E-MELD Language Digitization Project Conference 2004
Workshop on *Linguistic Databases and Best Practice*
Wayne State University
Detroit, Michigan
July 15 - 18, 2004

Competition is Good for Descriptions

For a Consensus on Dissenting Entries as Desideratum for Linguistic Database Design

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1. Apodictic versus pro-competitive databases

The ideas presented in this paper have arisen during the work on a database system designed for the description and comparison of human languages in a theoretically well-founded and systematic way. The Cross-linguistic Reference Grammar (CRG) is a database application for unified descriptions of natural languages of any kind, including sign languages, that has been developed over the last decade at LMU Munich. The core of the application is an XML-based client-server-DBMS called *Systematics* (Nickles 2001) that implements a class system of linguistic phenomena as a kind of *Be-Have*-tree (Peterson 2002). Examples are uniformly coded in one of the interlinear representation formats provided by CRG for three ontological categories and modalities of linguistic signs: spoken, signed, and written (Zaefferer 2003).

The present paper is about one of the criteria of adequacy that has informed CRG system design from the beginning. I call it pro-competitivess and by a pro-competive database I understand a database that is designed to include dissenting entries or competing descriptions, i.e., entries that share a common basic datum to be described, but disgree on the way it is described or categorized. This is to be contrasted with apodictic databases, where no basic datum can possibly be assigned more than one category or description.

There are two situations that may lead to competing descriptions. One is restricted uncertainty of the describer. If she is not sure if the pronoun in her example is an indefinite or an interrogative pronoun, she should have the option to choose both in two different entries. This is to be preferred over two other conceivable options in such a situation. One is a single entry that contains only one of the two possibilities and therefore feigns a certainty that is not there. The other one is a question mark entry that says less than the describer could possibly say.

The other situation that may lead to competing descriptions involves different describers: The first one may want to categorize the given word form as an adjective, the other one as an adverb. If both entries are allowed to cooccur in the database, this conflict need not be resolved immediately, instead, it can be made transparent for the database user. Again all three apodictic ways of resolving it would be less satisfactory than the transparent way of competing descriptions. The difference from the preceding case would show in the author key: In the present case, there would be two different author keys, in the other one, the same author key would show up twice.

2. CRG's three interlinear representation formats

In order to outline the background that is required for understanding the examples of competing descriptions in section three, this section contains a short recapitulation of the three interlinear representations formats that are used in CRG and that are discussed in more detail in Zaefferer 2003.

In accordance with the theoretical assumptions that underlie CRG, two binary ontological distinctions are made, one between endurant and transient sign tokens and among the latter between oral and signed sign tokens. Endurant sign tokens are inventities, thing-like entities that (a) belong to the inventory of a situation, (b) have primarily local boundaries, and (c) are primarily used for off-line communication. They are manifestations of written language, no matter what kind of writing system is used. Transient sign tokens, on the other hand, are eventities, event-like entities that (a) belong to what happens in a situation, (b) have primarily temporal boundaries, and (c) are primarily used for on-line communication. Depending on their oral-auditive or manual-visual modality transient sign tokens are manifestations of either spoken or signed language.

Given that by definition every token of a linguistic sign has both a perceivable and an inferable aspect, all three representation formats coincide in visualizing this fundamental dichotomy. They do so by representing the different aspects of what can be perceived on different upper tiers marked by natural numbers, i.e. positive integers, and by representing the different aspects of what can be only inferred on different lower tiers marked by negative integers. So all three formats have the same dividing line between positive and negative tiers.

The positive, concrete tiers are of course different for the three modalities, but since in all three cases the described signs belong to full-fledged human languages, the negative, in a sense more abstract tiers are the same and therefore they have to be explained only once.

