Forward, backward, crossed: Voice restructuring and its semantics*

Shannon Bryant,[1] Iva Kovač[2] & Susi Wurmbrand[2]

[1]Rutgers University, [2]University of Vienna

1. Introduction

A range of constructions in different languages display obligatory control-like argument sharing dependencies, arguably without a syntactically projected element such as PRO. We identify three core subcases: i) *long passive/patient voice* (*LP*), illustrated in (1a); ii) *crossed control* (*CC*) as in (1b); and iii) *backward control* (*BC*) as in (1c).

(1) a. dass der Traktor zu reparieren versucht wurde
that the.NOM tractor to repair tried PASS.AUX
lit. 'that the tractor was tried to repair'
'that they tried to repair the tractor' [German; Wurmbrand 2001:19]

b. Anak$_i$ mau [kamu ø-peluk t$_i$].
child$_i$ want [2.SG PV-hug t$_i$]
'You want to hug the child.' [Indonesian; Berger 2019:62, (9)]

c. Ku-zam-e [uku-pheka uZodwa].
15-try-PST [INF-cook 1Zodwa]
'Zodwa tried to cook.' [Ndebele; Pietraszko 2021:(2)]

Such constructions have typically been investigated separately, both in terms of languages and configurations (e.g., Aissen and Perlmutter 1976, Wurmbrand 2001, Polinsky and Potsdam 2008, Pietraszko 2021). However, this misses the significant empirical and theoretical similarities between them. This paper suggests a uniform treatment that derives the similarities and accounts for the observed variation.

The most striking commonality across the three configurations above is an obligatory control-like relation between a matrix argument and the embedded thematic agent ((2); the terms 'controller' and 'controllee' are used descriptively). What distinguishes them is

*We would like to thank TC Chen, Victoria Chen, Jozina Vander Klok, Idan Landau, Ileana Paul, Asia Pietraszko, Lisa Travis, Yvette Wu, the audiences at UMass, Utrecht, NYI, and NELS.

the direction of the control-like relation and the overtness of the arguments involved. In LP, both arguments are implicit and control is downwards (2a), with the implicit matrix agent (e.g., the 'trier' in (1a)) controlling the embedded understood agent (the 'repairer'). In CC, control is upwards (2b), such that the implicit embedded agent (the 'hugger' in (1b)) controls the understood matrix agent/experiencer (the 'wanter'). BC, just like CC, involves upwards control (2b), but the embedded agent is overt (*Zodwa* in (1c)).

(2) a. CONTROLLER V.MATRIX [CONTROLLEE V.EMBEDDED] [LP]
b. CONTROLLEE V.MATRIX [CONTROLLER V.EMBEDDED] [CC, BC]

These constructions also vary with regard to the predicate containing the controllee, which can realize either matching or non-matching verb morphology as in (3) (for BC see below).

(3) a. AGENT V.MATRIX:PASS [AGENT V.EMB:PASS] [Matching LP/CC]
b. AGENT V.MATRIX:PASS [AGENT V.EMB] [Non-matching LP]
c. AGENT V.MATRIX [AGENT V.EMB:PASS] [Non-matching CC]

We propose a unified approach to LP, CC, and BC in terms of *Voice restructuring* that is based on two syntactic concepts: *bidirectional Agree* (Baker 2008, Carstens 2016) and *feature sharing* (Pesetsky and Torrego 2007). This approach derives the shared semantic restrictions (i.e., obligatory argument sharing) as well as the morphosyntactic variation.

Though not central to this paper, we note another property, long object A-promotion, in order to illustrate the typological space of the configurations. In LP and CC, but not in BC, the embedded object ('the tractor' in (1a) and 'child' in (1b)) is promoted to matrix subject. The combination of the direction of control and long object promotion yields four logical options, shown in Table 1, each of which exists in human language. In addition to unifying LP, CC, and BC, our proposal can be extended to the fourth option, *forward control (FC)*, at least in cases of highly reduced complement clauses.

