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Can We Formalise the Linguistic Resources of Interactional Language?

Abstract

This article is a brief discussion of a claim often made in linguistics, namely, that the ultimate goal of a theoretical account is formalisation. The focus of the article will be on the application of this claim to interactional language and linguistic practices, primarily in talk-in-interaction. After having dismissed the possibility of formalising situated usage events, I will begin to consider some of the requirements and limitations on formalising linguistic resources, such as grammatical constructions in conversational language.

1. Introduction

When Fred Karlsson and myself in the beginning of the 1970's were among the young Turks in Scandinavian linguistics, we struggled a lot (e.g. Karlsson 1974) with the then fashionable generative phonology, the epitome of which was Chomsky and Halle's (1968) *The Sound Pattern of English* (*SPE*). Formalisation was definitely one of the major goals and most characteristic features of generative-linguistic theory. However, many of us came to think that *SPE* indulged in unnecessary formalisation of abstract relations. The formalisation contributed to reifying those relations (for example, morphophonemic representations, abstract phonological rules) in a misleading way (Linell 1973, 1979, 2005a).

Even though *SPE* formalism may now be outdated, it is a wide-spread opinion among linguists that rules and regularities should be formalised, at least in the ultimate formulation. At the same time, many researchers have now moved into new fields of research, such as the grammar, semantics and interactional structures of authentic language use. These fields would

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of course have been considered to be outside of linguistics proper by the generative orthodoxy of Chomsky (1965) and Chomsky & Halle (1968), who took language use to be an ephemeral, messy and intractable phenomenon. By contrast, we now know that there is plenty of order in talk-in-interaction. At the same time, however, the fields just mentioned contain other problems for formalisation than did the rather static linguistic structures that were in the focus of interest for structuralism and generativism.

2. Reasons for formalisation

Let us first consider what reasons there could be for formalisation in language studies in general. It seems to me that three major (mutually related) reasons can be imagined:

(a) we need to survey *complex* relations that cannot be accounted for in a discursive text; for example, the main stress rule in *SPE* became so elaborated that we could hardly maintain its coherence discursively;
(b) we want to *abstract out* precisely and only those conditions that are relevant for understanding a given problem or for carrying out a given task, thus, for example, removing the effects of 'performance factors';
(c) we need to provide information in a form that can be handled by a *computer*.

I would argue that (c) is actually the most convincing point of these. (Without doubt, the work of Fred Karlsson (e.g. 1995) and his associates could be taken as substantiating this claim.) In the case of (a) and (b), it seems to me that important arguments can be raised against their *general* validity.

As regards (a), one may argue that there are relations in language and linguistic practices that are more adequately given by discursive means. Formalisation seems to presuppose relations that are precise, or could be made precise (in and through formalisation, cf. below). Many properties of language are characterised by indeterminacy, ambiguity, vagueness, heterogeneity and dynamics, rather than by exactness, unequivocalness, homogeneity and inertia (frozenness). Formalisation could (misleadingly) transform the latter properties into something of the former.

With regard to (b), it is often impossible to predict in advance and at a general level what is relevant. This point becomes especially pertinent with regard to functions and meanings, and more generally linguistic practices in real cognition and communication, in actual thinking and social interaction. Language use always involves interaction between linguistic resources and contexts. *Relevant* contexts can hardly be specified in advance; a lot of the central aspects of language use are not predictable a priori. For example, Bolinger (1972)—in a classical article commenting on *SPE* and later attempts to account for utterance prosody—pointed out that sentence accent is not predictable "unless you are a mind-reader". (One may add that it does not necessarily help to be a mind-reader, since speakers do not always know in advance what they are about to say.) The same idea appears elsewhere in the literature, for example, in Leech's (1983) preference for 'principles' rather than 'rules' in pragmatics, 'principles' being "more or less", not mutually exclusive, regulative, probabilistic and motivated (rather than the "all or nothing" of 'rules', which are exclusive, constitutive, definite and conventional) (see e.g. Thomas, 1995: 108ff.).

3. Formal properties of language or of formalisation practices

One problematic aspect for formalisation is precisely the interplay between language (linguistic form), meaning and context. These aspects mutually select each other in a dialogical interplay. Yet, an ordinary formalisation of these relations appears to take either of two forms:

(1) you (try to) predict meanings (functions, interpretations) from the linguistic expression and its contexts;
(2) you (try to) predict the linguistic expression (what is said) from the desired interpretation (speaker's communicative intention) and its contexts.

Here, context occurs among the conditions given, as an "independent variable". The problem is obviously that you cannot predict from a given set of contextual resources (even if these can somehow be specified) what the relevant contexts are. (This was Bolinger's point in the paper referred to above.) In addition, there is the problem of specifying communicative intentions in advance, as long as we are concerned with contributions by speakers who are (reasonably) free agents.

