Towards a universal analysis of Tamil –UM NPIs: Evidence from unconditionals

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1 Introduction

Tamil is an agglutinating language which forms quantifiers productively from WH-phrases or ‘indeterminates’ (Kuroda 1965) in combination with certain particles which have several other functions in the language. The particle of interest here is the suffix –UM, whose functions are to mark: additivity, conjunction, maximality with quantifiers, maximality with numerals, polarity-sensitivity, and unconditionals.

1.1 Scope of the paper

Of the diverse set above I will be most interested in additivity, polarity sensitivity, and unconditionals, examples of which are below:

ADDITIVITY

(1) netikki partii-le ragu-um vandaan
yesterday party-in Raghu-UM come.PAST
‘Raghu also came to the party yesterday.’
[Raghu came to the party yesterday and ∃x. x was mentioned in the discourse and x came and x ≠ Raghu]

POLARITY SENSITIVITY

(2) a. yaar-um partii-le vara-le
   who-UM party-in come-NEG
   ‘No one came to the party.’

b. *yaar-um partii-le vandaa
   who-UM party-in come.PST.3PL

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**UNCONDITIONALS**

(3) [nii **yaar-a** kuupT-**aal**]-**um** naan partii-le vara-Num
    [you **who**-ACC call,**COND**]-**UM** I party-in come-MUST

‘Whoever you call, I must come to the party.’

In sentences like (2a), the combination [WH+UM] yields an NPI. These NPIs are different from English *any* in several ways. First, as can be seen in that example, they are allowed in subject position, which is not the case in English. Compare (2a) to (4a) below, ungrammatical on the NPI reading:

(4) a. *Anyone did not come to the party. BAD OVER NEGATION*
b. Raghu did **not** invite **anyone** to the party. **GOOD UNDER NEGATION**

This asymmetry raises a fundamental question about the scope of Tamil NPIs with respect to negation. Subject NPIs exist in a number of languages, and the same question has been asked by others. Sells and Kim (2006) use this property of Korean as a starting point, and build an argument for NPIs that necessarily scope above negation which is independently known to have low scope in the language. If the NPI scopes over negation, to get the right meaning, it must be a universal, not an existential quantifier.

*Korean; Sells and Kim (2006)*

(5) **amwu-o** cip-ey **eps-ess-ta**
    anyone house-at **not**-be-PAST-DECL

‘No one was at home.’

= \( \forall x. \neg [x \text{ was at home}] \)

That Tamil NPIs are universals is suggested by the fact that they are compatible with ‘almost’. This is a key difference from English *any*. Historically, the fact that NPI *any* cannot be modified by *almost* has been used as an argument against it being a universal (Dahl 1970, Lakoff 1972, Horn 1972, LeGrand 1975, Carlson 1981, Hoeksema 1983)\(^1\).

(6) naan kiTTe-taTTe **yaar-ai-um** paaka-le
    I almost **WHO**-ACC-UM see-NEG

‘I saw almost no one.’

This view sketched above runs counter to the classical treatment of NPIs like English *any* as existentials under the scope of negation (Ladusaw 1979, Carlson 1980, Kadmon and Landman 1993). The status of NPIs has long been debated due to the logical equivalence of \( \neg \exists \) and \( \forall \neg \) which

\(^1\) The modifier *almost* is most frequently discussed in the context of its compatibility with English FCI *any*, as against its incompatibility with English NPI *any*, taken to indicate that the former is a universal and the latter not.
results in their being indistinguishable in most cases. Historically, non-English languages have informed the ‘universal’ side of the debate (Szabolcsi 1981 on Hungarian scope; Giannakidou 2000 on Greek n-words; Shimoyama 2011, Kobuchi-Philip 2009 on Japanese quantifiers and their multiple uses). In Japanese, in addition to subject NPIs being allowed (suggesting that NPIs scope over negation), NPIs lead an interesting double life as plain old universal quantifiers which are not polarity-sensitive.

**Japanese; Kobuchi-Philip (2009)**

(7) a. dare-mo hashira-na-katta
    who-IO run-NEG-PAST
    ‘Nobody ran.’

b. dono hito -mo hashitta
    which person MO ran
    ‘Everybody ran.’