	Exhaustive control		Raising (set aside here)
	Downwards	Upwards	
Matrix subject	thematic	thematic	non-thematic
Argument sharing	yes	yes	N/A
Long object promotion	LP	CC	embedded passive / unaccusative
No long object promotion	FC	BC	embedded external argument

Table 1: The constructions

2. Voice: the basics

We assume that the Voice domain is split into several functional heads (including Voice, *v*, possibly others; see, e.g., Kratzer 1996, Pylkkänen 2002, Folli and Harley 2005, Schäfer 2008, Harley 2009, 2017, Alexiadou et al. 2015). Voice introduces an Agent in transitives/unergatives/passives and is absent from unaccusatives/anti-causatives. We further assume that the Voice head consists of a bundle of features including an *index feature* [ID], a numerical value tracking event participants in the course of the derivation (see Kratzer 2009, Ershova 2019, Pietraszko 2021), and a *morphological feature* [F] determining PF spellout of verbal elements (PASS, PAST, etc.; cf. the uninterpretable T-feature in Pesetsky and Torrego 2007 or V-feature in Wurmbrand 2014), among possibly others.

We propose the semantics in (4) for different Voice heads. Each combines with a lower verbal projection (*v*P or VP) of type $\langle vt \rangle$ via functional application. Where they differ is in the interpretive role of the [ID] feature. In active and Austronesian-type patient Voice, [ID] imposes a presupposition on the referent of the DP in Spec,VoiceP. In passive Voice, [ID] rather fills the Agent slot directly (cf. Pietraszko 2021), precluding composition with a syntactic argument. In this case, the semantics simply require that *g(n)* pick out *someone*, even if the exact identity of the referent remains unknown.

(4) a. $[\![\text{Voice [ID=}n]]\!]^{g,c} = \lambda P.\lambda x : g(n) = x.\lambda e.[\text{P}(e) \wedge \text{Ag}(x)(e)]$ (active, patient)
b. $[\![\text{Voice [ID=}n]]\!]^{g,c} = \lambda P.\lambda e.[\text{P}(e) \wedge \text{Ag}(g(n))(e)]$ (passive)

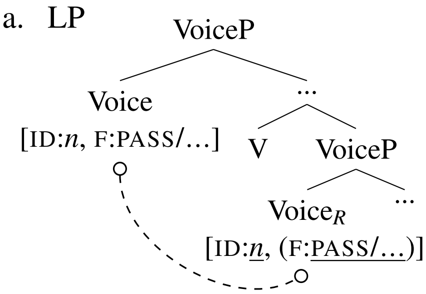
3. Voice restructuring and its interpretation

We adopt and develop the mechanism of *Voice restructuring* (*VR*) proposed in Wurmbrand and Shimamura (2017). VR involves an Agree-based dependency between an underspecified restructuring Voice head (Voice_R) and a fully specified Voice (or applicative) head. The difference between fully specified Voice and Voice_R concerns their featural makeup (5): the former has a valued [ID] feature and a (possibly unvalued) [F] feature, while the latter has an *un*valued [ID] feature and may lack an [F] feature altogether (see Section 4).

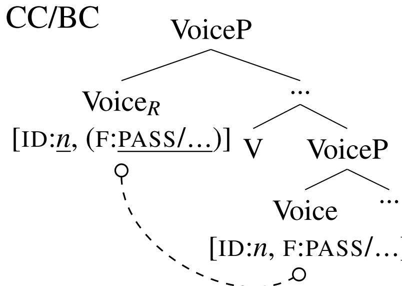
(5) a. Regular Voice: [ID:*n*, F:PASS/PV/…]
b. Restructuring Voice: [ID:__, (F:__)]

Assuming Agree is bidirectional (Baker 2008, Carstens 2016), either the embedded or the matrix Voice may be underspecified, as shown in (6). In LP, an embedded Voice_R probes upwards (6a). In CC and BC, a matrix Voice_R probes downwards (6b). Agree results in feature sharing (Pesetsky and Torrego 2007) and ultimately valuation of the features on Voice_R. (Feature values transmitted via Agree are underlined in (6) and ensuing diagrams.)

(6) a. LP



b. CC/BC



As shown in (6), we propose that Voice$_R$, like passive Voice, does not project a specifier. This allows for a natural account of long object promotion mentioned above: the lack of a specifier such as PRO goes hand-in-hand with the lack of object case in the complement (Burzio's Generalization) and the resulting promotion of the object to matrix subject (or object, if the matrix clause is active, e.g., in cases of radically reduced forward control).[1]

Turning to semantics, we propose that Voice$_R$ has the same denotation as passive Voice, with the [ID] feature filling the Agent slot directly ((7); cf. (4b)).

