since washing oneself is a frequently occurring activity, whereas in Max kicked himself the reflexive is mentioned, since kicking oneself is an unexpected activity . Besides economy, such patterns have also been shown to be motivated by interactional and sequential factors. Frequently occurring actions tend to be associated with certain types of grammatical constructions, which in turn occur in

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the primary target of research if one aims at reaching an understanding of how human language in general works. There is also the question of forms of language which seem to utilize features of both speech and writing, such as many online varieties, which may require a separate theory.

certain sequential positions. Telephone call opening routines are a case in point; the order of what is said and how it is responded to has been found to be highly routinized (on landline phone calls Schegloff 1986 on English; Hakulinen 1993; on mobile phone calls, see Arminen & Leinonen 2006).

3. Goals

Emergent Grammar and Interactional Linguistics are presented as alternatives to traditional approaches whose focus is constructed data, and they may be understood to extend other usage-based approaches such as Construction Grammar (see Chaves, this volume) due to their exclusive focus on naturally occurring everyday conversation. Problems that Emergent Grammar and Interactional Linguistics deal with are rather open-ended at this point in the enterprise. Researchers are particularly interested in exploring fundamental questions such as what language is, what it consists of, and how it works. More generally, we aim to provide a realistic picture of how speakers of human languages actually use language. This requires understanding the nature of language and grammar and determining what categories and units languages consist of, what those categories and units are like, and how languages develop and change over time. In practice, we typically give structural and functional descriptions, show how they are related to each other, and propose hypotheses about why grammars of languages are the way they are.

Minimally, but crucially, we have to be able to account for the form and function of everyday spoken language, the only type of language shared by the majority of world languages where we know for sure that the linguistic ability is being exploited in its production.[4] In fact, initial investigations of syntax in everyday speech, though observational and a little crude they may have been, led to a whole series of discoveries which were completely new in the context of traditional linguistics, which was built on the study of constructed examples. These discoveries include the lack of the 'sentence' in spoken English (Miller 1995; Miller and Weinert 1998), the use of 'neverending sentences' in German (Auer 1992), "subordinate" clauses functioning like main clauses (Nakayama and Ichihashi-Nakayama 1997; now called 'insubordination' (Evans 2007). Another major finding is that cross-linguistically, syntactic subjects overwhelmingly tend to encode "given" or "old" information in the form of affixes and pronouns (Chafe 1987; Du Bois 1987). As an example of early findings based on everyday conversation, we give below a simplified transcript and translation of a German "neverending sentence" from Auer (1992: 43-44).[5]

[4] It seems fair to say that other types of data such as constructed examples and experimental data are produced using some type of linguistic ability, but that ability cannot be assumed to the same as the ability which produces language in naturally occurring everyday speech. This is because these types of data either lack or manipulate discourse context which is exactly what is not found in naturally occurring speech. For this reason, practitioners of Emergent Grammar and Interactional Linguistics tend to consider those kinds of data less central to their work or even unworthy of consideration.

[5] Note that in transcripts of spoken language, punctuation marks such as the period, the comma, the semicolon, the question mark and the exclamation mark are used for indicating prosodic features, not syntactic boundaries or sentence function, as in writing.

01M: des auf der einen Seite is also Aussen sonne Hülse.
that is on the one side is kind of a sheath on the outside,

02F: =j[a
yeah

03M: [rund,
round

04 [1.0; gulps]

05 und in der Mitte is bei dem ein n Docht,
and in the middle this one has a wick,

06 n massiver Do[cht, n d'ünner,
a solid wick, a thin one,

07F: [m

08M: un auf der andern Seite vom selben Kabel
and on the other side of the same wire

09 [1.0, gulps]

10 is n Docht der hohl is.
is a wick which is hollow.

11 (1.0)

12 der m bissl dicker is.
which is a little bit thicker.

13 des sin/ die des sin die Kabel.
these are the wires.

14 an besten suchs ma nach som mittelbrauen Kabel wo
the best thing to do is to look for a brownish wire with

15 vorne und hinten so(n) runder Stecker dran [is. das is
in front and behind is like a round plug. that is

16F: [ja. Also
yeah. so

17M denn genau s richtige
exactly the right one

18F: nich verschiedene kleine - äh Pinne komm da raus
it not different little - uh pins sticking out there

19 sondern *ei*[n - dicker Docht,
but one - thick wick,

20M: [genau
exactly

((etc.))

