

Adverb Agreement in Urdu and Sindhi

Miriam Butt Sebastian Sulger Mutee U Rahman Tafseer Ahmed
University of Konstanz University of Konstanz Isra University DHA Suffa University, Karachi

We discuss agreeing adverbs in Urdu and Sindhi, where adverbs may display number and gender agreement. Adverbial agreement has been claimed to be typologically unusual; our investigation into Urdu and Sindhi shows that agreeing adverbs in Urdu and Sindhi show a similar distribution to that found in Italian, where they have been argued to have emerged from an originally resultative construction. We show that this historical trajectory can also be applied to Urdu and Sindhi and that the analysis provides a straightforward explanation of the observed empirical facts.

Adverbs in Urdu take several different forms. As illustrated in (1), adverbs can be simple words (1a) or be expressed via an NP (1b). Neither of these types shows any agreement inflection, as is generally expected for adverbs (cf. e.g., Anderson 1985, Alexiadou 1997, Evans 2000).

- (1) a. *lɑrki* *gɑri=ko* **roz** *cala-ti* *hɛ*
girl.F.SG.NOM car.F.SG=ACC daily drive-IMPF.F.SG be.PRES.3.SG
'The girl drives the car daily.'
- b. *lɑrki* *gɑri=ko* **d^hɪyan=se** *cala-ti* *hɛ*
girl.F.SG.NOM car.F.SG=ACC care=INST drive-IMPF.F.SG be.PRES.3.SG
'The girl drives the car with care.'

Adverbs may also be based on adjectives and in this case retain the gender and number agreement morphology of the adjective. Although the adverb is modifying the verbal predication, it does not agree with the verb, but with the object, as shown in (2a).

- (2) a. *lɑrka* **gɑri** **acc^hi** *cala-ta* *hɛ*
boy.M.SG.NOM car.F.SG.NOM good.F.SG drive-IMPF.M.SG be.PRES.3.SG
'The boy drives a/the car well.'
- b. **lɑrka* *gɑri* **acc^ha** *cala-ta* *hɛ*
boy.M.SG.NOM car.F.SG.NOM good.M.SG drive-IMPF.M.SG be.PRES.3.SG
'The boy drives a/the car well.'
- c. *lɑrki* *gɑri=ko* **acc^ha** *cala-ti* *hɛ*
girl.F.SG.NOM car.F.SG=ACC good.M.SG drive-IMPF.F.SG be.PRES.3.SG
'The girl drives the car well.'

Agreement patterns in Urdu are complex, with the verbal complex showing agreement for person, number and gender. The verbal complex agrees with the subject when that subject is nominative/unmarked. This situation is also illustrated in (2a) where the verbal complex is agreeing with the masculine subject. As shown in (3), when the subject is overtly case marked, the verbal complex agrees with the object, but only if that is nominative/unmarked. When the object is also marked, the verb exhibits default masculine third singular agreement (Mohanan 1994). This default agreement is also at play in adverbial agreement. (2b) shows that the adverb does not agree with the subject in transitive clauses. (2c) further shows that if the object is overtly case marked, it becomes unavailable for agreement. In (2c), thus, the verbal complex shows agreement with the feminine subject, but the adverb does not agree with the feminine object, instead displaying masculine singular default agreement morphology.

- (3) a. *lɑrke=ne* **gɑri** **cala-yi** **hɛ**
boy.M.SG.OBL=ERG car.F.SG.NOM drive-PERF.F.SG be.PRES.3.SG
'The boy has driven a/the car.'

- b. *laṛke=ne* *gari=ko* *cala-ya* *hε*
 boy.M.SG.OBL=ERG car.F.SG=ACC drive-PERF.M.SG be.PRES.3.SG
 ‘The boy has driven the car.’

Adverbial agreement is considered to be typologically unusual (Evans 2000), but the related Indo-Aryan language Sindhi shows an identical pattern, including the use of default agreement morphology when the object is marked and therefore unavailable for agreement, see (4a)–(4c).

- (4) a. *c^hokiro* ***gadi*** ***suṭ^hi*** *hala-e* *t^ho*
 boy.M.SG.NOM car.F.SG.NOM good.F.SG drive-IMPF.SG be.PRES.M.SG
 ‘The boy drives a/the car well.’
- b. * *c^hokiro* *gadi* *suṭ^ho* *hala-e* *t^ho*
 boy.M.SG.NOM car.F.SG.NOM good.M.SG drive-IMPF.SG be.PRES.M.SG
 ‘The boy drives a/the car well.’
- c. *c^hokiri* *gadi=k^he* *suṭ^ho* *hala-e* *t^hi*
 girl.F.SG.NOM car.F.SG=ACC good.M.SG drive-IMPF.SG be.PRES.F.SG
 ‘The girl drives the car well.’

A typological survey shows that while adverb agreement is unusual, in a subset of languages adverbs do agree in case or gender with nominals that are in the scope of the predicate modified by the adverb. In Pitjantjatjara, for example, adverbs take the ergative case in transitive clauses (Evans 2000, Bowe 1991); see (5).