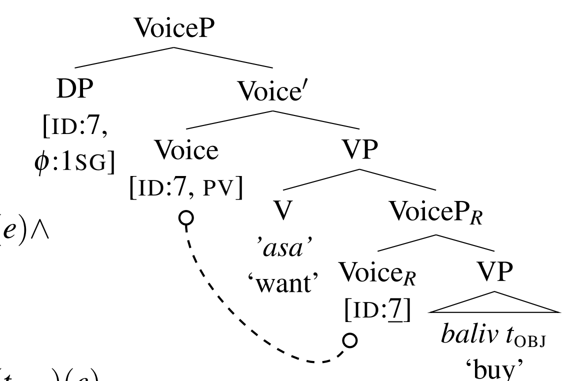
(7) $[\![\text{Voice}_R\ [\text{ID}{=}n]]\!]^{g,c} = \lambda P.\lambda e.[\text{P}(e) \wedge \text{Ag}(g(n))(e)]$

Importantly, the control-like relation found in VR arises entirely from the syntax: Agree ensures that Voice$_R$ bears the same [ID] as the higher/lower fully specified Voice and, hence, that the matrix and embedded Agents are identified in the semantics. Note, too, that LP and CC/BC differ only in the direction of feature valuation. As we show below, the semantic derivations for all three configurations are largely the same.

First, a partial derivation for the LP example in (8) is provided in (9), proceeding by means of functional application throughout.[2] We use *mtx* and *emb* to distinguish matrix and embedded projections, respectively.

(8) 'asa'-u =ku a 'iskán=di$_i$ [ma-baliv t$_i$].
want-PV =1SG.OBL ABS fish=this$_i$ [AV-buy t$_i$]
'I want to buy this fish.' [Takibakha Bunun LP; Shih 2014:19, (43b)]

(9) $[\![\textbf{VP}_{emb}]\!]^{g,c} = \lambda e.[\text{buy}(t_{\text{OBJ}})(e)]$
$[\![\textbf{Voice}_R[\text{ID}{=}7]]\!]^{g,c} = \lambda P.\lambda e.[\text{P}(e) \wedge \text{Ag}(g(7))(e)]$
$[\![\textbf{VoiceP}_{emb}]\!]^{g,c} = \lambda e.[\text{buy}(t_{\text{OBJ}})(e) \wedge \text{Ag}(g(7))(e)]$
$[\![\textit{\textbf{'asa'}}]\!] = \lambda P_{vt}.\lambda e.[\text{want}(P)(e)]$
$[\![\textbf{VP}_{mtx}]\!]^{g,c} = \lambda e'.[\text{want}(\lambda e.[\text{buy}(t_{\text{OBJ}})(e) \wedge \text{Ag}(g(7))(e)])(e')]$
$[\![\textbf{Voice}_{PV}[\text{ID}{=}7]]\!]^{g,c} = \lambda P.\lambda x : g(7) = x.\lambda e.[\text{P}(e) \wedge \text{Ag}(x)(e)]$
$[\![\textbf{Voice}'_{mtx}]\!]^{g,c} = \lambda y.\lambda e'.[\text{want}(\lambda e.[\text{buy}(t_{\text{OBJ}})(e) \wedge \text{Ag}(g(7))(e)])(e') \wedge \text{Ag}(y)(e')]$
$[\![\textbf{VoiceP}_{mtx}]\!]^{g,c} = \lambda e'.[\text{want}(\lambda e.[\text{buy}(t_{\text{OBJ}})(e) \wedge \text{Ag}(g(7))(e)])(e') \wedge \text{Ag}(1\text{SG})(e')]$



We assume that $[\![1\text{SG}]\!]^{g,c}$ = the speaker in c (see, e.g., Kratzer 2009:220). Crucially, the referent picked out by $g(7)$ is identical to the speaker in (8)-(9). This is ensured by the presupposition on matrix Voice.

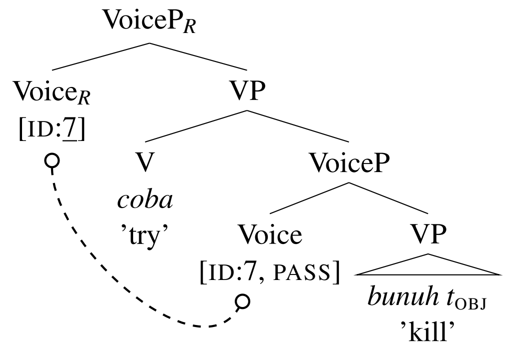
[1]In Austronesian PV configurations, long object promotion may be compatible with a Voice specifier, exactly like in simple PV contexts in these languages.