Auer shows (43-46) that parsing such an indeterminate stretch of talk into units such as clauses and sentences runs into a number of problems. For example, unfinished clausal constructions such as the first part of line 1 are problematic in this respect. The construction das ist auf der einen Seite lacks a predicate, but the speaker then uses the local adverbial auf der einen Seite to build another clause in an apokoinu construction[6]. Similar problems arise from the continuation of what seem to be already completed sentences. In line 10, the clausal unit is brought to a completion syntactically and prosodically, but in line 12, after a pause, the speaker begins a relative clause. The question then becomes, whether there is a sentence boundary at the end of line 10 or not, and just where, if anywhere, there is a sentence boundary in line 1. Auer argues that a more reasonable direction to go would be prosodic segmentation, and even more, analyzing spoken conversation in terms of turntaking. Stretches of language, he suggests, constitute turns at talk rather than grammatical units such as sentences. Auer allows that syntactic, as well as prosodic and semantic analysis of such units is also a worthwhile and important pursuit, but he questions the usefulness of the concept of 'sentence' in such analysis (47). As we will show, much subsequent work has followed along these same lines.

In general, practitioners of usage-based approaches do not provide coherent models as the general sentiment is that it is premature to adopt that type of approach. This is because we started examining everyday speech only recently, as noted above. However, that said, there are certainly different attitudes about modelling even among usage-based linguists who examine discourse data, as researchers have different training and orientations. It should be pointed out, however, that having to explain why one does not provide an explicit model shows a bias in our field where many researchers share the view that a scientific approach to language study requires the construction of formal models. We might note that there are linguists who build models based on data they have themselves constructed. The results obtained from such an exercise may have little to do with what actual speakers do in actual contexts of use (see Laury & Ono 2005).

The present authors' view is that we should first observe what interactants do in order to avoid as much bias as possible which can be created by what we think happens, or what the theory leads us to assume. Obviously this is easier said than done because one's description is always influenced or informed by assumptions and theories one may have. Still the preference toward

[6] An apokoinu construction involves the use of a single linguistic element in two constructions; in this case, *auf der einen Seite* is first used as an adverbial in a clause beginning with *das ist*, but the speaker abandons that plan and instead builds another clause beginning with the adverbial. The adverbial phrase thus has membership in two clausal units.

avoiding preconceptions is an attitude commonly shared by practitioners of Emergent Grammar and Interactional Linguistics. Even given the paucity of appropriate data in nearly all languages of the world, it is becoming abundantly clear that non-verbal behaviors are as critical as speech in making interaction possible. Various functions/actions depend on the involvement of both of these two modes and for that reason, separating the two and/or focusing just on speech might not be wise.

Usage-based accounts ultimately aim at both description and explanation as seen even in early work such as Geluykens (1992) where, using English corpus data, he demonstrates that what has been analyzed as a syntactic phenomenon, 'left dislocation' is best characterized as a grammaticized construction from a frequent way of introducing 'topic' into conversation (but see Pekarek Doehler et al. (2015) for a more recent analysis, where left dislocation is seen as a resource for turn-taking and sequence organization). Similarly, several recent studies have shown that prosody and embodied features of language are important in creating meaning in language use. For example, Thompson, Fox & Couper-Kuhlen show that intonational packaging plays a decisive role in responses to informings. (2015: 56-138). With rising intonation, "recipients solicit more work on the informing, making it public that s/he is not quite ready to accept it as fact, and requesting verification or confirmation of it (135)". That is, even though the linguistic form of a response remains constant, the prosodic form it takes carries additional meaning which other participants respond to. Consider the following excerpt, taken from Thompson, Fox & Couper-Kuhlen (2015: 109), where Michael asks what kind of solution Vivian uses for her contact lenses (lines 1-2). Vivian then gives the requested information (line 3). In response, Michael uses an interrogatively formatted utterance with rising intonation, marked in the transcript with a question mark (line 5), which indicates that Vivian has provided new information, but also requests verification.