While these remarks already raise a number of basic conceptual problems for formalisation, there is even more to it. One highly questionable assumption on the part of many (structural) linguists is that the relations that linguists formalise are already there, "out there" in an objectively existing language. To my mind, this reflects a naive attitude, namely, that something will remain unchanged when it is brought into a specific linguistic formulation. On the contrary, formalisation itself will have an impact on the object formalised, which becomes recontextualised and acquires new form and content (Harris 1997; Linell 2005a). The partly unsystematic language and the pre-theoretical knowledge of language users as *actors*, becomes the theoretical 'ideal type' language, meta-linguistically described by the linguists as *analysts*. The language of a formal grammar must not be uncritically assumed to model language users' living language in actual communicative interactional use. Incidentally, a formal language is closer to some specific kinds of written language (Linell 2005a).

4. Formalising linguistic resources

So what can we do? If we cannot formalise meaning-making in situated interaction, in the actual usage events, can we retract to a more modest ambition, a weaker position or to another linguistic level? Again, I see three (partially related) positions:

(i) we formalise only relations between different linguistic *expressions*, or their parts (such as their constituent structures), and refrain from trying to capture what the linguistic actions are done for (functions, meanings and interpretations);
(ii) we formalise only *post-hoc*; after the completion of the usage event, we can (possibly) calculate which contexts and what kind of intended interpretation were made relevant; this would mean that we give up on predictability;
(iii) we formalise only the *linguistic resources* (to be used in linguistic practices), *not the situated usage events*, and we do this only at an abstract, selective level, abstaining from a lot of the dialogicity of language.

These strategies, for example (i) and (iii) combined, lead to a transformation and recontextualisation of language. We (re)create an abstract code, a partly fictive language, which is not the living language of

our cognitive and communicative practices. For certain purposes, this may be all we want to do.

We conclude that language in practice is not completely formalisable, and that a linguistic model of linguistic resources is an abstraction and recontextualisation. It is conversational *language* rather than situated *interaction* that can be subjected to formalisation. However, even at this level, some of the most central linguistic resources in lexis and grammar, the meaning potentials of lexical items and the functional potentials of grammatical constructions, are dialogical in nature (Linell 2005a) and thus may defy full specification in formalised terms (as formalisation has generally been conceived in linguistics). However, we might still do some things.

5. Formalising grammatical constructions

Given the less far-reaching ambitions sketched in section 4, what are things we could possibly do, even if we would do it differently than in "traditional" structural linguistics? One assumption has to do with the fact that linguistic practices are actions, doings, interventions in the world, and linguistic resources are arguably designed to be used in these practices. That is, we could think of linguistic resources as methods to achieve things in cognition and communication (Linell 2005b). This leads to a conception of formalisation as pertaining to operations rather than constituent structure (Jan Anward p.c.).

Operations are actions or methods by which the language user does something: x is made into y (a new expression with a new functional potential) in a given contextual matrix. Thus, a grammatical construction (GC) is a method (or operation) to transform the current communicative micro-situation (the temporarily and partially shared micro-world) and to assign a linguistic structure to a new utterance, i.e. the communicative action that contributes to changing the situation (Linell 2005b). This idea is conceptually quite different from the compositionality aspects which have usually been subjected to formalisation in linguistics; these are formalisations of part-whole structures or transformational relations between expressions (cf. rewrite and transformational rules). (On the other hand, there are some similarities with earlier attempts at 'operational grammars', cf. Öhman 1975, and Dahl 1977, just to consider some Scandinavian contributions.)

The operational outlook is linked to a conception of the GC, according to which the meaning of an instantiation of a GC cannot be derived from the meanings of the constituents (such as the lexical items applied) and some general structural rules (pertaining to "pure" constituent structure), in accordance with some principle of compositionality. Instead, (a) situated meanings and functions emerge from the interplay between the utterance and its relevant contexts (and relevant contexts cannot be predicted by general rules), and (b) there is (usually) a specific semantic-functional potential tied to the individual construction (type). This second condition is in agreement with Construction Grammar (CxG) (Fried & Östman 2005), yet it seems that CxG is about to follow the usual pattern of dealing exclusively with compositionality.

6. An example

Within the limited scope of this paper, I can only discuss a few aspects of grammatical constructions and their formalisation. As my single case, I shall use a fairly focused GC, namely the *x-och-x* ('x and x') construction in Swedish and related languages. Here is an example:

FLYTTA Å FLYTTA (SAM: V1: see Lindström 2002: 61) (there is ongoing talk about a German family that was forced to leave Finland after WW II).