[2]We ignore the [F] feature in this section; see Section 4 on the morphological derivation.

A derivation for the CC example in (10) is given in (11). If included, the PP would associate the implicit agent ($g(7)$ below) with the plural entity comprising the would-be victim's friends; without it, the agent receives an indefinite interpretation (roughly, *someone*).

(10) Dia di-coba di-bunuh (oleh teman-nya).
3SG PASS-try PASS-kill by friend-3POSS
'His friend(s) tried to kill him.' [Indonesian CC; Arka 2012:29]

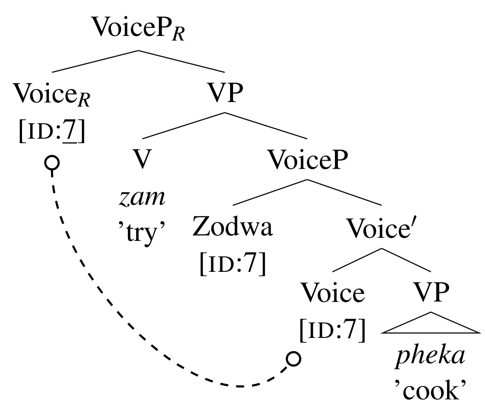
(11) $[\![\mathbf{VP}_{emb}]\!]^{g,c} = \lambda e.[\text{kill}(t_{\text{OBJ}})(e)]$
$[\![\mathbf{Voice}_{PASS}\ [\text{ID=7}]]\!]^{g,c} = \lambda P.\lambda e.[\text{P}(e) \wedge \text{Ag}(g(7))(e)]$
$[\![\mathbf{VoiceP}_{emb}]\!]^{g,c} = \lambda e.[\text{kill}(t_{\text{OBJ}})(e) \wedge \text{Ag}(g(7))(e)]$
$[\![\textbf{\textit{coba}}]\!] = \lambda P_{vt}.\lambda e.[\text{try}(P)(e)]$
$[\![\mathbf{VP}_{mtx}]\!]^{g,c} = \lambda e'.[\text{try}(\lambda e.[\text{kill}(t_{\text{OBJ}})(e) \wedge \text{Ag}(g(7))(e)])(e')]$
$[\![\mathbf{Voice}_{R}\ [\text{ID=7}]]\!]^{g,c} = \lambda P.\lambda e.[\text{P}(e) \wedge \text{Ag}(g(7))(e)]$
$[\![\mathbf{VoiceP}_{mtx}]\!]^{g,c} = \lambda e'.[\text{try}(\lambda e.[\text{kill}(t_{\text{OBJ}})(e) \wedge \text{Ag}(g(7))(e)])(e') \wedge \text{Ag}(g(7))(e')]$



Finally, a derivation for BC, (12), is shown in (13). This derivation differs from CC only in the inclusion of an overt subject in the embedded clause. (As a consequence, note that Voice$_R$ may directly Agree with the embedded subject instead of embedded Voice.) The present account correctly predicts the absence of Condition C violations in BC: the embedded DP is not c-commanded by a co-referring nominal expression, overt or covert.

(12) Ku-zam-e [uku-pheka uZodwa].
15-try-PST [INF-cook 1Zodwa]
'Zodwa tried to cook.' [Ndebele BC; Pietraszko 2021:(2)]

(13) $[\![\mathbf{VP}_{emb}]\!]^{g,c} = \lambda e.[\text{cook}(e)]$
$[\![\mathbf{Voice}_{ACT}[\text{ID=7}]]\!]^{g,c} = \lambda P.\lambda x : g(7) = x.\lambda e.[\text{P}(e) \wedge \text{Ag}(x)(e)]$
$[\![\mathbf{Voice'}_{emb}]\!]^{g,c} = \lambda x : g(7) = x.\lambda e.[\text{cook}(e) \wedge \text{Ag}(x)(e)]$
$[\![\mathbf{VoiceP}_{emb}]\!]^{g,c} = \lambda e.[\text{cook}(e) \wedge \text{Ag}(\text{Zodwa})(e)]$
$[\![\textbf{\textit{zam}}]\!] = \lambda P_{vt}.\lambda e.[\text{try}(P)(e)]$
$[\![\mathbf{VP}_{mtx}]\!]^{g,c} = \lambda e'.[\text{try}(\lambda e.[\text{cook}(e) \wedge \text{Ag}(\text{Zodwa})(e)])(e')]$
$[\![\mathbf{Voice}_{R}\ [\text{ID=7}]]\!]^{g,c} = \lambda P.\lambda e.[\text{P}(e) \wedge \text{Ag}(g(7))(e)]$
$[\![\mathbf{VoiceP}_{mtx}]\!]^{g,c} = \lambda e'.[\text{try}(\lambda e.[\text{cook}(e) \wedge \text{Ag}(\text{Zodwa})(e)])(e') \wedge \text{Ag}(g(7))(e')]$



