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approach**

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Symmetrical voice and the linking of objective agents in Austronesian Languages: an LFG approach

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1. INTRODUCTION

Many Western Austronesian languages exhibit a voice system that differs crucially from the better known active-passive/antipassive alternation. One property of these so-called SYMMETRICAL VOICE LANGUAGES (Himmelman 2005, Foley 2008) is that the actor argument in the undergoer voice construction, unlike a passive agent, keeps its core status and is neither omitted, nor realised as an oblique. Both actor voice and undergoer voice constructions are thus equally transitive and usually all voices are equally marked by voice morphology. Therefore, there seems to be no evidence for the claim that one voice is ‘more basic’ than the other(s).

A prototypical instance of such a symmetrical voice language is Totoli, an endangered language spoken in Central Sulawesi, Indonesia (but see also Arka 2003 on Balinese, Musgrave 2002 on Indonesian, and Kroeger 1993 on Tagalog). The following pair of examples show a Totoli actor voice-construction in (1) and an undergoer voice-construction in (2), illustrating the symmetrical voice properties described above. Firstly, in both constructions the postverbal non-subject argument is realised as a core argument and is neither marked by oblique case nor by an adposition. Secondly, in both constructions the verb carries voice morphology: the actor voice prefix *moN-* in (1) and the undergoer voice suffix *-i* in (2).¹ Furthermore, both subject and non-subject argument exhibit the same syntactic behaviour in both voices, as shown in detail in Riesberg (2011).

(1) *I Winarno lalau mongusut kunji motorna.*
i Winarno la-lau moN-kusut kunji motor-na
 PN Winarno RDP-presently AV-search.for key scooter-3SG.POSS
 ‘Winarno is searching the keys for his scooter.’

(2) *Kunji itu lau kusut-i i Winarno.*
key DET presently search.for-UV PN Winarno
 ‘Winarno is searching for the keys.’

The data presented in (1) and (2) poses a challenge to many current linking theories. This is due to the fact that these theories usually assume one basic voice that represents the default linking pattern (the active voice) and one marked voice (the passive or the antipassive) that is derived from this default. Furthermore, they

¹ The abbreviations in this paper are 3 = third-person, AV = actor voice, DET = determiner, PN = personal name, POSS = possessive, RDP = reduplication, SG = singular, UV = undergoer voice

strongly rely on the fact that one argument that is realised as a core argument in the default voice (the subject) becomes ‘suppressed’ in the marked voice.

In this paper, I will show that both these assumptions are not helpful when trying to account for the linking behaviour in symmetrical voice languages. I will use the Lexical Mapping Theory (LMT) of Lexical Functional Grammar (LFG) to illustrate this point. In Section 3 I will introduce some extensions to LMT that seem to be necessary in order to correctly predict the linking patterns of symmetrical voice languages.

2. LINKING SEMANTICS TO SYNTAX – LEXICAL MAPPING THEORY

Lexical Mapping Theory (LMT), the linking module of Lexical Functional Grammar (LFG), has been developed since the 1980s (see e.g. Kaplan & Bresnan 1982, Bresnan & Zaenen 1990), in order to provide a theory that accounts for the mapping from argument structure to functional structure. In the following two sections, I will present some of the standard assumptions of LMT, before illustrating how these assumptions conflict with the data from symmetrical voice languages.

2.1. *Standard assumptions of LMT*

The aim of LMT is to provide an explicit formalism that allows us to make predictions about argument realisation and valence changing processes. A first step to reach this aim is to decompose grammatical functions with the help of the binary features $[\pm r]$ for RESTRICTIVE and $[\pm o]$ for OBJECTIVE. Restrictedness refers to the fact that some grammatical functions can bear a wide range of semantic roles (or can in fact have no semantic role at all), while others are more restrictive and only allow for a certain choice of roles. The former functions thus bear the feature value $[-r]$, the latter are classified as $[+r]$. In this sense, subjects and objects are unrestricted, while secondary objects and obliques are restricted. On the other hand, objects and secondary objects differ from subject and oblique elements in that they are both object functions. They are therefore specified as $[+o]$, while the subjects and obliques are $[-o]$. The feature decomposition of grammatical functions is summarised in Table 1. As negative feature values are assumed to be unmarked, this yields a hierarchy of grammatical functions with the order $\text{SUBJ} > \text{OBJ}$, $\text{OBL}_\theta > \text{OBJ}_\theta$ (Bresnan 2001, Dalrymple 2001).