2.1. CRG's interlinear representation format for written language signs

The interlinear representation format for written linguistic signs is shown in figure 1:

Figure 1, WL-IRF

+IV	reproduction of writing with included elements and including situation (pictures, wall)
+III	standardized representation of original script with coding of co-linguistic perceivables
+II	transliteration of +III into roman-based orthography, if needed, else identical with +III
+I	like +II with morpheme boundaries
-1	morpheme gloss with GRAMMATICAL, *semantic* and co-linguistically induced inferables
-2	morphological structure
-3	syntactic structure
-4	meaning structure (where co-linguistically induced elements are underscored)
-5	literal translation into quasi-English
-6	free English translation

The tier right above the dividing line is required in any case, since it represents the written forms that are interpreted in the gloss tier immediately underneath it. The next higher tier

differs from the third one only if a non-roman script is used and therefore a transliteration of the content of the third tier is necessary. The topmost tier is provided for cases where there is an original unique sign token as in an autograph or in the famous graffiti found at the walls of Pompeii or Herculaneum. The correct interpretation of such written sign tokens may require taking into account interspersed pictures or the precise location where they are placed.[1] This kind of non-linguistic, but interpretationally relevant elements is called co-linguistic perceivables and needs to represented in a systematic way on the next tier together with the standardized orthographic representation in the original script. So the perceivable aspects of a written sign token are represented on at least two and at most four different tiers.

As mentioned above, the negative or abstract tiers below the surface line are the same for all three kinds of sign tokens. In the first negative tier, the inferable contents of the elementary content-bearing perceivables represented right below them, i.e. in complete alignment. According to the kind of the coding means, a distinction is made between grammatical, semantic (or lexical) and co-linguistically induced inferables. The second and third negative tiers contain information on supra-morphemic grammatical structure, first on the word and then on the phrase level. Tier -4 contains a semantic interpretation that includes information from co-linguistic elements. The last two tiers are the most directly accessible ones, containing a structure-mimicking literal translation into some kind of quasi-English and a free translation into normal English.

2.2. CRG's interlinear representation format for oral language signs

The interlinear representation format for examples of oral language is called OL-IRF, cf. figure 2:

Figure 2 OL-IRF

+6	audiovisual data (recording of speech sounds, co-speech gestures and situation)
+5	phonetic transcription of linguistic sounds and coding of co-linguistic perceivables
+4	representation of higher-level suprasegmentals (intonation etc.)
+3	autosegment representation (tones etc.)
+2	phonological segment and syllable representation
+1	morphophonemic representation
-1	morpheme gloss with GRAMMATICAL, *semantic* and co-linguistically induced inferables
-2	morphological structure
-3	syntactic structure
-4	meaning structure (co-linguistically induced elements are underscored)
-5	literal translation into quasi-English
-6	free English translation

[1] As an example consider the following graffito on a wall of the Casa della Gemma in Herculaneum: *CIL* IV, suppl. pars 3, leg. 4, 10619:
APOLLINARIS. MEDICUS. TITUS IMP. HIC. CACAVIT. BENE.
"Apollinaris, doctor of the emperor Titus, crapped well here."
A. & M. De Vos, *Guide archeologiche Laterza: Pompei, Ercolano, Stabia* (Rome, Bari 1982) 277.

The aspects of the perceivable side of spoken linguistic signs are represented on six different tiers, starting with a recording, where available, and a transcription of sounds together with a coding of what might be interpretationally relevant aspects of co-speech behavior and situation. The following tiers are for the representation of intonation, autosegmentals like tone, segments and syllables und morphophonemic structure.