1	MIC:	what kind of solution
2		yo[u – you: uh: u:se. you use –
3	VIV:	[Bausch and Lomb
4	(0.3)	
5	MIC:	oh do you? Is tha:t what you us[e?
6	VIV:	[°yeh°

Here, Michael's interrogative with rising intonation oh do you? is followed by another request for verification, which Vivian then provides. Thompson et al. show that otherwise similarly formatted requests with falling intonation do not ask for, and do not get, additional verification (111).

Further, already in early work on videotaped conversation, it became apparent that speakers closely monitor the embodied behavior of their recipients, such as gaze direction, and tailor their language accordingly, even modifying utterances already in progress in order to direct them at particular recipients (Ford and Fox 1996).

Most of these descriptions are not formalized, with notable exceptions (see, e.g., Lindström 2014, Auer 2014). A general feeling is that it is premature to go into formalization due to the lack of basic description, as we only recently began to examine naturally occurring everyday conversation as our primary data. Yet, preliminary studies clearly show that we need to develop radically new ways of conceptualizing and examining language. The traditional formalization tools, however, may not be adequate or useful to capture the multi-modality, variation, ongoing change, and other dimensions of these new data. Explicit descriptions appear to serve us better at this juncture than premature formalization[7].

4. Tools

4.1. Descriptive tools

Most commonly, in usage-based approaches to grammar, descriptive statements are given both in terms of form and function, often along with frequency and percentage information, sometimes with statistical figures (e.g., Helasvuo & Kyröläinen 2016). Structural description can include not only syntax but other dimensions such as prosody and nonverbal movements, especially in recent work (e.g. Barth-Weingarten 2016; Rauniomaa & Keisanen 2012). Functional description includes semantic, discourse, social and interactional dimensions. Form and function are discussed together because many practitioners of Emergent Grammar and Interactional Linguistics share a basic attitude against compartmentalized views of language (i.e., modularity), in contrast to the traditional assumption that language consists of discrete components which can be studied one at a time. It seems rather obvious and only natural that form and function are found together in actual usage, and in fact recent studies, especially those taking multimodal approaches, have been uncovering intricate mechanisms which highlight intimate connections between form and function (e.g., Goodwin 2007; Mondada 2009; Kärkkäinen & Keisanen 2012; Haddington et al. 2013). For this reason, a viable alternative view might be that these two areas are represented together in the grammar thus they are studied and described together in usage-based approaches to grammar.

Equally importantly, as language is part of human behavior, and thus crucially associated with constant change, one naturally comes across multitudinal facets of ongoing change in actual speech data. This is why statements about variation and change are often part of the statements about the form and function in Emergent Grammar and Interactional Linguistics.

Since we are interested in what speakers regularly do, we often seek quantitative support, mainly in terms of frequency of occurrence and percentage. That is, our investigation begins with what speakers produce regularly, but not with some forms and functions which might be

[7] One of the editors remarked that it is not the maturity of the paradigm but rather the complexity of the phenomena requiring formalization which makes the current tools available for formalization inadequate, and moreover, that formalization is not inherently a goal usage-based approaches should strive for. This is precisely how we also view the issue. By ‘premature’, we simply mean, ‘too early’.

theoretically important but rarely found in actual talk; forms and functions, unless regularly used, are not important to the line of research we are highlighting here.

Quantitative information such as frequency and percentage is used mostly for descriptive purposes in our research. That is, such information is typically employed as a descriptive measure of how frequent some forms and/or functions are. It is also often employed to show how commonly some forms and functions occur together, and sometimes to show which among competing form-function pairings have better fits which gives an indication as to which pairings might be more recognized and more actively employed by speakers (Thompson, Fox, and Couper-Kuhlen 2015). It is also employed to show the degree and nature of on-going language change (Ono, Thompson, and Sasaki 2012). For example, it seems that while verbs of cognition, like other verbs, have full paradigms in a number of languages, only certain forms are frequently used and consequently become fixed expressions or 'epistemic fragments' (Thompson 2002) with distinct functions such as stance taking (see, for example, Kärkkäinen 2003 on the English I think; Keevallik 2003, 2016 on Estonian mai tea 'I don't know'; Endo 2013 on the Mandarin wo juede 'I feel/think'; Deppermann and Reineke 2017 on the German ich dachte 'I thought').