- (5) *mijma-ŋku=ŋi* *ɰawa-ŋku* *mai* *u-ŋkupai*
 woman-ERG=1.SG.OBJ continually-ERG food.ABS give-PST
 ‘The woman continually gave me food.’ (Evans 2000, p. 715)

In Daghestanian languages, adverbs agree with either the agent (e.g., in Archi) or the patient (e.g., in Avar) (Evans 2000, Kibrik 1979). An example from Archi is shown in (6); here, the adverb *dītaru* ‘early’ agrees in (feminine) class II and singular number with the agent of the overall predicate.

- (6) *buwa* *dez* *dītaru* *ḫ_oalli* *barfi* *erdi*
 mother(II:SG) 1.SG:DAT:II:SG early:II:SG bread:III bake:GER:III:SG AUX:II:SG
 ‘Mother was baking me the bread early.’ (Evans 2000, p. 715)

In both Urdu and Sindhi, adverb agreement is limited to patients/undergoers. Adverbs can in fact agree with a subject, but only if it is the subject of an unaccusative verb or of a passivized clause. This is shown in (7a–b) vs. (7c) for Urdu and in (8a–b) vs. (8c) for Sindhi.

- (7) a. ***gari*** (*laṛke=se*) ***acc^hi*** *cala-yi* *ja-ti* *hε*
 car.F.SG.NOM boy.M.SG.OBL=INST good.F.SG drive-PERF.F.SG go-IMPF.F.SG be.PRES.3.SG
 ‘The car is driven well (by the boy).’ (passive)
- b. ***roṭi*** ***acc^hi*** *pak-ti* *hε*
 bread.F.SG.NOM good.F.SG bake-IMPF.F.SG be.PRES.3.SG
 ‘(The) Bread bakes well.’ (unaccusative)
- c. *ye laṛki* ***acc^ha*** *hans-ti* *hε*
 this girl.F.SG.NOM good.M.SG laugh-IMPF.F.SG be.PRES.3.SG
 ‘This girl laughs well.’ (unergative)

- (8) a. $c^hokire=k^h\ddot{a}$ **gadi** **su^thi** hala-ije t^hi
 boy.M.SG.OBL=ABL car.F.SG.NOM good.F.SG drive-PASS.SG be.PRES.F.SG
 ‘The car is driven well (by the boy).’ (passive)
- b. **mani** **su^thi** pac-e t^hi
 bread.F.SG.NOM good.F.SG bake-IMPF.SG be.PRES.F.SG
 ‘The bread bakes well.’ (unaccusative)
- c. hi c^hokiri **su^tho** k^hil -e t^hi
 this girl.F.SG.NOM good.M.SG laugh-IMPF.SG be.PRES.F.SG
 ‘This girl laughs well.’ (unergative)

The pattern found in Urdu and Sindhi, both Indo-Aryan languages, appears to mirror exactly that found in Italian, an Indo-European language. Ledgeway (2011) points out the existence of agreeing adverbs in Italian and shows that they conform to an active/stative split whereby underlying patients/undergoers are picked out vs. agents. This split is mirrored in the famous auxiliary selection of ‘be’ (sensitive to patients/undergoers) vs. ‘have’ (sensitive to agents) and by agreement patterns in adjectival participles. Ledgeway (2011) shows that agreeing adjectives only ever agree with underlying patients/undergoers and never with agents. He suggests that the agreement reflects a diachronic origin by which the agreeing adverbs used to be adjectives that were part of a resultative construction.

We propose that the same mechanism is in evidence in Urdu and Sindhi, suggesting that the same forces of syntactic and semantic reanalysis have been at play across Indo-European. We further suggest that a resultative to adverb reanalysis follows naturally from analyses previously posited for resultatives in Urdu. In Ahmed et al. (2012) resultative adjective-verb combinations as in (9) are analyzed as containing the PREDLINK function. This PREDLINK is realized as the adjective, as shown in (10).

- (9) $larke=ne$ cae t^handi k-i
 boy.M.SG.OBL=ERG tea.F.SG.NOM cold.F.SG do-PERF.F.SG
 ‘The boy cooled the tea.’ (lit. ‘The boy did the tea cool.’)

(10) $\left[\begin{array}{l} \text{PRED} \\ \text{SUBJ} \\ \text{OBJ} \\ \text{PREDLINK} \end{array} \right. \left. \begin{array}{l} \text{‘kar<SUBJ OBJ PREDLINK>’} \\ \left[\begin{array}{l} \text{PRED} \text{ ‘lar^{ka}’} \\ \text{NUM} \text{ sg} \\ \text{GEND} \text{ masc} \end{array} \right] \\ \left[\begin{array}{l} \text{PRED} \text{ ‘cae’} \\ \text{NUM} \text{ sg} \\ \text{GEND} \text{ fem} \end{array} \right] \\ \left[\begin{array}{l} \text{PRED} \text{ ‘t^handi’} \\ \text{ATYPE} \text{ predicative} \\ \text{NUM} \text{ sg} \\ \text{GEND} \text{ fem} \end{array} \right] \end{array} \right]$

The adjective ‘cold’ in (9) is thus analyzed as being predicated of the water. As a reflex of this predication relation, we find agreement between the adjective and the affected noun. In combination with the verb ‘do’, this has the semantics of a resultative. This is in line with how predicatives are analyzed generally under the PREDLINK proposal (e.g., Attia 2008, Laczko 2012).