Japanese is a key case for crosslinguistic comparison because it exhibits essentially the same patterns as observed in Dravidian. The particle –mo in Japanese is a close counterpart of Tamil/Malayalam –UM. They share in common the functions of marking additivity, conjunction, polarity-sensitivity, and unconditionals, which is four of the six functions listed for Tamil above. Unlike Japanese (7b), Tamil does not productively form non-polar universals with [WH+UM]. On the other hand, Tamil –UM has a property that Japanese –mo does not have, which is that it marks maximality.

In (8) is a Tamil example in the category of ‘maximality with quantifiers’: –UM obligatory co-occurs with the universal quantifier ella ‘all’. The asterisk outside the parentheses show that dropping –UM is ungrammatical. In the category of ‘maximality with numerals’, the function of –UM is both quantificational and presuppositional. The quantificational component is in some sense ‘universal’ in (9).

(8) [ella.r-∅-*um] [ella naaigaL-kk-*um] biskit kuDuttaa
    [every.ANIM-NOM-UM] [all dog.PL-DAT-UM] biscuit give.PST
    ‘Everyone gave all the dogs biscuits.’

(9) ragu [naalu kuRandai.gaL-ai-um] kattu-kuDukaraan
    Raghu [four child.PL.OBL-ACC-UM] teaches-gives
    ‘Raghu teaches all of the four children.’
    [There are exactly four children mentioned in the discourse, Raghu teaches all of them.]

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2 Another very similar case is Hungarian mind– which also forms non-polarity-sensitive universals as well as NPIs (Szabolcsi 2015).

3 See § 5.1 for the exception case and why it is not trivial.
Several papers on Malayalam\(^4\), a language closely related to Tamil, have assumed that the semantic contribution of –UM is always universal force (Jayaseelan 2001, 2008, 2011, 2014), but on the basis of impressionistic data, rather than concrete argumentation or empirical tests. Jayaseelan points out that –UM marks conjunction,

\[
\begin{align*}
\text{(10) } & \quad \text{ragu-um bala-um vandaa} \\
& \quad \text{Raghu-UM Bala-UM come.PAST.3PL} \\
& \quad \text{‘Raghu and Bala came.’}
\end{align*}
\]

and therefore concludes (without justification), that the NPI combination [WH+UM] is a case of ‘infinite conjunction’ over the variable signified by ‘who’ (Jayaseelan 2011:278) which produces a universal quantifier – see (11), which is (2a) repeated.

\[
\begin{align*}
\text{(11) } & \quad \text{yaar-um partii-le vara-le} \\
& \quad \text{who-UM party-in come-NEG} \\
& \quad \text{‘No one came to the party.’} \\
& \quad \text{=} \quad \forall x. \neg [x \text{ came to the party}]
\end{align*}
\]

I present novel data that shows that the –UM does unambiguously contribute universal force in one construction in the language, that is, “unconditional” sentences like (3) (repeated below as 12). Here the very same combination [WH+UM] is not polarity sensitive. To my knowledge, this particular environment has not received any attention in the literature.

\[
\begin{align*}
\text{(12) } & \quad \text{[nii yaar-a kuupT-aal]-um naan partii-le vara-Num} \\
& \quad \text{[you who-ACC call.COND]-UM I party-in come-MUST} \\
& \quad \text{‘Whoever you call, I must come to the party.’} \\
& \quad \text{=} \quad \forall x. \neg [x \text{ came to the party}]
\end{align*}
\]

I show that these constructions cannot be NPIs. They constitute *sui generis* universals with conditional morphology, thereby making them easily amenable to Rawlins’ (2013) analysis of these types of constructions in English. Crucially, this would involve universal force, contributed by –UM, which has to take high scope to get the correct meaning.

I uncontroversially assume the now-standard Kratzer and Shimoyama (2002) view that the indeterminate [WH] in [WH+UM] does not have any specific meaning of their own, but merely introduces a set denotation which travels up the tree. I propose that that the multi-utility morpheme –UM shows its true nature in unconditionals, where it is the attested form of propositional universal closure over this set, as defined in Kratzer and Shimoyama (2002) as shown in (13).

\(^4\) See § 1.2 on Tamil and Malayalam and why I treat them as equivalent in this paper.
(13) **Hamblin universal operator (Kratzer and Shimoyama 2002):**

Where $\llbracket \alpha \rrbracket^h \subseteq D_{\text{sc}}$,

$$\llbracket \forall /-\text{UM } \alpha \rrbracket^h = \{ \lambda w_s . \forall p_{\text{sc}} \in \llbracket \alpha \rrbracket^h : p(w) = 1 \}$$

Recall that the core observation is that $-\text{UM}$-like elements tend to have the same conflated set of functions in several languages that have indeterminates, my goal is to avoid positing a six way accidental lexical ambiguity for the meaning of $-\text{UM}$. Instead, I present the view that unconditionals and $-\text{UM}$ NPIs can be calculated with the same operation of universal closure at clausal level. This is then consistent with the idea that $[\text{WH+UM}]$ taking scope above negation when it is polarity-sensitive.

