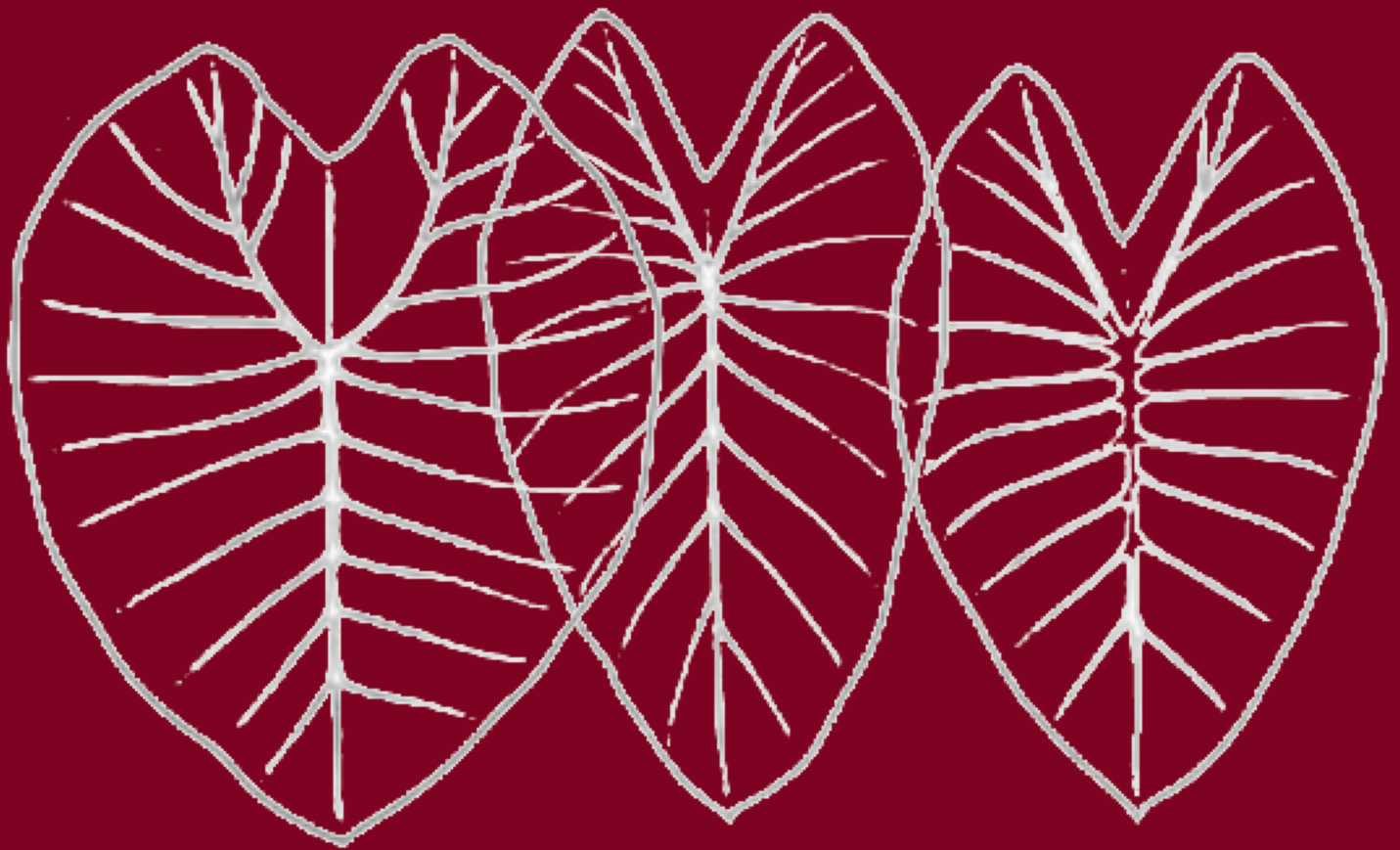


Proceedings of TripleA 7

Linguistic Fieldwork and Semantic Theory



Edited by Peng Liu, Erin Sjovall, Xue Sun,
Polina Berezovskaya and Vera Hohaus

*Proceedings of TripleA 7:
Linguistic Theory and Semantic Fieldwork*

Edited by Peng Liu, Erin Sjoval, Xue Sun, Polina Berezovskaya and Vera Hohaus
on behalf of Moritz Igel and Konstantin Sachs.