2.3. CRG's interlinear representation format for signed language signs

Figure 3 shows the sign language interlinear representation format SL-IRF:

Figure 3: SL-IRF

+6 audiovisual data (recording of signs, co-speech gestures and situation)
+5 phonetic transcription of linguistic signs and coding of co-linguistic perceivables
+4 phonological representation of non-manual sign components
+3 phonological representation of mouthings
+2.W phonological representation of weak hand sign components
+2.S phonological representation of strong hand sign components
+1 morphophonemic representation

-1 morpheme gloss with GRAMMATICAL, *semantic* and co-linguistically induced inferables
-2 morphological structure
-3 syntactic structure
-4 meaning structure (where co-linguistically induced elements are underscored)
-5 literal translation into quasi-English
-6 free English translation

The representation of signed linguistic utterances differs from that of speech only with respect to tiers 2 to 4. Tier +2 had to be split because the main articulator of signed languages is split into a dominant or strong hand and a non-dominant or weak hand. Tier +3 is reserved for those elements of signs that use the visible aspect of spoken language, mainly the movement of the lips, in addition to manual signs, mostly for the purpose of disambiguation and redundancy increase. This is called mouthing (cf. Boyes Braem and Sutton-Spence (eds.) 2001) and is to be distinguished from other non-manual elements of sign language such as mouth gestures and other facial expressions or head tilt, which are represented on level +4.

3. Types of competition between descriptions

Given the interlinear representation formats just presented it is easy to derive a typology of competing descriptions. The most radical degree of redescription, mentioned here only for the sake of completeness, is the one where a different recording of the raw data is provided. If for instance disagreement would arise about the correct deciphering of a wall inscription in Herculaeum, then it could be possible to make another picture of the same wall that shows more contrasts.

Most of the time, however, it will not be possible to provide another recording of the same sign token. Then the competing entry will not be a different recording, but a different description of the same data.

According to our basic assumptions a competing description will either concern the perceivable side or the inferable side of the linguistic sign. Correspondingly it will show up either at one of the more concrete or 'positive' tiers or at one of the more abstract or 'negative' tiers of the interlinear representation format.

Differences on higher levels may, but need not have consequences on lower levels. For instance a different phonetic transcription of linguistic sounds may or may not entail different descriptions at the phonological tiers. And the very same perceivables may be described as justifying different inferables.

If the recommendation of last year's working group on transcription and annotation (Dwyer 2003) was right, and I think it was, then it makes sense to give priority to filling in first the extreme tiers +6 and -6 and to work one's way from there to the central tiers +1 and -1, which require the greatest effort to establish and therefore, this is my prediction, are most open for competing descriptions.

4. Examples of competing descriptions

4.1. Dissenting phonological interpretations

The best way of demonstrating how the poposed interlinear representation formats perform in language description is of course to give concrete examples. In Zaefferer (forthcoming) I compare a Seneca clause with its German translation counterpart, showing that the different grammatical structures induce also different meaning structures and that only on a coarse grained meaning level the two clauses are synonymous. But in the present context a different perspective has to be adopted. The Seneca-German example demonstrates a case not of competing descriptions of a given recording, but of competing codings of a given content. Dissenting entries are in a way the contrary of translation counterparts in that the common denominator is not in the last line, but in the first onel.

The first example demonstrates a rather typical situation in data interpretation: The recording does not allow an unequivocal identification of the speech sounds. It is not entirely clear if the second vowel is preceded by an alveolar stop or directly by the velar, which may in way hide the expected alveolar. With dissenting entries, both options can be respresented and the consequences of the choice can be made transparent.

In the present case the first option would point to a smaller deviation from the target language than the second one, which involves an interesting subject-verb inversion not to be expected in declarative sentences. As tier -4 shows, the phonological and syntactic differences have no consequences for the semantic interpreation.

Metadata:

Source:	Hofbauer (2004: 102)
Language:	German

Speaker: Girl 2;2.0
Recording situation: Spontaneous play

First entry (Author: Christiane Hofbauer, Dietmar Zaefferer)

+6 [videotape]
+5 maˇk iˇ pupi haˇm
+2 maˇk diˇ pupi haˇ.b´n
+1 maˇk diˇ pupi haˇ.b÷´n

-1 *want.V*.1.S.IND.PRES DEF.ART.3.S.F.ACC *puppet.N*.S.F.ACC *have.V*-INF
-3 [[PRED.CORE] [[DIR.OBJ] PRED.EXT]]] DECL
-4 *a* [ILL.TYPE(*a*): ASSERTIVE
PROP.CONT(*a*) = *p*
[REF(*p*): *x* [SPEAKER]
PRED(*p*): EXPONENT(*e*
[TYPE.CORE(*e*): *wanting*
TYPE.RESTR(*e*): *e′* [*having*]
UNDERGOER(*e′*): *y* [s_i-ACCESSIBLE, UNIPLEX, *puppet*]])))]
-5 Want the puppet have.
-6 I want to have the puppet.