Since $-\text{UM}$ as defined above applies to propositions, it lends itself to an analysis where the indeterminate $[\text{WH}]$ in polarity sensitive combination $[\text{WH+UM}]$ does what it usually does, contributing Hamblin sets that percolate up, catching negation on the way. My proposal is essentially that what $-\text{UM}$ applies to in these cases is a set of propositions which happen to involve negation. The spirit of the NPI-as-wide scope universals-view is thus implemented using a clausal universal.

It is important to check whether this makes any obviously wrong predictions. I check this using the scope diagnostic presented in Sells and Kim (2006) and Shimoyama (2011) to test for wide scope universals. While the evidence from Tamil is not the compelling kind found in Korean and Japanese, what is observed is that independent confounds make the test inconclusive. Crucially, the results obtained are compatible with Tamil having universal NPIs.

Approaching the data from a different angle, NPIs in Tamil bear surface similarity to ‘even’-NPIs in Hindi-Urdu. Under the influential approach developed most famously by Lahiri (1998) (following Kadmon and Landman 1993), there is a unification of a rather different subset of the uses of $-\text{UM}$-like elements: specifically, of the additive and the NPI uses. The Lahiri account does not apply directly to the $[\text{WH+UM}]$ cases – certain modifications are necessary, which were made recently in Erlewine and Kotek (2016) for Dharamshala Tibetan, but allow the framework to be tested in Tamil as well. This unification would amount to saying that in (11) the NPI is derived from the additive semantics that $-\text{UM}$ displays in (14):

(14) netikki partii-le ragu-um vandaan
    yesterday party-in Raghu-UM come\_PAST

    ‘Raghu also came to the party yesterday.’

The Lahiri (1998) story is a pragmatic one that hinges on $-\text{UM}$ being able to mean ‘even’. Essentially, the unlikelihood implicature of ‘even’ causes a contradiction in positive contexts, but is saved in downward-entailing contexts, thereby deriving the good-ness of these compositional
NPIs in Hindi-Urdu. However, work as this might for Hindi-Urdu and Dharamshala Tibetan, I show that it does not work for Tamil. Evidence for this is two-fold: one, that while Hindi-Urdu bhii may be able to take on scalar meaning, Tamil –UM cannot; and the other, that the Tamil NPI is licensed only by contexts that are antimorphic, and not simply by downward entailment.

1.2 A note on the language

Tamil is a Dravidian language closely related to Malayalam. Both have the same suffix –UM. The data presented in this paper consists of my own native-speaker judgments as confirmed by four consultants. Myself and one consultant speak the Palakkad variety of Tamil, which is spoken in a predominantly Malayalam-speaking region and therefore bears some additional influence of that language. Any dialect differences between informants, differences between judgments reported here and elsewhere in the literature, or significant differences between Tamil and Malayalam, are indicated.

1.3 Roadmap

- In § 2, I present data showing each of the uses of –UM in detail, discuss their readings. I use this section to introduce the argumentation to be used later. In § 2.1, I show that while –UM marks additivity, it does not have a scalar meaning available. Since it cannot be interpreted as ‘even’, a Lahiriian analysis fundamentally does not apply. In § 2.2, I present the data showing –UM used as conjunction. I do not consider this use in any detail in this paper. In § 2.3 and § 2.4, I report data outlining what maximality means in the context of Tamil. This data adds to the intuitive picture that treating –UM as a marker of universal force is desirable. In § 2.5, I lay out the polarity sensitive use of –UM in at length, showing that –UM NPIs are strong (licensed only by anti-morphic contexts – basically only negation in different forms) and clause-bounded. They are shown to have complementary distribution with weak NPIs formed with a different suffix, –AVDU. In § 2.6, I introduce unconditionals.

- In § 3, I present the data from unconditionals and argue that since they are demonstrably non-antimorphic environments, they cannot license –UM NPIs. In addition, I show that this construction truly is different from a regular conditional, and develop diagnostic tests to show that the presuppositions as defined in Rawlins (2013) predict the outcome of these tests correctly.