4. Morphosyntax of Voice restructuring

This section turns to the morphosyntactic variation observed across LP and CC. In LP, the embedded predicate either matches the Voice feature of the matrix predicate or is realized as morphological default. Example (14a) illustrates a case of matching LP: both the matrix ‘begin’ and the embedded ‘eat’ are marked with a passive morpheme. A default LP (with patient voice) is illustrated in (14b): the matrix ‘want’ is marked for patient voice, but the embedded verb only has default actor voice marking.

(14) a. ?1950-nen-goro hambaagaa-ga nihon-de tabe-rare-hajime-rare-ta
1950-year-about hamburger-NOM Japan-in eat-PASS-begin-PASS-PST
‘They began to eat hamburgers around 1950 in Japan.’
[Japanese; Wurmbrand and Shimamura 2017:203, fn. 20]]

b. ’asa’-u =ku a ’iskán=di$_i$ [ma-baliv t$_i$].
want-PV =1SG.OBL ABS fish=this$_i$ [AV-buy t$_i$]
‘I want to buy this fish.’ [Takibakha Bunun; Shih 2014:19, (43b)]

A similar state of affairs is observed for the matrix predicate in CC: it either matches the Voice feature of the embedded predicate (15a) or realizes the verbal inflection of the matrix TMA domain (15b). The matrix predicate in BC may also realize matrix TMA inflection, as in (15c). Two remarks are in order here. First, in BC, it cannot be straightforwardly determined whether the matrix predicate matches the Voice value of the embedded one since BC involves active Voice, and active usually doubles as default. Second, CC and BC can never have truly default morphology (in contrast to LP), since matrix clauses can never be fully underspecified; at least some tense or aspectual head will be present, providing instructions for the morphological spellout of the matrix predicate.[3]

(15) a. Pära tafan-ma-chägi ma-na’fanätuk ni lalahi siha.
FUT 1PL.IR.IN-PASS-try NPL.RL.IN.PASS-hide OBL men PL
‘The men will try to hide all of us.’ [Chamorro; Chung 2004:204, (6a)]

b. Nu ska lasten försöka bärgas.
now shall cargo.DEF try salvage.INF.PASS
‘There will now be an attempt to salvage the cargo.’
[Swedish; Engdahl 2022:(72)]

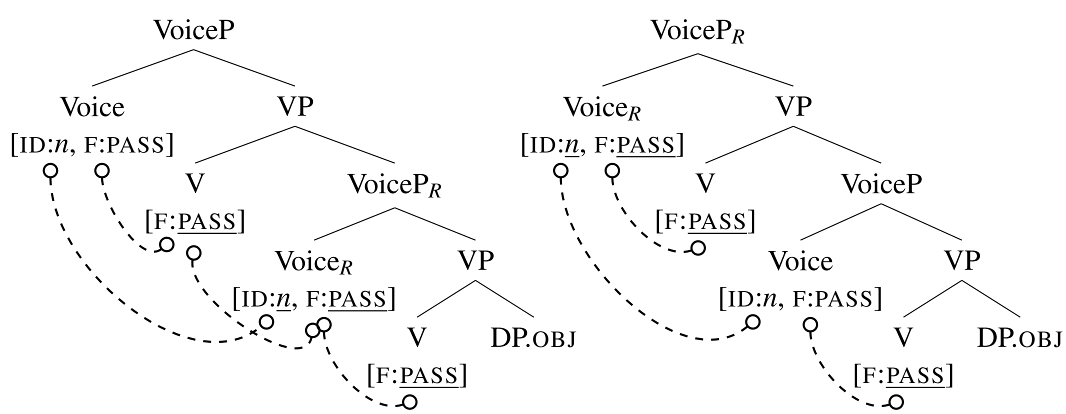
c. Ku-zam-e [uku-pheka uZodwa].
15-try-PST [INF-cook 1Zodwa]
‘Zodwa tried to cook.’ [Ndebele; Pietraszko 2021:(2)]