Table 1
LFG feature decomposition

	$-r$	$+r$
$-o$	SUBJ	OBL_θ
$+o$	OBJ	OBJ_θ

Additionally, LFG assumes an intrinsic classification of semantic roles which is based on cross-linguistic observations on argument realisation and which, again, can be captured with the help of the binary features introduced above, as shown in Table 2.

Table 2
Standard intrinsic classification of semantic roles

patient-like roles:	$[-r]$
secondary patient-like roles:	$[+o]$
other roles:	$[-o]$

Based on the assumptions in Table 1 and Table 2, LFG proposes the following linking rules that predict the linking pattern of the unmarked voice. \hat{e} represents the most prominent argument in the predicate's argument structure.

(3) Mapping principles

(a) subject roles:

- (i) \hat{e} is mapped onto SUBJ
 $[-o]$

otherwise:

- (ii) e is mapped onto SUBJ
 $[-r]$

- (b) other roles are mapped onto the lowest compatible function in the hierarchy of grammatical functions

The mapping principle in (3a) (i) links the highest argument on a verb's argument structure to the subject function, thus predicting the linking of the active clause. A deviation from this default linking can only occur when passive morphology triggers a lexical rule that prevents the highest argument from being linked to a grammatical function. In such an instance, mapping principle (3a) (ii) predicts which argument is linked to subject function (cf. Bresnan 2001: chapter 14).

2.2 Symmetrical voice as a challenge to standard LMT

The obligatory suppression of arguments that is necessary to account for voice alternations constitutes a serious problem when it comes to symmetrical voice languages. As the short discussion of the Totoli data in (1) and (2) in the introduction to this paper has already shown, both the actor voice construction and the undergoer voice construction are transitive, with the non-subject argument being a core argument in both voices. Thus, applying the linking mechanism of standard LMT summarised in the previous section, yields the wrong results for the undergoer voice construction.

The verb *kusut* 'to search for' takes two arguments, an agent and a patient. The patient role is intrinsically classified as $[-r]$, and as the verb takes no secondary

patient-like role, the remaining argument (the agent) is classified as [-*o*]. As no argument suppression occurs which would make it possible to link the patient to the subject function, the mapping principles in (3) wrongly predict an ‘active’ linking for both, the actor voice and the undergoer voice.

One possibility to solve this problem might be to regard the actor voice construction as the basic argument realisation pattern and to analyse the undergoer voice as the derived voice. The undergoer voice suffix *-i* would then do a similar job to passive morphology and prevent the highest argument from becoming the subject, in order to make the linking of the patient-like argument to SUBJ possible. This kind of analysis has at least two fundamental problems: first, it in no way reflects the symmetrical organisation of languages like Totoli. Selecting the actor voice as the basic, unmarked voice and the undergoer voice as derived would be a stipulation that is not consistent with the data (see Section 1). Furthermore, if the undergoer voice suffix is assumed to have a similar function to passive morphology, one has to wonder what the function of the actor voice affix might be. Second, even if one accepts such a stipulation and analyses the undergoer voice in a parallel manner to passive voice, it is not possible within standard LMT to correctly link the non-subject argument. Recall from the previous section that any semantic role other than patient-like or secondary patient-like ones – and thus also the agent – is specified as [-*o*]. The feature decomposition of the object function, however, is assumed to be [-*r*, +*o*], which technically makes it impossible to link an agent argument to the object function. But with the agent being a core argument in the undergoer voice, this is exactly what we find in symmetrical voice languages like Totoli (see example (2)).

In the following section, I will suggest some possible modifications to LMT that make it possible to account for the linking patterns in asymmetrical voice languages, as well as the voice alternations in symmetrical voice languages, while at the same time capturing the typological differences these two language types display.