Use of quantitative information naturally make one think of the employment of statistical methods as a next logical step. Unfortunately, these methods are of limited value to us since we typically lack carefully designed balanced corpora involving naturally occurring everyday speech, as mentioned above. As noted, for most languages, we only have a small collection of random sets of recordings and their transcripts at best, and for most world languages we have no data consisting of naturally occurring talk. Statistical methods can of course be applied to existing data to obtain statistical figures, but in the absence of adequate, relevant and sufficiently similar data, in the end the results may not tell us much about what actual speakers do in real life. In fact, as more and more researchers are interested in non-verbal aspects of interaction which are, as we have noted, directly tied to or perhaps even inseparable from verbal aspects, the limitations of the existing corpora become even more problematic even for qualitative single case studies, as most of them do not include video. For these reasons we believe that our immediate efforts should be to given to video recording of naturally occurring interaction and producing high quality transcripts, neither of which is unfortunately a simple task to accomplish. However, these are the primary data to study human language as it is used by real people.[8]

4.2. Components, levels, categories and relations

Our basic attitude concerning notions such as components, levels, and categories of language and the relations between them is empirically oriented. That is, they need to be informed and

[8] In situations where primary data is not easily accessible, linguists with traditional training typically try to find another way of getting to the research topic or question, most typically using constructed and/or experimental data. Unfortunately, being devoid of speech context, these types of data are not useful for our goal of understanding human language. Without empirical evidence, we cannot simply suppose that constructed and elicited language has anything to do with what actual speakers do in real life.

supported by what speakers do in interaction. Otherwise, they remain assumptions or hypotheses at best. As starting points and/or out of convenience (i.e., just to name components and levels which we question), we refer to traditional components such as phonetics, phonology, morphology, syntax, and semantics, but that does not mean at all that we believe in their reality as traditionally conceived (e.g., as discrete entities) or their reality themselves. In fact, as noted, many (if not all) usage-based grammarians are wary of the modular view of language.

Even a casual glance at actual speech data easily supports an earlier claim by Lanckager (1987) that there is no clear division between grammar and lexicon (see Laury and Ono, to appear), which have been portrayed as a prime example of two separate components in language. Further, in closely examining language use, one becomes aware, for instance, that lexicon, semantics and phonology, as well as embodied/non-verbal features of conversational interaction might be better characterized to form an inseparable whole with syntax. In fact, most recent studies in Interactional Linguistics (e.g., Deppermann 2013; Selting 2013; Li 2014; Li and Ono in press) reveal a tight link between these verbal/nonverbal materials and social actions engaged in by interactants, suggesting that the nature and reality of these components and levels require new description and theorization. For example, Rossi (2015) shows that the use of different linguistic formats of requesting in Italian depend on factors such as the projectability of the requested action, the requestee's visual attention, how the requested action is related to what the requestee is currently doing, and the availability of objects. Similar factors have been shown to be relevant to how requests made by shoppers to employees in Finnish convenience stores are formatted (Sorjonen & Raevaara 2014). That is, the motivation for the choice of particular verbal formats or constructions is entirely due to nonverbal factors in the environment.

With regard to what might be characterized as lower levels and parts of language, it is safe to say that most of the researchers in Emergent Grammar and Interactional Linguistics operate with the assumption that human language has categories, but some would even challenge that. That is, the type and nature of categories, or even the idea of categorization can be challenged (see Ford, Fox, and Thompson 2013 for relevant comments).

Again, traditional labels such as part of speech categories and phrases/clauses are employed as starting points and/or for convenience, but our descriptive attempts and theoretical attitudes have been to see if those categories and units as traditionally conceived are identifiable in actual speech and if they are oriented to by speakers themselves. That is, trying to identify, describe, and establish categories and units in everyday speech (rather than assuming them) is a major component of research.