[3]Nevertheless, in some CC contexts in Indonesian, certain matrix verbs occur without any marking. Paul et al. (2021) suggest that these bare forms are not default morphology but lexically restricted forms. We suggest that bare forms involve matching in the syntax but that certain verbs cannot spell out Voice (or other) morphology. Support for this comes from the observation that true default forms (e.g., actor voice) do not seem to exist in CC and that matching is possible with some verbs in the same languages (Paul et al. 2021).

To derive verbal morphology, we assume that V has an unvalued [F:_] feature which receives its value via Agree (see Wurmbrand 2014). We follow the view that Agree is bidirectional (Baker 2008, Carstens 2016), sensitive to the closest matching feature, whether valued or not (Pesetsky and Torrego 2007), and fallible (Preminger 2014). The main property deriving matching vs. non-matching, we submit, lies in a difference in the feature inventory of Voice$_R$: in matching languages, Voice$_R$ has both an underspecified [ID] feature and an underspecified [F] feature, whereas in non-matching languages, Voice$_R$ only has an underspecified [ID] feature. This system derives the observed morphosyntactic patterns as follows.

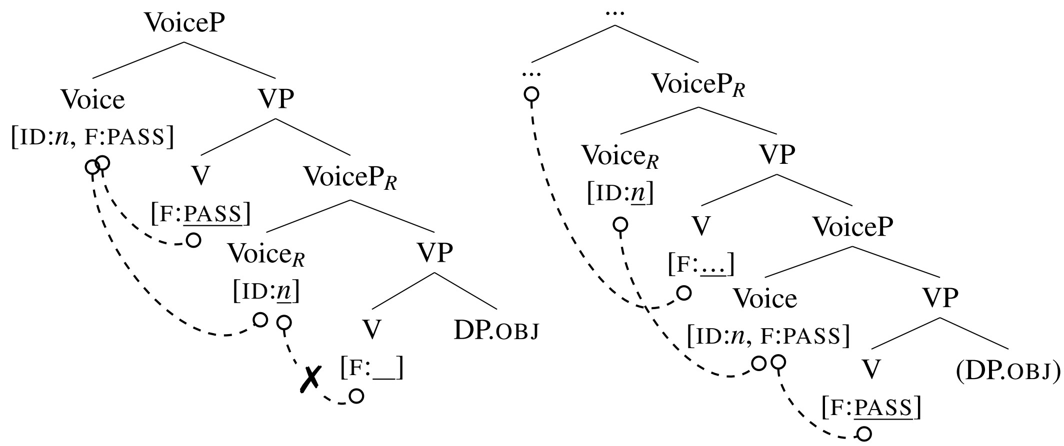
Matching LP is illustrated in (16a). Starting from the bottom, [F:_] on embedded V Agrees with [F:_] on Voice$_R$. (The fact that both [F] features are unvalued at the time of Agree is compatible with the system in Pesetsky and Torrego 2007.) At this point, there are two options, depending on technical assumptions about probing—whether features probe separately or jointly—and locality. If the features on Voice$_R$ probe separately (as depicted in (16a)), its [F:_] feature Agrees with matrix V (the closest element with an [F] feature) which in turn establishes an Agree dependency with matrix Voice, while its [ID:_] feature Agrees with [ID] on matrix Voice directly. If, on the other hand, [ID:_] and [F:_] probe jointly, Voice$_R$ Agrees with matrix Voice for both (and again, there is an Agree dependency for [F] between matrix Voice and V). Since the [F] feature is ultimately shared by all heads under either derivation, the morphosyntactic outcome is the same; we therefore leave the choice between options open for now. Matching CC (16b) proceeds in a similar manner: the lower part of the clause follows the same steps (Agree between V and—in this case fully specified—Voice); [F:_] on matrix V Agrees with [F:_] on Voice$_R$, and the value gets copied from downstairs Voice after Voice$_R$ has Agreed with it.