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<https://scholarspace.manoa.hawaii.edu/handle/10125/4327>

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In Memoriam Rahul Balusu¹

Rajesh Bhatt — University of Massachusetts, Amherst

1 Thinking of Rahul

17th July 2021. A year later, it is still hard to believe that Rahul is no longer with us. I think of him on a bridge in Portland, in a cab in Chennai, on top of a mountain in Tromsø, in the bar of a Vietnamese restaurant in the 13th in Paris, late at night on the streets of Rethimno, and then for the last time on a Zoom screen in March 2020 and it feels like he might be just around the corner. As I have been reading through his papers to write this, I have many times had the urge to email him and ask him why he made a particular theoretical choice. But he is gone. What remains is his impressive and beautiful body of work. There is an example sentence in Mathodi and Balusu (2021) which others have also remarked upon: *My writing is important, even if only to me*. The ‘even if only’ was never grounded in fact but I wish one could go back and emphasise this to him. In what follows, I plan to take you on a short trip through the territory that Rahul’s work covers. I will limit myself to a subset of his semantically oriented papers.² I hope that you will be inspired by his ideals, generosity, questions, generalizations and analyses, and will take forward his investigations.

2 IF, AND, OR

A theme that runs through almost all of Rahul’s work over the last decade is how complex meanings are generated through the combination of smaller pieces that are arguably associated with meanings like conjunction, disjunction, and conditionalization. This question came to the fore following work on indeterminate pronouns. Prior to the work on indeterminate pronouns, it was commonplace to treat quantificational elements as semantic atoms. The work of Kratzer and Shimoyama (2002) and Szabolcsi (2015) makes it clear that at least in some, and perhaps in all, languages, even these meanings are constructed from ‘indeterminate’ pronouns combining with elements that are associated with conjunction and disjunction. This is where Dravidian comes in. Rahul noted early on that the patterns similar to those already noted in the literature appeared in Dravidian languages. He also noted that the pattern went further in Dravidian than had been noted for say Japanese. Consider for example Table 1 on the next page.³ The colored lines will be familiar to a reader of Szabolcsi (2015), which is where Rahul gets the *-ka* particle terminology. In what follows, I will refer to the *-ka* particle as the DISJ particle.

¹I would like to thank Diti Bhadra, Seth Cable and Simon Charlow for giving me detailed and thoughtful comments on this note.

²They and others can all be found at the wonderful website put together by Diti Bhadra (URL: <https://sites.google.com/view/rahul-balusu-in-memoriam>). I hope the papers at this website will give you a sense of Rahul’s contribution to formal linguistics if you don’t already know his work.

³The table is taken from the slides of “A Correlative Typology Mixing Syntactic and Semantic Parameters”, a talk Rahul gave at the Indian Institute of Technology, Delhi in February 2019.

Role of -ka	Malayalam	Telugu	Kannada	Tamil
disjunction	-oo	-oo	-oo	-oo
existential quantifier particle	-oo	-oo	-oo	-oo
Pol-Q particle matrix	-oo	-aa	-aa	-aa
Pol-Q particle embedded	-oo	-oo	-oo	-oo
wh-Q particle matrix	–	–	–	–
wh-Q particle embedded	–	-oo	-oo	-oo
correlatives	-oo	-oo	-oo	-oo

Table 1: Disjunction

Rahul shows in Balusu (2018) that the existential quantifier created by combining the *wh*-indeterminate with the DISJ particle is in fact an epistemic indefinite, which can be contrasted with the simple existential *oka* ‘a/one’. In a related paper (Balusu 2017b), he shows that these two ways of indicating existential meaning can combine yielding a random choice indefinite. This has the makeup ‘wh-DISJ one NP’.

Rahul doggedly pursues DISJ throughout Dravidian. He finds it, for example, in correlative clauses. Why might this be? Rahul argues that Dravidian correlatives are based on a question and hence the fact that a DISJ particle appears here is not surprising. He points to Demirok’s analysis of Turkish correlatives which makes a similar analytical move (Demirok 2017). Some open questions remain: why is the DISJ particle obligatory in Malayalam correlatives when it does not appear with DISJ-questions in that language? The domain of the DISJ particle extends even further in Kannada and Telugu. Rahul notes in Balusu (2019b) that *-oo*, the DISJ particle, is also used to mark exclamative meaning in these languages.

(1) Telugu

(Balusu 2019b, pp. 116-117, nos. 30-a, 34-b)

- a. ravi enta navveeD-oo!
Ravi how.much laughed-OO
‘How much Ravi laughed!’
- b. ravi enduku vacceeD-oo!
Ravi what.for came-OO
‘You wouldn’t believe what Ravi came for!’