Prominent examples of such work are the large body of research on fixed expressions that develop from fully fledged main clauses, becoming morphologically and phonetically reduced and no longer functioning as main clauses, but rather as projector constructions that serve to create a slot for further talk of a particular nature (e.g. Hopper 2001; Hopper & Thompson 2008; Günthner 2008; Pekarek Doehler 2011; Imo 2011). One such construction is 'the thing is',

a phrase found in both English and German. Günthner (2011) shows that the German die Sache ist serves to anticipate, and to focus the recipient's attention on, its speaker's core message, which can take various forms. The phrase can be followed by a complement clause (overwhelmingly without the complementizer dass), but also by a main clause, or a larger, complex stretch of discourse similar to Auer's (1992) 'neverending' sentences. In such uses, the expression no longer serves as a matrix clause, and in fact, in such uses, what follows overrides the former 'matrix' (see also Thompson 2002). Such expressions further call into question the category of 'sentence' in spoken language, and the studies add to the body of research concerning the suitability of traditional linguistic categories for the description of ordinary spoken language in a variety of languages.

It should be highlighted that the series of findings concerning the reality of grammatical units and their nature in conversation were made possible with the empirical orientation in usage-based research where research was conducted without assuming traditional categories and units. Similarly, as a first step, usage-based researchers use traditional relations such as sequential ordering, inclusion, modification but they are fully aware that these relations need to be empirically established by actual speech data.

Overall, we tend to be agnostic toward traditional linguistic notions, which makes us more empirically oriented in dealing with various standard syntactic notions such as components, levels, categories, and their relations. These notions were established based on constructed examples of dominant languages such as English and other Indo-European languages, and a large number of recent studies have highlighted and continue to highlight their inadequacy in describing the grammar of not only other (new) languages (a fraction of thousands languages we have little information on) but also everyday conversation of more extensively studied languages like English; but it can be questioned whether the traditional linguistic categories are even relevant for ordinary conversation in English (see Fox, Ford & Thompson 2013).

It is becoming increasingly clear that as our primary data, recordings and transcripts of everyday speech especially with video, become more available, most of the traditional syntactic notions require radical rethinking and reformulation by taking into consideration a number of interrelated factors, including the nature of categories of human behavior, the interactivity and temporality of ongoing talk, issues of ongoing constant change, and cross-linguistic differences.

4.3. Crosslinguistic variation, language change, and cognition

Although Emergent Grammar and Interactional Linguistics have traditionally paid particular attention to crosslinguistic similarities and differences found in actual interaction data (e.g., to name only a few, see Fox, Hayashi & Jasperson 1996; Couper-Kuhlen and Ono 2007; Haakana et al. 2009; Laury and Ono 2014; Ono and Thompson 2017; Ono, Laury and Suzuki to appear; Ono, Thompson, and Luke 2012; Ehmer & Barth-Weingarten 2016; Zinken 2016; Couper-Kuhlen and Selting 2018; Lindström, Lindholm & Laury 2016), claims about language universals are

approached very cautiously. Data requirements discussed throughout this article naturally translates to our views on cross-linguistic research in general and universal claims in particular. That is, cross-linguistic comparisons and claims about universals obviously have to be made based on forms and functions actually employed in everyday talk of the languages examined. Cross-linguistically equivalent forms and functions based on constructed data, the kind most commonly used in typology, for instance, do not meet this minimal level of empiricism for comparison, let alone claims for universals. We stress this simply because comparison is not meaningful unless relevant forms and functions actually occur in the languages which are compared. There has been recent discussion within typological linguistics regarding the crosslinguistic applicability of traditional categories (see especially Haspelmath 2010). There is also much interest within usage-based linguistics in comparing the inventories of linguistic resources available in different languages for accomplishing similar actions, and how the differences in resources might influence how speakers orient to features of the interactional context. Zinken (2016), for example, shows that due to grammatical structures that exist in Polish but not in English, requests for carrying out small tasks in a family are sensitive to features of context in language-specific ways. In this case, the observable commitment of the other person to a shared task systematically enters into the way a Polish request is built.

The current reality is, however, that only a very small number of (mostly European) languages have been studied well enough to be considered for comparison purposes; most of world languages are not even known yet, and we lack everyday interaction data from most languages. Much of our knowledge of less well known (or even well known) languages is based on constructed examples provided by the researchers and/or found in reference grammars.