Second entry (Author: Hofbauer)

+6 [videotape]
+5 maˇk iˇ pupi haˇm
+2 maˇk iˇ pupi haˇ.b´n
+1 maˇk iˇ pupi haˇ.b÷´n

-1 *want.V*.1.S.IND.PRES PERSP.1.S.NOM *puppet.N*.S.F.ACC *have.V*-INF
-3 [[PRED.CORE] [SBJ] [[DIR.OBJ] PRED.EXT]]] DECL
-4 *a* [ILL.TYPE(*a*): ASSERTIVE
PROP.CONT(*a*) = *p*
[REF(*p*): *x* [SPEAKER]
PRED(*p*): EXPONENT(*e*
[TYPE.CORE(*e*): *wanting*
TYPE.RESTR(*e*): *e′* [*having*]
UNDERGOER(*e′*): *y* [s_i-ACCESSIBLE, UNIPLEX, *puppet*]])))]
-5 Want I puppet have.
-6 I want to have the puppet.

4.2. Dissenting lexical interpretations

The second real-life example is from fieldwork on a previously undescribed language from Papua New Guinea. Here the phonological description is uncontroversial, but the interpretation of the two-word idiom 'eye see' by the fieldworker herself is contradicted by a reviewer. The difference in the lexical semantics has of course repercussions in the semantic structure of the whole utterance.

Metadata:
Source: Gerstner-Link, Claudia (2004: 97)
Language: Kilmeri
Speaker: Female adult
Recording situation: Conversation

First entry (Author: Claudia Gerstner-Link, Dietmar Zaefferer)

+6 [tape recording]
+5 kç jasije dE dçb rijE
+2 kç jasi.je dE dçb ri.jE
+1 kç jasi.je dE dçb ri.jE

-1 PERSP.1.S *plant.V* PERSP.2.S *eye.N see.V*:O[-ANIM]
-2 [AGENTIVE.*see*]
-4 *a* [ILL.TYPE(*a*): ASSERTIVE
PROP.CONT(*a*) = *p* [REF(*p*): *x* [SPEAKER]
PRED(*p*): AGENT(*e* [*planting*])] &
q [REF(*q*): *x* [ADDRESSEE]
PRED(*q*): AGENT(*e*' [*seeing*])]
-5 I plant you eye see.
-6 I plant and you watch me.

Second entry (Author: Reviewer, Dietmar Zaefferer)

+6 [tape recording]
+5 kç jasije dE dçb rijE
+2 kç jasi.je dE dçb ri.jE
+1 kç jasi.je dE dçb ri.jE

-1 PERSP.1.S *plant.V* PERSP.2.S *eye.N see.V*:O[-ANIM]
-2 [INTENSIVE.*see*]
-4 *a* [ILL.TYPE(*a*): ASSERTIVE
PROP.CONT(*a*) = *p* [REF(*p*): *x* [SPEAKER]
PRED(*p*): AGENT(*e* [*planting*])] &
q [REF(*q*): *x* [ADDRESSEE]
PRED(*q*): EXPONENT(*e*' [INTENSE.*seeing*])]
-5 I plant you eye see.
-6 I plant and you watch me.