Table 1 involved DISJ, which is related to disjunction. Szabolcsi also discusses another family of particles that she refers to as *-mo*, which are related to conjunction. I will therefore refer to them as CONJ. When it comes to CONJ, the picture is frankly more intimidating because here it isn’t just the CONJ particle that can appear both at the clausal and the nominal level, the conditional marker which contains CONJ can also do the same. Consider Table 2 on the next page.⁴

⁴This table is taken from the slides of Rahul’s invited talk “Unconditional FCIs of Dravidian” at Formal Approaches to South Asian Languages 10 on the 22nd March 2020 at the Ohio State University. Rahul had already bought his plane ticket for Columbus, Ohio, but at the last minute, the conference went virtual. I keep thinking of a possible world where this did not happen.

KANNADA	sub-clausal		clause-final		sentential
	non- <i>wh</i>	<i>wh</i> -	non- <i>wh</i>	<i>wh</i> -	
- <i>ar-uu</i>			EVEN IF	UNC	
<i>aad-ar-uu</i>	AT LEAST/ EVEN IF	\exists -FCI/ \forall -FCI			still/but

TELUGU	sub-clausal		clause-final		sentential
	non- <i>wh</i>	<i>wh</i> -	non- <i>wh</i>	<i>wh</i> -	
- <i>naa</i>			EVEN IF	UNC	
<i>ai-naa</i>	AT LEAST/ EVEN IF	\exists -FCI/ \forall -FCI			still

MALAYALAM	sub-clausal		clause-final		sentential
	non- <i>wh</i>	<i>wh</i> -	non- <i>wh</i>	<i>wh</i> -	
<i>engil-um</i>	AT LEAST	\exists -FCI	EVEN IF	UNC	still/but
<i>aan-engil-um</i>	EVEN IF	\forall -FCI			still/but
- <i>um</i>	EVEN	\forall -FCI			

TAMIL	sub-clausal		clause-final		sentential
	non- <i>wh</i>	<i>wh</i> -	non- <i>wh</i>	<i>wh</i> -	
- <i>aavadu</i>	AT LEAST	\exists -FCI			
(<i>veen/aan</i>)- <i>aal-um</i>	EVEN IF	\forall -FCI	EVEN IF	UNC	still/but
- <i>um</i>	EVEN	\forall -FCI			

KEY:
copula
if
even

Table 2: Conjunction

Let's examine the dramatis personae carefully. The first element to focus on is the CONJ particle: *-um* in Malayalam and Tamil, *-uu* in Kannada. Telugu is less transparent here. This particle is used to mark coordination of nominals with the syntax 'XP1-CONJ XP2-CONJ'. When this particle appears on an XP on its own, we get an also/even meaning. To highlight this link, I will use henceforth refer to this particle as CONJ=EVEN. The second element is the conditional marker *-ar* in Kannada and *-engil* in Malayalam. And finally we have a copular marker *-aad* in Kannada, *-ai* in Telugu, and *-aan* in Malayalam/Tamil. Based on comparative grounds, Rahul proposes that the Telugu *-naa* be treated as a non-transparent combination of CONJ=EVEN and IF.

We are not surprised to find that the CONJ=EVEN particle, which can contribute an 'even' meaning, can combine with the conditional marker, to deliver an 'even if' meaning. More surprising is the fact that if this conditional + CONJ=EVEN combination applies to a clause that contains a *wh*-phrase, we end up with an unconditional. Rahul gives an intuitive and insightful treatment of the construction of unconditionals in Dravidian in a series of papers (Balusu 2019a, 2020).

These particles can also combine directly with nominals. Let's start with the easiest case, that of CONJ=EVEN combining with a non-*wh* nominal. As expected, we get an 'even' meaning. They can also combine with *wh*-nominals and here it is not obvious what meaning we should get. Across Dravidian, this combination of a *wh*-nominal with a EVEN yields a strong polarity item – this is shown in the table for Malayalam and Tamil but the facts seem to be similar in Kannada and Telugu.