Constructed data and examples taken from reference grammars are known to be particularly problematic because of the 'written language bias' (Linell 2005) discussed earlier. They often do not represent the type of language found in speech. These examples are also problematic because they are typically modelled after grammatical categories and units of English and other Indo-European languages. That is, most past and present approaches to grammar are overwhelmingly based on these dominant and colonial languages (for approaches critical of traditional categories, see Haspelmath 2010; Szczepek Reed & Raymond 2013), and for that very reason, standard grammatical categories and units presented in the literature are very much like the ones found in those languages. Obviously, these categories and units may not be relevant in less dominant and/or non-Indo-European languages, yet they are still used as a model to construct examples in describing them resulting in a type of examples which suspiciously look like English and other Indo-European languages.[9]

Usage-based studies on languages outside the Indo-European family of languages in fact report that speakers of different languages may not equally orient to well established grammatical categories and units, highlighting the significance of this problem which has been hidden for the past several decades. Although complementation has been proposed as a universal,

[9] This is a general tendency observed especially in studies of non-European languages. For an example of this tendency, see representative Japanese studies such as Kuno (1973), Shibatani (1990), Iwasaki (2013), Tsujimura (2013), and Hasegawa (2015).

Englebretson (2003) shows that Indonesian lacks it in conversational language; Nakayama (2002) suggests that the concept of the sentence is not useful for the analysis of Nuuchahnulth, a polysynthetic language; Laury, Ono and Suzuki (to appear) show that the concept of clause does not work well for Japanese conversational data. However, this does not mean that studies of related languages would not reveal significant differences in links between form and function, as shown by the Zinken (2016) study quoted just above. Zinken shows that even genetically related European languages such as Polish and English may differ in significant ways, which in turn may result in linguistically and culturally distinct ways of performing 'the same' action. Such effects may even be discernible within the same language spoken in different areas (e.g. Swedish spoken in Finland and Sweden, Nilsson et al. 2018).

Language change and historical facts are considered to be very closely related to synchronic accounts. Purely synchronic accounts are deemed not ideal or even possible as language is a living entity undergoing change at every moment (Hopper 1987 and 2011). That is, we simply cannot afford to ignore diachronic factors. Only by considering diachrony can we begin to have an understanding of synchronic patterns and variations and of why facets of language are the way they are. Diachronic changes are reflected in synchronic data, as changing forms and functions may retain their old ones while new forms/functions keep evolving (a basic tenet of grammaticalization theory). This often results in less than perfect paradigms and patterns (i.e., variations), which only diachrony can account for.

Finally, human language has been thought to be part of general cognition (Langacker 1987, 1991 and 2003; Tomasello 2003 and 2008; Bybee 2007 and 2010), and more recently it has been suggested that interaction is at least partly responsible for the formation of human cognition (Levinson 2006). As we stated in an earlier section, many usage-based grammarians do not assume a separate language component in human cognition, an assumption made in autonomous linguistics.[10]

5. Evaluation

When choosing among alternative hypotheses, ultimately researchers are most interested in knowing what occurs, what does not occur, and what occurs most often in particular contexts. Specifically, we seek empirical support from what speakers actually do by examining the recording of talk and its transcripts, a critical component of our work. That is, minimally the form or structure in question and its function have to be what speakers actually, and more critically regularly, employ in naturally occurring talk.[11] Obviously, neither intuition about what people say nor anecdotal observations about what they said meet this basic level requirement. In fact, researchers who are more interactionally oriented go even further by focusing on what

[10] For a good current summary of this issue from the perspective in Interactional Linguistics see chapter 9 in Couper-Kuhlen and Selting (2018).

[11] Infrequently employed forms and functions are important but are not given priority simply because there is a sentiment shared among practitioners to want to capture global patterns. It also seems fair to say that some infrequently observed patterns may simply be errors, which might be worthy of investigation but again are not part of global patterns.

they call ‘participant orientation’ (see Couper-Kuhlen and Selting 2018: 25-26); they seek evidence for participants of the conversation orienting to the target form or function. For example, to those researchers, the identification of an utterance as a question minimally requires some indication of the orientation to it by the interactants, such as an answer to the question by the addressee.