4.3. Dissenting interpretations with respect to linguistic theory

The last example concerns an ASL sentence and is repeated here with minor modifications from Zaefferer 2003. It is also intended to demonstrate the low degree of theoretical bias inherent in the proposed interlinear representation formats and shows two different descriptions of a very interesting clause type of ASL (and probably all sign languages) called

classfier construction.[2] It is well known that sign languages make up for their lack of articulation speed by using simultaneity. Classifier constructions are interesting among other things because they allow especially high degrees of simultaneity. One extreme example involving as much as nine morphemes pronounced in one syllable has been described by Brentari (1998: 21). It is repeated here since it shows in a clear way the consequences of different theoretical assumptions for the description of linguistic data.

In his recent monograph Scott Liddell reports that in the mid-1980s he discovered that "virtually all analyses of how signs are directed in space were based on faulty representations of the sign language data." (Liddell 2003: viii) His hypothesis, in a nutshell, says that sign languages are characterized by a close integration of grammar and gesture. So the description of an ASL sign according to this hypothesis should reflect this close integration and should be different from a description of the same sign that is based on the alternative view which sees no inherent gestural elements in this kind of sign. The first entry is a description according to this latter, standard view, the second one shows what I take to be a Liddell-type description of the same sign.

Metadata:
- Source: Brentari, Diane (1998: 21)
- Language: American Sign Language
- Speaker: Male adult
- Recording situation: Elicitation

First entry (Author: Dietmar Zaefferer)

+6	[Photograph with arrows indicating hand movement]								
+5	[HamNoSys transcription, no co-linguistic elements]								
+4	gaze:forward, lips: pressed together								
+3									
+2.W	(sf: 1,	fo: up	sfs: bent	po: out	ser: side(S)	path: out	fro: pr.chn	to: distal)	
+2.S	(sf: 1	fo: up	sfs: bent	po: out		path: out	fro: pr.chn	to: distal)	
+1	[S+W] [sf: 1,	fo: up]	sfs: bent	po: out	ser: parallel	path: out	fro: pr.chn	to: distal	[g: fwd, l: pr.tg]
-1	TWO UPRIGHT.BEING		*hunched*	FWD-FACE	SIDE-BY-SIDE	FWD-MOVE	SORC: L_1	GOAL: L_2	*careful*.ADV
-2	[[STEM							]	SUPRAFIX]
-3	[								DECL]

-4 *a* [ILL.FORCE(*a*): ASSERTIVE
PROP.CONT(*a*): (*p*
[REF(*p*): *y* [s_i-ACCESSIBLE &
y = < y_1 [UNIPLEX, UPRIGHT.BEING, *hunched*, FACING.FORWARD, ALONGSIDE(y_2)],
y_2 [UNIPLEX, UPRIGHT.BEING, *hunched*, FACING.FORWARD, ALONGSIDE(y_1)] >
PRED(*p*): EXPONENT(*e*
[*e* = < e_1 [TYPE(e_1): PATH-MOTION, DIR(e_1): FORWARD, SOURCE(e_1): L_1, GOAL(e_1): L_2, MANNER(e_1): *careful*],
e_2 [TYPE(e_2): PATH-MOTION, DIR(e_2): FORWARD, SOURCE(e_2): L_1, GOAL(e_2): L_2, MANNER(e_2): *careful*] >])])]

-5 Carefully, two hunched forward-facing upright beings, side by side, move forward from here to there.

-6 Their backs bent, both proceed carefully side by side to the place.

[2] For a recent overview of analyses of the phenomenon cf. Emmorey 2003.