Resultatives have traditionally been analyzed as containing an XCOMP rather than a PREDLINK within LFG (and the equivalent in HPSG), as first proposed by Simpson (2006) (e.g., Christie 2010, also Müller (2002) and references therein for HPSG). However, if predicatives are generally treated as a PREDLINK (Butt et al. 1999), then resultatives should also be analyzed in terms of a PREDLINK.

The analysis of the resultative adjective as a PREDLINK shown above is thus in line with the overall adoption of a of a PREDLINK analysis rather than an XCOMP for predicatives. One advantage of the PREDLINK proposal is that no embedded syntactic subject is predicted. Under the XCOMP proposal, the *mez* ‘table’ would function as an embedded subject within the resultative XCOMP; however, (9) is monoclausal and *mez* ‘table’ shows no evidence of subjecthood (via the tests established for Urdu/Hindi by Mohanan (1994)).

With respect to agreement, a PREDLINK can either agree with the entity it is predicating something about or not; this is governed by language dependent factors (Butt et al. 1999). In Urdu, PREDLINKS generally agree with the grammatical function they are predicating over, as shown in (11). We do not provide the Sindhi data here, but the pattern is identical to Urdu.

- (11) a. *laṛka* *acc^ha* *hε*
 boy.M.SG.NOM good.M.SG be.PRES.3.SG
 ‘The boy is good.’
- b. *laṛki* *acc^hi* *hε*
 girl.F.SG.NOM good.F.SG be.PRES.3.SG
 ‘The girl is good.’

Under the proposal of Ahmed et al. (2012), the PREDLINK in Urdu agrees with the lowest grammatical function in the f-structure as per the grammatical function hierarchy in Bresnan (2001). Consider how this plays out with respect to our proposed analysis for agreeing adverbs. (12) provides an f-structure for (2a).

- (12)
$$\left[\begin{array}{l} \text{PRED} \\ \text{SUBJ} \\ \text{OBJ} \\ \text{PREDLINK} \end{array} \left[\begin{array}{l} \text{‘cala<SUBJ OBJ PREDLINK>’} \\ \left[\begin{array}{l} \text{PRED ‘laṛka’} \\ \text{NUM sg} \\ \text{GEND masc} \end{array} \right] \\ \left[\begin{array}{l} \text{PRED ‘gaṛi’} \\ \text{NUM sg} \\ \text{GEND fem} \end{array} \right] \\ \left[\begin{array}{l} \text{PRED ‘acc^hi’} \\ \text{ATYPE predicative} \\ \text{NUM sg} \\ \text{GEND fem} \end{array} \right] \end{array} \right]$$

The difficulty of first providing the possibility of augmenting a verb’s basic SUBCAT frame with a PREDLINK and then constraining its distribution is the same in our analysis as in all other approaches to resultatives. We integrate a basic template approach (Christie 2010), whereby the possibility of augmenting a verb’s SUBCAT frame is governed by lexical semantic factors (cf. Wechsler 1995, 2005). Adverb agreement proceeds as per the general agreement rules of the language by which a PREDLINK agrees with the lowest grammatical function found in the f-structure. In this case this is the OBJ. Resultative type PREDLINKS can only ever be predicated of patients/undergoers, so agreement with an agentive subject will never occur.

However, the analysis in (12) does not reflect the adverbial character of the agreeing adverb; clearly, (2a) does not predicate any property of *gaṛi* ‘car’, but modifies the event as a whole. Along with Ledgeway, we posit that the agreeing adverbs reflect a change in progress whereby originally resultative constructions are being reanalyzed as simple clauses containing an adjunct. In fact, given the structure in (12) this type of reanalysis is quite natural, as shown in (13), where the original PREDLINK has been reanalyzed as an adverbial adjunct. The fact that these constructions were originally resultatives is precisely what accounts for their agreement pattern.

Formally, we propose that a shift occurred in the semantics of the adjectives in question towards sentential-adverbial modification. Ultimately, the shift causes the PREDLINK augmentation rule to not trigger at all, since there is no need for a PREDLINK/resultative structure. This means that the only function the adjective (now an adverb) can occupy is ADJUNCT.

We thus propose that as in Italian, agreeing adverbs in Urdu and Sindhi reflect a historical process by which adjectives that were juxtaposed with a predicate in an originally resultative construction are being reanalyzed as adverbs. The morphosyntactic agreement pattern still reflects the old structure, whereas the semantics has shifted to a direct modification of the verb. The reanalysis appears to have taken place independently across different Indo-European languages, suggesting a common underlying mechanism of language change.

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