- In § 4 I lay out Rawlins’ (2013) semantics and apply it to Tamil, showing that –UM is the morphological realisation of universal closure, creating a single proposition from a set of propositions. I show that it must take sentential scope in order to avoid running into a contradiction in the definedness conditions of the sentence.
\begin{itemize}
\item In § 5, I then revisit the NPI sentences and show that their semantics follows straightforwardly using the denotation of \texttt{–UM} as sentential universal closure with a negation below. Additionally, I demonstrate that apparently exceptional cases of non-polarity combinations of [WH+UM] are no longer exceptional if they are considered to be unconditionals with a null verbal head.
\item In § 6, I show that scope diagnostics from Sells and Kim (2006)/Shimoyama (2011) do not conclusively argue for NPIs being wide scope universals, but also do not rule out that possibility. The results are thus compatible with the analysis for \texttt{–UM} proposed in this paper.
\item In § 7, I outline the Lahiri (1998)-Erlewine and Kotek (2016) approach; I then show that it fails to account for the Tamil data in two ways: one, that Tamil shows no evidence for a scalar component of \texttt{–UM}, and two, that the predicted distribution of \texttt{–UM} NPIs is also not attested.
\item § 8 concludes.
\end{itemize}

2 \hspace{1cm} The various uses of \texttt{–UM}

The subsections that follow illustrate each of the uses of \texttt{–UM} in full detail, lays out theoretical interest in each of them, and employs diagnostic tests to show that certain constructions are indeed what I claim them to be.

2.1 \hspace{1cm} Additivity

One of the uses of \texttt{–UM} that I will discuss in detail is its use as an additive particle. Like the English additive \textit{also/too}, \texttt{–UM} in this role cannot be uttered out of the blue as in (1), repeated.

\begin{align*}
\text{Bad out of the blue} \\
(15) \hspace{1cm} & \text{#netikki parti-le ragu-um vandaan PAST} \\
& \text{yesterday party-in Raghu-UM come.} \\
& \text{#'Raghu also came to the party yesterday.'} \\
& \text{[Raghu came to the party yesterday} \\
& \text{and } \exists x. x \text{ was mentioned in the discourse and } x \text{ came and } x \neq \text{Raghu}]
\end{align*}

An additive particle is only licensed when its presupposition is met: there is prior mention in the discourse of some other distinct entity of which the relevant property holds.
The additive property of –UM is significant because Lahiri (1998) exploits the semantics of the additive particle bhii in Hindi-Urdu to derive its polarity behaviour. While I will return to this in greater detail in §7, here I will say this much: Tamil presents a basic problem to the type of analysis that hinges on an additive being able to mean ‘even’ in focus contexts. In Tamil, –UM never means ‘even’. Speakers systematically reject –UM in contexts which license the use of scalar ‘even’. Sentences with –UM are truly just additive. The example below has a facilitating focus (pitch accent) on the associate of –UM, but still does not license –UM.

Context: This novel is very easy to read. My children are five and seven years old, and they had no trouble reading it, though normally it is very unlikely that children this young are able to read a novel.

(17) #yen kuRandaiL]-um inda novel-a sugamm-a paDicca
my kids-UM this novel-ACC ease-ADJ read.PST
NOT AVAILABLE: ‘Even my kids read this novel with ease.’
ONLY ADDITIVE READING AVAILABLE: ‘My kids also read this novel with ease.’

(18) Even [my kids] read this book with ease.

The Tamil sentence (17) is bad in this context. The corresponding English sentence (18) with ‘even’ is good. If the discourse provides an appropriate antecedent, (17) becomes good, and this has nothing to do with likelihood at all. Consider the following context, set up without unlikehood.

Context: My kids are well-educated and in their thirties. They can definitely be expected to read and understand a novel as hard as Moby Dick. To them this novel was easy-peasy.

(19) a. rada inda novel-a sugamm-a paDicca-na conna5
Radha this novel-ACC ease-ADJ read.PST-COMP say.PAST
‘Radha said she read this novel with ease.’

5 I created an example where there is an overt discourse antecedent, but inside an embedded clause. This is to show that it a pragmatic (common ground) antecedence requirement, rather than a narrow syntactic one.
b. $\text{yen kuRandaiL]-um inda novel-a sugamm-a paDicca}$
my kids-UM this novel-ACC ease-ADJ read.PAST
‘[My kids]- also read this novel with ease.’ $\quad [=\text{(17)}]$

c. aamaam, $\text{yen kuRandaiL]-um}$
yeah, my kids-UM
‘Yeah, [my kids]- too.’