(16) a. Matching LP b. Matching CC



Turning to non-matching LP (17a), the crucial difference to matching LP is that [F:_] on embedded V fails to find a goal in its search domain (see below) and is spelled out as default (Preminger 2009, 2014). In non-matching BC and CC (17b), it is the matrix Voice$_R$ that lacks an [F] feature, but in this case, [F:_] on matrix V Agrees with the next closest [F] it finds (e.g, matrix tense), and is spelled out with corresponding TMA morphology.

(17) a. Non-matching LP b. Non-matching CC/BC



The proposal provides several insights into the locality of the Agree search domain. The semantic [ID] probe on Voice is able to look up/down until the next Voice head (cf. Keine 2020's *horizons*). However, the probe for verbal morphology (what we refer to as [F]) is more restricted and highly local (effectively deriving morphological selection), in that it is bound to the closest element in the extended projection (V–T–C) in which it occurs (a further lexical V opens a new domain). The main difference between (16a) and (17a) is thus whether there is a local dependency between embedded V and Voice$_R$. If there is such a dependency, (16a), V ultimately receives the feature value from matrix Voice (via Pesetsky and Torrego 2007's concept of feature sharing). However when Voice$_R$ lacks an [F] feature, (17a), no dependency between Voice$_R$ and embedded V can be established and, due to the strict form of locality for verbal morphology, V cannot probe outside VoiceP$_R$, its extended projection.[4] Since V is in no local Agree relation, [F] spells out as default.

5. Conclusions & Extensions

This paper has shown that obligatory argument sharing can be established by means of Voice restructuring and sharing of [ID] features, without recourse to semantic binding or PRO. This approach allows us to unify LP, CC, and BC, correctly predicting long object promotion in the former two and compatibility with Condition C in the latter. In addition, the phenomena discussed provide evidence for bidirectional Agree and shed new light on locality. While [ID] probes may look as far as the next head of the same type, the domain for verbal morphology appears to be limited to the extended projection of V. As such, a verb can receive instructions on PF spellout from beyond its extended projection only if Agree is mediated by heads contained within its extended projection.

The underlying patterns leading to matching and non-matching morphology in Voice restructuring are summarized in Table 2. Examples for default LP include German (1a) and Takibahka Bunun (14b), also, e.g., Acehnese, Croatian, European Portuguese; matching LP is found in Japanese (14a), also Saisiyat and Tsou. CC/BC with no matching morphology

[4]If probing applies as illustrated in (16a), locality would be defined in a way that only the embedded Voice(P) can interact with matrix V, but embedded V can see no further than the embedded Voice.

occurs in Swedish (15b) or Ndebele (15c); matching can be observed in Chamorro (15a), also Indonesian, Madurese, and Sundanese.

Syntax →	Voice_R: [ID:__]	Voice_R: [ID:__, F:__]
	↓ Morphology ↓	
LP	default	matching
CC/BC	matrix TMA	matching

Table 2: Morphosyntax of Voice restructuring

While our focus has been on LP, CC, and BC, an advantage of the proposed approach is its natural extension to forward control, at least with certain highly reduced restructuring complements, as well as to causative passives (18).

(18) Er ließ die Fensterscheibe putzen.
he let the window.glass clean
'He let/made someone clean the window.' [German; Pitteroff 2014:223, (4a)]

Pitteroff (2014) has argued that the embedded infinitive in examples like (18) is a syntactically passive VoiceP. By manipulating the valued vs. unvalued nature of the features on Voice, our proposal can capture these cases: there is no argument sharing (causatives are not control verbs), so the embedded Voice should have its own [ID] feature value, and the lack of morphological spellout follows if this Voice head has no [F] feature (just like the German Voice_R in LP). We leave such extensions as a promising direction for future work.

References

Aissen, Judith, and David Perlmutter. 1976. Clause reduction in Spanish. In *Proceedings of the Second Annual Meeting of the Berkeley Linguistics Society*, ed. by Henry Thompson et al., 1–30. Berkeley: University of California, Berkeley Linguistic Society.

Alexiadou, Artemis, Elena Anagnostopoulou, and Florian Schäfer. 2015. *External arguments in transitivity alternations*. Oxford: Oxford University Press.

Arka, I Wayan. 2012. Developing a deep grammar of Indonesian within the ParGram framework: Theoretical and implementational challenges. In *Proceedings of the 26th Pacific Asia Conference on Language, Information, and Computation*, ed. by Ruli Manurung and Francis Bond, 19–38. Faculty of Computer Science, Universitas Indonesia.