3. LINKING AGENTIVE OBJECTS – EXTENDING LMT

The first change I would like to introduce concerns the intrinsic specification of agent-like arguments. Cross-linguistically, the agent shows a wide range of syntactic realisation options: in asymmetrical voice languages it can either be SUBJ or OBL_o, thus having the property of being [-*o*]. In symmetrical voice languages, on the other hand, the agent can likewise be [-*o*] (as SUBJ in the actor voice), but it can also be [+*o*] (as OBJ in the undergoer voice). It follows that the agent cannot be intrinsically marked as either [-*o*] or [+*o*]. Neither can it be specified for the features [-*r*] or [+*r*], because cross-linguistically it shows both realisation options: as OBJ in symmetrical voice languages, and as SUBJ in both language types, it is [-*r*], while it is [+*r*] when occurring as OBL_o in an asymmetrical passive construction. I therefore claim that the agent has to remain unspecified for both features [*o*] and [*r*], and propose the following, revised intrinsic feature specification of semantic roles:

Table 3
Revised intrinsic classification of semantic roles

proto agent	[]
patient-like roles:	[-r]
secondary patient-like roles:	[+o]
other roles:	[-o]

A second change concerns the feature decomposition of the grammatical functions, which follows from the change in the intrinsic feature specification of semantic roles. With the agent no longer being specified for neither [o] nor [r], the feature values of grammatical functions also need to change in the following way:

Table 4
Revised feature decomposition of grammatical functions

SUBJ:	[]
OBJ:	[+o]
OBL _θ :	[-o, +r]
OBJ _θ :	[+o, +r]

3.1 Linking the active in asymmetrical voice languages

The first crucial test for the proposed modifications to LMT is whether the new approach correctly predicts the linking patterns in asymmetrical languages just as well as the standard approach has before. This is borne out, after adjusting the mapping principles to the new intrinsic feature specification of semantic roles: mapping principle (3a) (i) needs to be rephrased as ‘ $\hat{\theta}$ which is unspecified for [o] and [r] (i.e. []) is mapped to SUBJ’. No further changes have to be postulated, and the linking process of active constructions proceeds in the same manner as under the standard approach, as illustrated in example (4).

(4) (a) *The cat eats the fish.*

(b) <i>eat</i>	< ag,	pt >
	[]	[-r]
	SUBJ	OBJ

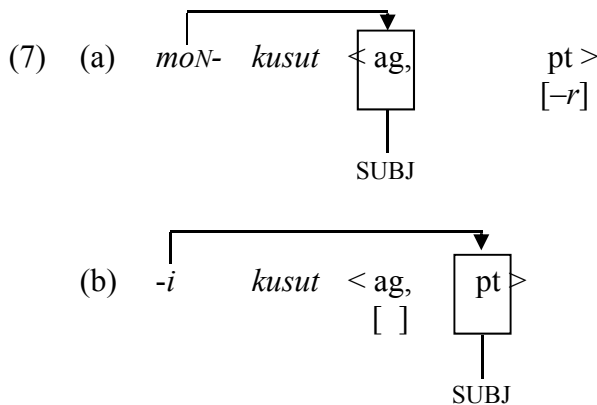
3.2 Linking symmetrical voice languages

As mentioned in the introduction of this paper, one crucial difference between asymmetrical and symmetrical voice languages is that in the latter all voices are morphologically marked. Musgrave (2002) has claimed for Indonesian that the function of overt voice morphology in all voices is to directly choose the subject. Indonesian has two voice prefixes, the actor voice prefix *meN-*, and the prefix *di-* which marks certain undergoer voice constructions and the passive (cf. Musgrave

(6) Mapping principles (revised)

1. subject roles:
 - A. (i) asymmetrical languages: $\hat{\theta}$ is mapped onto SUBJ
[]
 - (ii) symmetrical languages: the voice affix selects the SUBJ
otherwise:
 - B. θ is mapped onto SUBJ
[-r]
2. other roles are mapped onto the lowest compatible function on the hierarchy of grammatical functions

To see that these mapping principles make the right predictions for symmetrical voice languages, consider again the two Totoli example sentences in section 1. In the actor voice construction in (1) the actor voice prefix *moN-* selects the agent as SUBJ of the clause. The patient argument, specified as [-r], is linked to the lowest compatible function on the hierarchy of grammatical functions and thus becomes OBJ. In the undergoer voice in (2), the undergoer voice suffix *-i* selects the undergoer as SUBJ. The agent, being [], is linked to OBJ.