(20) a. Radha said she read this novel with ease.
   b. My kids read this novel with ease too.
   c. Yeah, [my kids]- (did) too.
   d. #Even [my kids]- read this book with ease.

The pair in (19a–b) show that given an appropriate sequence, the sentence (17/19b) is perfectly fine. This is exactly what would be expected with a regular additive particle. In (20b), English too patterns the same as (19b). The (c) sentences show, unsurprisingly, that it is (more) felicitous to elide the repetition of the antecedent (a) sentence. In (20d), the English sentence with even is bad. This data will be taken up again in § 7 in the context of Lahiri (1998). The main takeaway of this subsection is that –UM does not mean ‘even’.

2.2 Conjunction

Example (21) shows the use of –UM as conjunction which is marked on each conjunct in Tamil.

(21) $\text{ragu-um bala-um parti-le vandaa}$
Raghu-UM Bala-UM party-in come.PAST.3PL
‘Raghu and Bala came to the party.’

Sentences like (21) are completely natural and felicitous out of the blue, showing discourse behaviour different from –UM in its additive use. Tamil fits in with its crosslinguistic relatives – both Japanese and Hungarian mark additivity and conjunction with the same particle that forms NPIs from WH-phrases. Syncretism between additive and binary conjunction is quite common crosslinguistically (in addition to the above, it is documented in Sinhala, Russian, Romanian). I do not look at –UM as conjunction in any further detail in this paper.

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6 Focus marking makes a difference in fixing the associate of ‘also’.
7 Szabolcsi (2015) suggests (citing Brasoveanu and Szabolcsi 2013) that that these two functions may underlingly be one and the same. The additive presupposition is satisfied by the context and, like all presuppositions, operates left to right (Chemla and Schlenker 2012). Binary conjunction may involve both presuppositions as well as postsuppositions (Brasoveanu 2013) such that each additive-marked conjunct satisfies the other’s discourse requirement.
2.3 Maximality with quantifiers

Universal quantifiers obligatorily co-occur with –UM. In the examples below, it is ungrammatical to leave out the –UM. In (22), the object ‘all the dogs’ must bear –UM. In (23), muRu is a universal quantifier over NPs that do not immediately look like they can be counted. This can be conceived of as universal quantification over subparts. It ends up meaning ‘entire’ and must obligatorily occur with –UM.

(22) pasangala [ella naaigaL-kk-um] biskit kuDuttaa
boy.PL [all dog.PL-DAT-UM] biscuit give.PAST
‘The boys gave all the dogs biscuits.’

(23) ragu ore daratta-le [muRu unDai-aiv-um] vaai-le poTuNDuTaan
Raghu one time.OBL-in [entire sweet-ACC-UM] mouth-in put.PAST
‘Raghu put the entire sweet in his mouth all at once.’

Malayalam presents a more complex picture than this. It is reported to have obligatory co-occurrence of –UM with ‘most’ as well.

Malayalam; Aravind (2013)

(24) mikka kuTTi-kaL-um maaNGaa thinnu
most child-PL-UM mango eat
‘Most children ate a mango.’

My consultants reported that they could not think of any word that means ‘most’, suggesting that Palakkad Tamil (at least synchronically) lacks a true proportional quantifier\(^8\). The closest to proportional quantifiers offered were the following frozen forms:

(25) a. perumpaalum ‘generally’/’a lot of the time’
b. mikavum ‘very’/’a lot’

I use the term ‘maximality’ rather than ‘universality’ to acknowledge that (24) in Malayalam cannot be considered universal, but might involve quantification over the maximal individual in the domain. In both languages (Malayalam from Aravind 2013), weak quantifiers like one/some (count)/a little (mass) never bear the suffix –UM\(^9\).

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\(^8\) One that was elicited for ‘most’ was mukkaal vaasi ‘most’. Funnily, it decomposes into mukkaal ‘three quarters’ and vaasi ‘time/iteration’. So it is literally ‘75% of the time’. It does not accommodate –UM. My thought is that all of these “pseudo-proportional” quantifiers are essentially non-gradable, which is what precludes co-occurrence of –UM with them.