6. Sample analysis

As we have noted previously, and as the term usage-based grammar implies, linguists working in this paradigm primarily, and even exclusively, analyze naturally occurring, corpus-based data. Practitioners of the two approaches we focus on here, Emergent Grammar and Interactional Linguistics, are interested in the use of language in context, especially ordinary everyday conversation. For these reasons, sentences such as the one below are not easily analyzable using the tools of usage-based grammar. Here is the sentence, which all authors of this volume were asked to analyze.

After Mary introduced herself to the audience, she turned to a man she had met before.

The example given above, in one sense, is not particularly unnatural in its form; it manifests features usage-based grammarians have found in naturally occurring data. Typological studies have shown that temporal adverbial clauses which express events occurring before the event in the main clause are preposed (e.g. Kortmann 1991: 138; Diessel 2005: 463). Due to this iconic principle, which states that the order of linguistic elements in discourse, such as clausal order, tends to follow the temporal order of events, after-clauses tend to be expressed before their main clauses, as is the case here. Although this example has a written-like feel, and could be constructed (no data source is given), it also has certain features found in spoken English data. Namely, it has been shown in a usage-based study that in English conversations, when the antecedent of the relative clause functions as an oblique, there tends strongly not to be a relativizer (Fox & Thompson 2007); that is the case here. Further, syntactic lack of complexity of the antecedent also tends to predict the lack of a relativizer; the head here consists only of an article and a noun. Fox and Thompson suggest that the integration of main and relative clause combinations of this type involve a tendency toward monoclausality.

Since Emergent Grammar sees structure as emergent from its context, there is little we can say about this sentence in that respect, since it is separated from its context, even if it in fact were an actually occurring sequence. Further, in Interactional Linguistics, utterances are thought to result from and to reflect the actions they accomplish, but there is little to say about this matter, again since we do not know where this sentence might have occurred. Furthermore, the concept of sentence itself is not very useful for analyzing ordinary spoken data (see, e.g., Miller & Weinert 1998; Iwasaki & Ono 2002). Instead, the term ‘clause combination’ is often used.

In our own work, we have shown that complex clause combinations are rare in spoken language (Laury & Ono 2010), especially when it comes to multiple embedding of the same type of subordinate clause within another one of the same type. The frequency of occurrence of embedding drops steeply beyond the depth of one, and even that is not the default option; while embedding at the depth of one occurred in 14.6% of all clauses for Finnish and 14.1% of all clauses for Japanese, embedding at the dept of two occurred in less than 5% of all the main clauses (2.7% for Finnish and 4.4% for Japanese data). While the example above has no multiple embedding in the sense used in our study, that is, it has two dependent clauses each embedded in the main clause at the depth of one, it is still complex, since the main clause has two dependent clauses. It appears that clause combinations in spoken language are put together at the local level, one by one, in response to various online factors. Longer and more complex combinations involving several clauses may not form a coherent whole, and do not appear pre-planned (Laury & Ono 2014). In other words, sequences of multiple clauses in spoken language do not result in what might be considered a grammatical sentence but rather form loosely connected sets of clauses which represent some discourse sequence or interactional unit (see, e.g., Auer 1992; Hopper and Thompson 2008). This is because speakers in ordinary conversation have difficulty sustaining syntactic projects for a long time, as memory for form is shorter than the memory for content (Auer 2005: 27). Thus, while possible, clause combinations such as the one above are uncommon in ordinary spoken language. Written language contains more complex clause combinations, but even there, depth of embedding is strictly limited (see, e.g., Karlsson 2009).

7. Conclusion

We have presented here two central approaches to usage-based grammar, Interactional Linguistics and Emergent Grammar. A central requirement, already implied in the name of the approach, is that serious linguistic study should focus on naturally occurring language, particularly everyday speech, the primary form of language. We have reviewed the growing body of work in this paradigm and presented key findings, and also discussed the limitations of this approach, pointing out especially that building large scale corpora of naturally occurring speech is the next logical step toward further advancement in the field.

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