Obviously, OBJ is not the only compatible function for the unspecified agent role, and not the lowest one either, as a role that is unspecified for [o] and [r] should actually be compatible with any feature value. Under the current approach, which sticks to the traditional feature values and concepts of argument structure, this remains an unsolved problem and can only be ruled out by stipulating that an unspecified argument role is only compatible with grammatical functions which bear at most one feature value.³ Such a stipulation is admittedly inelegant but would then ensure that

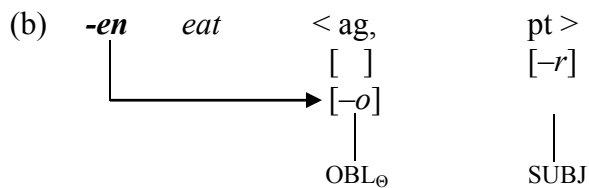
³ Another option would be to propose an equivalent to an EXISTENTIAL CONSTRAINT (cf. Dalrymple, Kaplan & Holloway King 2004, Kaplan & Bresnan 1982). This kind of constraint can also be negated and then ensures that a given feature is not instantiated. If this concept was to be transferred to the feature values within LMT, one might think of the agent and the SUBJ as specified as [-o, -r], and the

the agent role can be linked to either SUBJ or OBJ, with OBJ then of course being the lower compatible one.

3.3 Linking passives

In standard LTM, passive is assumed to be a lexical rule that operates on a verb's argument structure. However, the claim that the actor argument in the passive becomes an adjunct has been questioned by different authors (Dowty 2003, Riesberg 2011, Zifonun, Hoffmann & Strecker et al. 1997). I therefore believe that suppression of the actor argument should not be an obligatory step within the linking process of a passive clause. Instead, I assume that the passive morpheme triggers a process very similar to the one postulated by Arnold (1997) for the inverse voice in Mapudungun. Arnold claims that the inverse marker marks the agent as [+o]. In the same manner I argue, that the passive morpheme marks the agent role as [-o]. Once this marking has taken place, the linking follows the principles listed in (6): with the agent being marked as [-o], there is no unspecified semantic role left and (6) 1. B. instead of (6) 1. A. (i) applies, linking the patient to SUBJ. The non-subject linking adheres to principle (6) 2. which correctly predicts that the agent is realised as OBL_θ. The whole linking process for the English passive clause in (8a) is illustrated in (8b).

(8) (a) *The fish was eaten by the cat.*



4. CONCLUSION

This paper has aimed to show that linking in symmetrical voice languages cannot be accounted for by current standard linking theories like LMT. Therefore, an extended LMT approach has been introduced that captures the linking behaviour of these languages. On the one hand, this approach accounts for the asymmetry that is found in so many languages by providing a set of linking rules that applies in case of unmarked voices such as the active voice in asymmetrical languages. The passive voice will then be 'derived' by a deviation from these default rules. On the other hand, it reflects the symmetry of Western Austronesian languages by not postulating any default subject-linking rules for this language type. Instead, the voice marking is assumed to directly select the respective subject candidate.

OBJ as [+o, -[+r]]. This would mean that the former two were not to be specified for any of the two features and that the latter was compatible with [+o] and anything else except for [+r] (including also [-r]).

Passive morphology and symmetrical voice morphology operate on different arguments: the former marks the non-subject argument while the latter selects the subject. They thus trigger different processes, a fact that is consistent with the claim that passives and undergoer voice constructions serve different functions (Sells 2001). In the passive construction, where the passive morpheme marks the actor as [-o], the primary aim is to background the semantically most prominent argument. The undergoer voices of symmetrical languages, on the other hand, promote or ‘focus’ the undergoer argument by making it the subject. This happens without backgrounding the agent.

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