\(^9\) In examples (26)–(28), it is ungrammatical to include –UM on the reading shown. The additive reading is still available, but requires focal pitch accent on the DP (see § 2.4.1).
(26) oru kuRandai-(*um) maaNGaa thinnudu
one child-(*UM) mango eat.PAST
‘A/one child ate a mango.’

(27) sila kuRandai-gaL-(*um) maaNGaa thinnudu
some child-PL-(*UM) mango eat.PAST
‘Some children ate a mango.’

(28) kuRandai konja saadam-(*um) saapTadu
child a little rice eat.PAST
‘The child ate a little rice.’

Tamil productively permits NP-ellipsis, where suffixal material which the overt NP would have otherwise borne shows up on its specifier (quantifier/adjective). Quantifiers which require –UM in the fully pronounced DP also require it when there is NP-ellipsis. Those that do not allow –UM in the overt form do not allow it in NP-ellipsis either.

(29) a. ragu [ella.r-∅-ai-um] paattaan
Raghu [everyone-∅-ACC-UM] see.PAST
‘Raghu saw everyone.’

   b. ragu [ella.t-∅-ai-um] paattaan
Raghu [every.OBL-∅-ACC-UM] see.PAST
‘Raghu saw everything.’

   c. ragu [muRu.tt-∅-ai-um] paattaan
Raghu [entire.OBL-∅-ACC-UM] see.PAST
‘Raghu saw the entire thing.’

   d. ragu [onNu | sila | konja }.tt-∅-ai-(*um) ] paattaan
Raghu [one | some | a little }.tt-∅-ai-(*um) ] see.PAST
‘Raghu saw one/some/a little (of a) thing.’

2.4 Maximality with numerals

Maximality is also contributed by –UM in the context of numerals. When combined with any numeral greater than 1, a maximal reading obtains, with an existence presupposition (Aravind 2014) and a discourse-antecedence requirement. The reading is definite in some way. Since the is considered a strong quantifier, this may be a case of –UM co-occurring with it obligatorily. Sentence
(30a) is not good uttered out of the blue; there must be four specific children in the common ground for the utterance to be felicitous (English sentence 30b behaves the same).

Bad out of the blue

(30) a. #ragu [naalu kuRandaigaL-ai-um] kattu-kuDukaraaan
    Raghu [four child.PL.OBL-ACC-UM] teach.PERF-gives.PRES
    ‘Raghu teaches all of the four children.’
    [There are exactly four children in the discourse, Raghu teaches all of them.]

b. #Raghu teaches all four children.

Just like the discourse-anaphoric behaviour of the additive seen in § 2.1, we see that a discourse-antecedent is needed to license the use of –UM here.

(31) a. avaal-kku naal kuRandaigaL
    them-DAT four child.PL
    ‘They have four children.’

b. ragu [naalu kuRandaigaL-ai-um] kattu-kuDukaraaan
    Raghu [four child.PL.OBL-ACC-UM] teach.PERF-gives.PRES
    ‘Raghu teaches all of the four children.’
    [There are exactly four children in the discourse, Raghu teaches all of them.]

c. ragu [naalu ∅-ai-um] kattu-kuDukaraaan
    Raghu [four ∅-ACC-UM] teach.PERF-gives.PRES
    ‘Raghu teaches all four.’

(32) a. They have four children.
    b. Raghu teaches all four of them.
    c. Raghu teaches all four.

Mismatched antecedents are not allowed:

(33) a. avaal-kku muunu/anju kuRandaigaL
    them-DAT three/five child.PL
    ‘They have three/five children.’

b. #ragu [naalu kuRandaigaL-ai-um] kattu-kuDukaraaan
    Raghu [four child.PL.OBL-ACC-UM] teach.PERF-gives.PRES
    #‘Raghu teaches all of the four children.’
This behaviour differs from that of true universal sentences, which are typically felicitous even when uttered out of the blue\textsuperscript{10}.

\begin{enumerate}
  \item\ragu-\textit{kku} ella kuRandaigaL-\textit{um} pu\textit{Dikkyum} \\
    \textit{Raghu-DAT all child.PL-\textit{UM} like.HAB} \\
    ‘Raghu likes all children.’
\end{enumerate}

\textbf{2.4.1 Distinguishing maximality-with-numerals from additivity}

The examples of –\textit{UM} with numerals are all as spoken with neutral stress. The default reading for a numeral with –\textit{UM} is the maximal one. While the surface string in (31b) above is the same as additive examples, the lack of focus to mark an associate prevents the additive reading from arising. If a focus pitch accent is placed on the \textit{DP}\textsuperscript{11}, the additive reading becomes available and supercedes the maximal reading. Consider the following sequence (35a–b), which is a minimal modification to the sequence (31a–b).