Second entry (Author: Dietmar Zaefferer)

+6 [Photograph with arrows indicating hand movement]
+5 [Transcription + co-linguistic elements] gesture: path: out fro: pr.chn to: distal
+4 gaze:forward, lips: pressed together
+3
+2.S (sf: 1, fo: up sfs: bent po: out path)
+2.W (sf: 1 fo: up sfs: bent po: out ser: side(S) path)
+1 [S+W] [sf: 1, fo: up] sfs: bent po: out ser: parallel path) [g: fwd, l: pr.tg]

-1 TWO UPRIGHT.BEING *hunched* FWD.FACE SIDE.BY.SIDE MOVE-fwd sorc: L_1 goal: L_2 *careful.ADV*
-2 [[STEM] SUPRAFIX]
-3 [DECL]
-4 *a* [ILL.FORCE(*a*): ASSERTIVE
PROP.CONT(*a*): (*p*
[REF(*p*): *y* [s_i-ACCESSIBLE &
y = < y_1 [UNIPLEX, UPRIGHT.BEING, *hunched*, FACING.FORWARD, ALONGSIDE(y_2)],
y_2 [UNIPLEX, UPRIGHT.BEING, *hunched*, FACING.FORWARD, ALONGSIDE(y_1)] >
PRED(*p*): EXPONENT(*e*
[*e* = < e_1 [TYPE(e_1): PATH-MOTION, dir(e_1): forward, source(e_1): L_1, goal(e_1): L_2, MANNER(e_1): *careful*],
e_2 [TYPE(e_2): PATH-MOTION, dir(e_2): forward, source(e_2): L_1, goal(e_2): L_2, MANNER(e_2): *careful*] >])])]
-5 Carefully, two hunched forward-facing upright beings, side by side, move forward from here to there.
-6 Their backs bent, both proceed carefully side by side to the place.

The comparison shows that the meaning structures in both cases are the same, but that the sources of the information components are different: Three components that are considered to be inferrable from the sign and therefore from linguistic aspects of the speaker's action in the first description are analysed as being based on the signer's simultaneous gesturing and therefore on co-linguistic elements in the second description. Note that the interlinear morpheme glosses are used here also to indicate the meaning of gestural compontents. This means among other things that the notion of a morpheme as a minimal linguistic sign has to be expanded to cover also other content-bearing units such as gestures if integrated descriptions of linguistic utterances are to be presented.

In closing this section I would like to emphasize that this expansion of the descriptive apparatus is not only needed to describe sign language items according to Liddell's hypothesis, but everywhere where co-speech gesture is interpretationally relevant.

4. Reasons for adopting pro-competitiveness as a desideratum

There are several reasons for recommending this criterion as a desideratum for linguistic database design and thus for preferring it over apodicticness. Here are some of the pros and cons in the guise of a fictional dialogue.

For the sake of fairness, the advocate of apodictic databases gets the floor first.

Argument number one: Competing descriptions will only confuse the user, whereas apodictic databases have the undeniable advantage of being less confusing.

Reply number one: Although this seems to be rather convincing in general, in some cases at least, according to my experience, the very contrary is true. Sometimes the user is really perplexed by an apodictic database entry and he would love to find out if somebody else

shares his skepticism regarding the plausibility of the analysis reflected in the entry. In such a case it would be less confusing to find out that one is not the only one to feel that a different analysis may as well be plausible.

Argument number two: Granted that these cases exist where competing descriptions are less confusing than apodictic ones, apart from these exceptions it is still true in general that apodictic databases are less confusing.

Reply number two: Now we have to talk about display options. How do we deal with these cases, be they exceptional or more frequent? There will be no confusion if the competing descriptions themselves are hidden for the user who is gullible or in a hurry. He will only see an indicator that one or more competing descriptions exist. There is no problem in designing an interface that meets these criteria.

Argument number three: Let's move from the database user to the database compiler. It should be unccontroversial that an apodictic database takes less time to compile than a pro-competitive one, and it goes without saying that time is a key factor in the documentation of endangered languages.

Reply number three: I simply deny that it takes a single second longer to compile a pro-competitive database than an apodictic one as long as the competing entry option is not used. But on a more serious note, if it is used and even in a very urgent situation I submit that having this option will often be less time-consuming than lacking it, because the describer is not forced into making a decision where she is not yet ready to do so. Thus, competing entries may not only speed up the process of very first descriptions, but they may also prepare the decisions to be made and mark off the areas that need a second pass in later descriptions.