Finally we come to the most complex case– the conditional and EVEN can directly combine with nominals, albeit mediated by a copula. The copula is required in Kannada and Telugu; Rahul takes this to indicate the presence of clausal structure that the conditional can operate on. How-

ever the copula is not required in Malayalam and Tamil, leading to the contrast between *engil-um* ‘IF-CONJ=EVEN’ and *aan-engil-um* ‘COP-IF-CONJ=EVEN’ in Malayalam. When the nominal is a non-*wh* nominal, we get a concessive scalar additive particle (CSAPs) whose meaning goes between ‘at least’ and ‘even’ depending upon the environment. CSAPs are also discussed in Crnič (2011). Crnič’s treatment assumes that CSAPs have both an ‘at least’ and ‘even’ in their semantic makeup. It is interesting to see that in the pattern examined by Rahul, we only find evidence for an ‘even’ in the structure and not for an ‘at least’. That meaning is generated via exhaustification with a covert scalar EXH below ‘even’ and the conditional. Note that while Kannada and Telugu have forms that have both an ‘at least’ and an ‘even’ meaning, Malayalam and Tamil have different forms for the two: the Malayalam *engil-um* ‘IF-CONJ=EVEN’ gives us an ‘at-least’ meaning and *aan-engil-um* ‘COP-IF-CONJ=EVEN’ gives us an ‘even’ meaning.

Last but not the least, the copula + conditional + CONJ=EVEN combination can also combine with *wh*-nominals yielding polarity items that compete with the polarity items that are formed by combining *wh*-nominals directly with CONJ=EVEN. This leads to a ‘bagel’ pattern where the more complex polarity items need licensing but cannot appear in strongly negative contexts (Balusu 2017a).

3 Reduplicated Numerals

Rahul’s work on distributive numerals has and continues to be hugely influential. In Balusu (2006) and Balusu and Jayaseelan (2013), Rahul showed that reduplicated numerals in Telugu and other Dravidian languages were associated with distributivity.

- (2) *pilla-lu renDu renDu kootu-lu-ni cuus-ee-ru*
kid-Pl two two monkey-Pl-Acc see-Pst-3Pl
 ‘[the] kids saw two two monkeys’

Participant key reading: Each of the kids saw two monkeys.

Temporal key reading: The kids saw two monkeys in each time interval.

Spatial key reading: The kids saw two monkeys in each location.

Note that the corresponding structures with ‘each’ in English only permit a participant key reading. Rahul’s insight is to treat numeral reduplication as a reflection of event pluralization. So ‘two two monkeys’ is the plural of ‘two monkeys’ and that in turn reflects that there is a plurality of events each of which involve two monkeys. Rahul’s analysis has two components— distribution over a key and a plurality presupposition.

- (3) a. Distribution:
 $\exists e \exists \pi(e) [\forall e' \in \pi(e) : \exists X [\text{two.monkeys}(X) \wedge \text{saw}(\text{the.kids}, X, e')]]$
- b. Plurality:
 $|\{X : \text{two.monkeys}(X) \wedge \text{saw}(\text{the.kids}, X, e)\}| > 1$

The distribution component assumes that the top level plural event can be partitioned into non-overlapping parts and in each non-overlapping part, the kids saw two monkeys. There are technical

questions concerning how one identifies the free e in the plurality component with the existentially bound e in the distribution component and whether the $\text{saw}(\text{the.kids}, X, e)$ clause holds of the top level plural event e or of its subparts, which are taken up in Henderson (2011). Nevertheless the intuition is clear: There has to be more than one event involving two monkeys jumping. With this implementation in hand, Rahul’s analysis unifies the participant key readings with the location/spatial readings. The crucial formal move is that with the participant key reading, the location/space partition is a trivial one; the plurality is contributed by the independently available distribution associated with a universal quantifier or definite plural. In the case at hand, we have the following:

(4) a. Distribution:

$$\exists E[\forall y \in \text{the.kids} : [\exists e \in E[\forall e' \in \pi(e)[\exists X[\text{two.monkeys}(X) \wedge \text{saw}(y, X, e')]]]]]$$

(π is trivial, so $\pi(e) = \{e\}$. Therefore the above reduces to:)

$$\exists E[\forall y \in \text{the.kids} : [\exists e \in E[\exists X[\text{two.monkeys}(X) \wedge \text{saw}(y, X, e)]]]]]$$

b. Plurality:

$$|\{X : \text{two.monkeys}(X) \wedge \exists y[y \in \text{the.kids} \wedge \text{saw}(y, X, E)]\}| > 1$$

Balusu (2006) as well as Balusu and Jayaseelan (2013) continue to be relevant and have shaped subsequent research on this topic; see for example Guha (2018) and Bosnić (2021). It can be reasonably argued that Rahul’s work on this topic led to the recent burst of interest in distributive numerals within formal semantics.

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