(1) G: *sen så beslagtos huse å (0.5) dom flytta tilbaka ti (0.7) ti Hamburg (å)*

(2) *M: nå flytta å flytta men ja menar va (.) fan kan du göra*

An approximate translation runs like this:

> G: 'then the house was confiscated and (0.5) they moved back to (0.7) to Hamburg (and)'
> M: 'well, moved and moved but I mean what (.) the hell can you do'

The *x-och-x* construction is a fairly frequent one in Swedish conversation, and also in written genres influenced by interactional language. It may be seen as a grammaticalised construction or a "formal idiom". The speaker comments on the situated use of a particular expression, in this case *flytta* 'move (house)', and suggests that it is not quite situationally appropriate, although not completely misplaced either. There is no direct counterpart in

English; in our example, we could render the meaning of "moved and moved" approximately as "moved?, it depends on what you mean by that".

What *x-och-x* does is to take an expression *x* from an immediately prior utterance (usually the interlocutor's but sometimes the speaker's own), place a reduplicated copy of it (*x och x*) in the pre-front field of a new turn or turn-constructional unit, and follow this up with an utterance, in which the situated appropriacy of *x* in the discussion of the current topic is negotiated. One might say that the construction is a grammaticalised method of initiating a local meta-linguistic discussion and semantic analysis of *x*; in doing so, it exploits the meaning potential of *x* as a lexical resource (Linell & Norén 2005).

Space restrictions exclude both further examples and a detailed analysis, for instance, as regards conversational (impromptu) vs. written (edited) usages (but see Lindström & Linell *forthcoming*) But let me still briefly consider what properties of *x-och-x* one might want to formalise in a more precise analysis. I shall distinguish between formal-grammatical and semantic-pragmatic aspects. Among the former, I shall talk about conditions on *antecedent* and *subsequent* contributions to discourse, conditions on *internal* structure, and *co-occurring* resources. One might notice that compositionalists usually only deal with internal structure, whereas a dialogical linguistics (e.g. Linell 2005b), and various versions of Construction Grammar, also take 'outer' (or 'external') 'syntax', i.e. antecedent and subsequent strings, into consideration.

The primary antecedent condition is the following:

(1) If an expression *x* (a morphological form of a lexical item *x*) occurs in the preceding turn constructional unit (TCU) or turn, *x-och-x* may be used.

This rule articulates a necessary condition in the sense that *x-och-x* is an option if and only if *x* does occur in the discourse. (In very exceptional cases, this rule can be flouted, when a speaker begins a new communicative episode with an instance of *x-och-x*. But then, an implicit prior occurrence of *x* will be posited by the hearer.) However, (1) is not a sufficient condition (nor are the other antecedent conditions below sufficient conditions); if an expression *x* occurs in an utterance, it is of course not necessary to follow it up with *x-och-x*. Other, non-necessary but enabling conditions are:

(2) *x* is focally stressed in the prior (source) utterance,

(3) *x* is rhematic in that utterance,

(4) the source utterance is interrogative.

(In our example, (2) and (3) are satisfied, but not (4).) As regards the internal structure of the *x-och-x* expression, we might posit the following obligatory conditions:

(5) *x-och-x* starts a new turn or TCU,

(6) *x* in *x-och-x* is repeated (twice) in the same morphological form as in the source utterance,

(7) both *x*'s, or at least the second one, are focally stressed,

(8) the *x-och-x* segment itself is prosodically (but not syntactically!) integrated with the subsequent utterance,

The following condition on co-occurring resources is optional:

(9) *x-och-x* often co-occurs with distancing responsive particles (in the example here: *nå*) and concessive markers (and other co-occurrence resources interacting with the inner and outer syntax of the construction in focus).

Moving on to the subsequent segment, we find that after the *x-och-x* segment, it is obligatory to proceed with an utterance that confirms (or foregrounds) some aspects of *x*'s meaning potential, and simultaneously cancels (or backgrounds) other aspects of *x*'s meaning potential. Note that unlike the antecedent condition, this subsequent part is obligatorily present: no *x-och-x* without this kind of continuation. This fact (together with the prosodic integration according to (8)) may be taken as an argument for regarding this subsequent segment as part of (the internal structure of) the grammatical construction itself.

The subsequent segment is closely related to the semantic-pragmatic functions of *x-och-x*. As was stated above, what it does is usually to

problematise one (central) facet of the meaning of *x*, and to enhance another as situationally appropriate. In fact, this may be seen as the core meaning of the construction, which amounts to another argument for including it within the grammatical construction itself. In our example, what is questioned is the appropriacy of using *flytta* 'move (house)' in a situation, when the people moving had no choice, while other aspects of the meaning potential are possibly supported (such as 'changing one's dwelling place').

7. Conclusion

I have not proposed any concrete formalisation here. However, inventing a suitable set of symbols is arguably a purely technical matter. Nor have I been able to argue that one can derive some abstract principles and to generalise from the case of *x-och-x* to other grammatical constructions in interactional spoken language. But barring various specificities of divergent types, I would suggest that this is indeed possible.

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