Baker, Mark C. 2008. *The syntax of agreement and concord*. Cambridge University Press.

Berger, Mike. 2019. Indonesian Crossed Control. In *Proceedings of WCCFL 36*, ed. by Richard Stockwell, Maura O'Leary, Zhongshi Xu, and Z.L. Zhou, 61–70. Somerville, MA: Cascadilla Proceedings Project.

Carstens, Vicki. 2016. Delayed valuation. *Syntax* 19:1–42.

Chung, Sandra. 2004. Restructuring and verb-initial order in Chamorro. *Syntax* 7:199–233.

Engdahl, Elisabet. 2022. Passive with control and raising in mainland Scandinavian. *Nordic Journal of Linguistics* 1–41.

Ershova, Ksenia Alexeyevna. 2019. Syntactic ergativity in West Circassian. Doctoral dissertation, The University of Chicago.

Folli, Raffaella, and Heidi Harley. 2005. Flavours of v. In *Aspectual inquiries*, ed. by Paula Kempchinsky and Roumyana Slabakova, 95–120. Dordrecht: Springer.

Harley, Heidi. 2009. The morphology of nominalizations and the syntax of vP. In *Quantification, definiteness and nominalization*, ed. by Anastasia Giannakidou and Monika Rathert, 320–342. Oxford: Oxford University Press.

Harley, Heidi. 2017. The "bundling" hypothesis and the disparate functions of little v. In *The verbal domain*, ed. by Roberta D'Alessandro, Irene Franco, and Ángel Gallego, 3–28. Oxford: Oxford University Press.

Keine, Stefan. 2020. *Probes and their horizons*. MIT Press.

Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, ed. by Johan Rooryck and Laurie Zaring, 109–137. Dordrecht: Kluwer Academic Publishers.

Kratzer, Angelika. 2009. Making a pronoun. *Linguistic Inquiry* 40:187–237.

Paul, Ileana, Lisa Travis, Jozina Vander Klok, and Susi Wurmbrand. 2021. Crossed Control as Voice Restructuring. In *Proceedings of the 2021 Annual Conference of the Canadian Linguistic Association (CLA)*, ed. by Angelica Hernández and Chris Plyley, 1–13.

Pesetsky, David, and Esther Torrego. 2007. The syntax of valuation and the interpretability of features. In *Phrasal and clausal architecture*, ed. by Simin Karimi, Vida Samiian, and Wendy Wilkins, 262–294. Amsterdam: John Benjamins.

Pietraszko, Asia. 2021. Backward Control without A-movement or ϕ-agreement. In *Proceedings of NELS 51*, ed. by Alessa Farinella Farinella and Angelica Hill, 139–152. GLSA.

Pitteroff, Marcel. 2014. Non-canonical *lassen* middles. Doctoral dissertation, University of Stuttgart.

Polinsky, Maria, and Eric Potsdam. 2008. The syntax and semantics of wanting in Indonesian. *Lingua* 118:1617–1639.

Preminger, Omer. 2009. Breaking agreements. *Linguistic Inquiry* 40:619–666.

Preminger, Omer. 2014. *Agreement and its failures*. Cambridge, MA: MIT Press.

Pylkkänen, Liina. 2002. Introducing arguments. Doctoral dissertation, MIT.

Schäfer, Florian. 2008. *The syntax of (anti-)causatives*. Amsterdam: John Benjamins.

Shih, Chao-Kai. 2014. On restructuring in Takibakha Bunun. Ms. National Tsing Hua University, Taiwan.

Wurmbrand, Susi. 2001. *Infinitives*. Berlin/ New York: Mouton de Gruyter.

Wurmbrand, Susi. 2014. The Merge Condition. In *Minimalism and beyond*, ed. by Peter Kosta, Lilia Schürcks, Steven Franks, and Teodora Radev-Bork, 139–177. Amsterdam: John Benjamins.

Wurmbrand, Susi, and Koji Shimamura. 2017. The features of the voice domain. In *The verbal domain*, ed. by Roberta D'Alessandro, Irene Franco, and Ángel Gallego, 179–204. Oxford: Oxford University Press.

Bryant, Kovač, Wurmbrand
shannon.bryant@rutgers.edu, iva.kovac@univie.ac.at, susanne.wurmbrand@univie.ac.at