\begin{enumerate}
  \item \textit{avaal-kku naal kuRandaigaL} \\
    \textit{them-DAT four child.PL} \\
    ‘They have four children.’
  \item \#\textit{ragu naalu [kuRandaigaL]-ai-\textit{um} kattu-\textit{kuDukaraan}} \\
    \textit{Raghu four [child.PL]-ACC-\textit{UM} teaches-gives} \\
    ‘Raghu teaches four [children] too.’
\end{enumerate}

Here, (35b) is infelicitous because the additive presupposition is not met: there is no appropriate antecedent \textit{x} (such that \textit{x} is not a child) with the relevant property. An appropriate antecedent could be, for example, \textit{Raghu teaches four adults. (He teaches four children too.)}

Since the information structures required by the maximal and the additive readings are different, they must be treated distinctly. In this paper, I put aside the additive reading and do not deal with it further.

\textsuperscript{10} Strictly speaking, “out of the blue” needs to be qualified somewhat; some context makes it easier to have a salient domain restriction, since \textit{all} rarely means ‘all in the entire universe’. To make the strongest point, I have given an example using a generic statement so that no salient domain restriction is expected.

\textsuperscript{11} To be precise, focal pitch accent is placed on the head noun, but it is ambiguous, in that it can signal the associate being either only the head noun, or the entire \textit{DP}. So (32b) could as well be (i) below:

\begin{enumerate}
  \item \#\textit{ragu [naalu kuRandaigaL]-ai-\textit{um} kattu-\textit{kuDukaraan}} \\
    \textit{Raghu four [child.PL]-ACC-\textit{UM} teaches-gives} \\
    ‘Raghu teaches [four children] too.’
\end{enumerate}

For which an appropriate antecedent could be \textit{Raghu teaches some adults. (He teaches four children too.)}
2.5 Polarity-sensitivity

There are two ways in which \(-\text{UM}\) creates NPIs, in combination with either a \(\text{WH}\)-phrase i.e. as [\(\text{WH}+\text{UM}\)], or with the numeral \(\text{ONE}\) i.e. [\(\text{ONE}+\text{NP}+\text{UM}\)]\(^{12}\). For ease of exposition, I only show \textit{yaar} ‘who’ but the same pattern holds for both kinds of NPIs, and applies to all \(\text{WH}\)-phrases\(^{13}\), including complex ones like ‘which book’.

These NPIs have the following properties:

\[(36) \quad \text{\textit{PROPERTIES OF \(-\text{UM} \text{ NPI IN TAMIL (FIRST ATTEMPT)}\)}}\]

\[\begin{align*}
\text{i.} & \quad \text{Licensors} \\
& \quad \text{Negation (sentential, modal, lexical), and (maybe) ‘before’-clauses} \\
\text{ii.} & \quad \text{Locality} \\
& \quad \text{Licensing cannot cross a finite clause boundary; all predicates behave the same} \\
\end{align*}\]

The first set of examples show that this combination is polarity-sensitive (37a–c).

\begin{itemize}
\item \textsc{licensing by negation}
\item \textsc{(37) a.} \textit{yaar-um} \textit{partii-le} \textit{vara-le} \quad \text{\textsc{good with negation}} \\
\textit{who-um} \textit{party-in} \textit{come-\textsc{neg}} \\
\textit{‘No one came to the party.’} \quad [=\text{(2)}] \\
\item \textsc{b.} \textbf{* yaar-um} \textit{partii-le} \textit{vandaa} \quad \textsc{bad without negation} \\
\textit{who-um} \textit{party-in} \textit{come\textsc{.pst.3pl}} \\
\item \textsc{c.} \textsc{additive unavailable :} \\
\textit{#‘Who also came the party?’} \\
\textit{[Which x is such that x came to the party and there exists prior mention of y} \\
\textit{and y came to the party and y} \neq x\textit{]} \\
\end{itemize}

Note that there is no possibility of an additive reading (37c) when both \(\text{WH}\) and \(-\text{UM}\) are present in the sentence. Thus, although an additive reading over a question can be conceived of as shown, the empirical fact is that (37a) does not have such a reading. For completeness, (38) illustrates an NPI formed by the [\(\text{ONE} \text{NP} - \text{UM}\)] template, in subject position, and the form \textit{\textsc{oNN-um}} which means ‘nothing’.