Argument number four: Let's turn to another situation, one where there are two (full or partial) descriptions of the same language. In such a case it makes more sense to compile them into two different apodictic database sections than to try to unify them into one pro-competitive database.

Reply number four: I would agree that the former takes less time for the compiler, but I would deny that it makes more sense, because the time the compiler saves would have to be invested by the database user, at least as soon as he is interested in finding the controversial areas of the descriptions and hence, presumably, of the grammar. As mentioned above, the Transcription and Annotation Working Group at the 2003 EMELD conference recommended to give translation first priority over transcription (Dwyer 2003). I would like to add that rather a high priority should also be given to the identification of descriptively controversial areas, because it is there where native speaker input is most urgently needed as long as it is still available.

Argument number five: Still I have to insist that we are talking about endangered language data and the more phenomena are described, the better. And the less one cares about competing entries the more time there is for descriptions of more phenomena.

Reply number five: Sometimes it will be more helpful to have two independent descriptions of the same data than having more data described only once. If two describers agree on an

entry, it is not necessary to multiply it, but it is helpful in any case to mark the double responsability for the correctness of the data. So if there are two independent descriptions, the complement of competing descriptions is coninciding descriptions: Whenever a set of raw data is double-checked this way, it will be possible to calculate the degree of agreement on this set and this, I submit, is a very valuable kind of metadata: The inter-rater reliability of linguistic judgements. It is valuable, because it helps to direct the focus of required research.

It seems appropriate to add here a last argument in favor of competing descriptions, although it is not directly related to endangered languages data. There is another desideratum that is basic for any theoretically interesting linguistic database: that of helping to discover counterexamples to a linguistic generalization. In order to avoid the trap of naive falsificationism it is necessary to provide for means of 'explaining away' putative counterexamples by redescribing the corresponding data in a way that conforms with the generalization. This is the last one of several arguments for including among the criteria of best practice in linguistic databases that they allow for and if possible also encourage competing descriptions.

5. Conclusion

In this paper I have argued for a consensus on dissenting entries or competing descriptions as a desideratum for linguistic database design. Maybe in doing so, for most readers of this paper I have been preaching to the converted, but if so, my hope is that these arguments will encourage those readers to spread the word and also to take advantage themselves, if they are not already doing so and wherever appropriate, of the option of including competing entries in the linguistic databases they are working on.

Appendix: Unusual abbreviations and notational conventions used in the examples

Tier -1 of all formats

SORC	source

Tier -3 of all formats

DECL	declarative sentence

Tier -4 of all formats

s_i-ACCESSIBLE	discourse referent is at least accessible in the intended interpretation situation s_i
ILL.FORCE	illocutionary force
PROP.CONT	propositional content

Tier +2 of the SLR format

(…)	simultaneous components

Tier +2 and +1 of the SLR format

sf	selected finger
fo	finger orientation (base joint)
sfs	selected finger's shape
po	palm orientation
fro	begin of path
to	end of path
[…]	all components within the brackets form a unit w.r.t. the inferrable content

g: fwd gaze: forward
l: pr.tg lips: pressed together

Notational conventions:

Tier -1of all formats:
Small caps gloss grammatically conveyed components, semantic components are represented in italics and their categories in small caps italics, non-linguistically conveyed components are underlined.

Level -4 of all formats:
a is an action variable followed in square brackets by conditions on its illocution type and propositional content; *p* is a variable for propositions followed in square brackets by conditions on its referent and predicate; x, y, y_1 , y_2 are individual variables followed in square brackets by predicates they instantiate; e, e_1 , e_2 are event variables followed in square brackets by partial characterizations of their type and other factors. 'EXPONENT' designates the predicate of playing an unspecified participant role. The variables are intended to be interpreted like discourse referents, i.e. as existentially bound, where they are not inherited by way of referent maintenance from the preceding discourse or otherwise bound.

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