

## Voice, Agree and Locality in Paiwan (and Some Formosan Languages)

**1. Introduction** Formosan languages, Philippine-style Austronesian languages spoken in Taiwan, are famous for their complex voice systems. For example, voice affixes on the verb in Paiwan, a Formosan language spoken in southern Taiwan, agrees with  $\Theta$  roles/features of grammatical subject, as in (1). However, there exists an agreement mismatch between voices and  $\Theta$  roles/features of grammatical subject in causative verb constructions in Formosan languages. This paper aims to offer a ‘structural position’ explanation (cf. Chang 2008, Chang and Yeh 2008) toward such an agreement mismatch in Paiwan (and some Formosan languages). More concretely, we argue that the Undergoer Voice projections (i.e. PV, LV, and I/BV) can license a [ $\pm$ EPP] phasal Applicative projection where a lowest argument can(not) leapfrog to its outer edge and next to the [Spec, Voice].

**2. Two Types of Causatives** We argue that there are two types of causative verbs in Paiwan (and other Formosan languages such as Puyuma and Saaroa). First, we argue that the morphological causative (*m*-causative) location verbs *p-i-* ‘cause to be at’ and *p-u-* ‘cause to move’ can be decomposed into two heads, a causative prefix *p(a)-* and a location verbs *i-* and *u-*, which allows the Theme DP to c-command the Goal DP (cf. 2). By contrast, the *m*-causative possession verb *p-u-* comprises of a causative prefix *p(a)-* and a possession verb *u-*, which projects a Recipient/Goal DP complement and a Theme DP specifier (cf. 3). Under this account, the *m*-causative *p-i-/p-u-* can only incorporate a Goal DP not to violate ECP. The same principle applies to the *m*-causative *p-u-* (cf. 4). Similarly, lexical causative (*l*-causative) location verbs are different from *l*-causative possession verbs in Paiwan (and other Formosan languages): The Theme DP in (5a) appears in the matrix clause, occupying a higher position than the Goal DP. By contrast, variable binding indicates that in (5b) the Possessor DP c-commands the Theme DP. Furthermore, in anticausative constructions the Logical Subject (i.e. the Actor DP) is always demoted and the Logical Object (e.g. the Theme DP) surfaces as the grammatical subject (cf. 6a). When the stative morpheme *ma-* is added to causative possession verbs, only the higher Goal DP can serve as the grammatical subject (cf. 6b-c).

**3. Agree, Voice, and (Anti-)Locality** We observe that the PV affix on *m*-causative and *l*-causative location verbs agrees with the semantic role of the grammatical subject (cf. 7a). However, the PV affix on *m*-causative and *l*-causative possession verbs does not agree with the semantic role of the subject (cf. 7b). Again, the voice-subject agreement mismatch is observed in the IV/BV constructions of both types of causatives, as in (8). A question now emerges: Why does the agreement mismatch between voice and subject selection arise? We propose that only the IV can license a phasal High Applicative projection while the PV cannot. The PV-applicative head targets the DP at [Spec, VP], which is in turn attracted to [Spec, ApplP] without violating Minimal Link Condition (cf. 9-10). In contrast, the I/BV-applicative head, equipped with the [EPP] feature, probes for the DPs at [Comp, VP], which leapfrogs over the DPs at the [Spec, VP] to the [Spec, ApplP] (cf. 8). In this way, the DP at the outer [Spec, ApplP] will be cyclically raised to [Spec, VoiceP] and [Spec, TP] to check the (generalized) [UV], case and phi features. Consequently, the most embedded object DP will surface as the ‘applied subjects’ in Paiwan (and other Formosan languages), without violating the MLC. Accordingly, the agreement mismatch gets a natural explanation.

**4. Agree and Obligatory Control** Another piece of evidence concerns the agreement patterns of obligatory control constructions. We observe that in Formosan I/BV obligatory control constructions, the lower Theme DP in the complement under the Long Object Movement and leapfrogs over the higher Theme DP in the matrix clause to serve as grammatical subject (cf. 11). Under our ‘structural position’ account, the I/BV head probes a lower DP (i.e. the lower Theme DP) and in turn attracts it to leapfrog over the higher Theme DP to the [Spec, ApplP], which cyclically moves to the [Spec, UV] and [Spec, TP] to check the [UV], phi and [NOM] features. Again, the agreement and locality puzzles will be solved.

**5. A Comparison with Bantu Languages** McGinnis (2001) shows that in the passive of Kinyarwanda Benefactive Applicative, the lower Theme can move over the Benefactive to the subject position whereas in the passive of Kinyarwanda Locative Applicative the lower Theme cannot. Similarly, in Formosan languages the BV Applicative can trigger the embedded DP to leapfrog to the [Spec, TP] while the PV Applicative cannot. Second, in Chi-Mwi:ni: Recipient Applicative, the lower Theme cannot undergo object agreement. Similarly, in Formosan PV-applicative head cannot agree with the lower argument. Finally, we argue that the major difference between Bantu and Formosan languages is that the Bantu AV can license an ApplP (cf. 12) while the Formosan AV cannot (cf. 13). That is why