\footnote{\(\text{12}\) See § 7 for a discussion of the \textit{ONE}-NPIs.}
The sentences below show that matrix negation can license WH embedded in a non-finite clause, as in (39). Tamil conveniently has two different complementizers. The non-finite complementizer is –aa and finite is –na (–aagu and –enru respectively in formal registers). The embedded clause in (39) is clearly non-finite, since –aa appears on it. Matrix negation cannot license finite-embedded WH in (40a,b). Different verbs are used below (‘say’ and ‘think’) to show that long-distance licensing (or the lack of it) is a function of clause type, rather than predicate.\(^{16}\)

---

\(^{16}\) In findings of Balusu et al. (2015), neg-raising verb *ninaikka* ‘to think’ is reported to allow negation in the matrix clause to license an NI in the embedded clause (unlike non-neg-raiser *colla* ‘to say’). I will assume that this is due to a Tamil variety difference. The Palakkad variety I speak appears to lack neg-raising out of finite clauses altogether. For instance, the sentence below is only licit if the issue of Bala’s prettiness never crossed Raghu’s mind (i.e. he is agnostic):

(ii) \(\text{ragu} \ [\text{anniki} \ bala \ aRagaa \ kaaNitaa]-na \ \text{ninaikka-le} \)
    \(\text{Raghu} \ [\text{that day} \ Bala \ pretty \ appear,PAST]-COMP \ \text{think,NEG} \)

    ‘Raghu didn’t think abt. Bala looking pretty that day.’ ≠ ‘Raghu thought Bala didn’t look pretty that day.’

Both varieties allow NPI-licensing across a non-finite clause no matter what the predicate. Balusu et al. (2015) report that Telugu allows neg-raising verbs to license NPIs only in the subject position of the embedded finite clause. The corresponding Palakkad Tamil sentences I elicited show that subject NPIs in that configuration are improved compared to the ‘*’ in (40), but are still marginal ‘??’. About this difference I have nothing informative to say at present.
LICENSING ONLY BY NEGATIVE MODALS

(41) a. *yaar-um vara {-Num | muDiyum | -vaa} who-UM come-INF {-SHOULD | CAN | -FUT}
    INTENDED: ‘Anyone {can | should | will} come.’

b. yaar-um vara {puDaadu | muDiyaadu | maaTaa} who-UM come-INF {SHOULDN’T | CAN’T | WON’T}
    ‘No one {can | should | will} come.’

In addition to these licensors, there are some Tamil-specific types of modal negation that license [WH+UM]. They are not synchronically decomposable in the Palakkad variety, and do not contain the morphophonological form of negation seen so far, ille or its suffixal form –le. For this reason, I refer to them as ‘lexical’ negation.

LICENSING BY LEXICAL NEGATION

(42) bala-kku oNN-um aag-aadu
    Bala-DAT one-UM happen-NEG-FUT
    ‘Nothing will happen to Bala.’

(43) avan yaar-ai-um coll-aadiki vandaan
    he who-ACC-UM tell-WITHOUT come-PST
    ‘He came without telling anyone.’

(44) avan engey-um pog-aaTTaa naan avan-a paaka varuveen
    he where-UM go-INF-NEG-COND I he-ACC see-INF come-FUT
    ‘If he doesn’t go anywhere, I’ll come to see him.’

The polarity-sensitive combination is not licensed by other licensors of English any like polar questions or conditional antecedents. Note that the English translations of (45)–(47) are good, but the Tamil sentences are not.

NOT LICENSED BY ‘BEFORE’-CLAUSE\(^\text{18}\)

(45) *avan [yaar-um paakarttu]-ku minnaaDi poiTTaan
    he [who-UM see-INF]-DAT BEFORE go.PFV.PST
    INTENDED: ‘He left before anyone saw.’

\(^\text{18}\) This is the judgment reported in Balusu et al. (2015) and also confirmed by a consultant. My personal intuition is that there are some finer grained judgments – I perceive subject NPIs to be marginally acceptable here. This kind of subject/object asymmetry has been reported for Telugu by Balusu et al.
NOT LICENSED IN POLAR QUESTIONS

(46) *yaar-um vandaal-aa?
    who-UM come.PST.3PL-Q
    INTENDED: ‘Did anyone come?’

NOT LICENSED IN CONDITIONALS

(47) *yaar-um vandaal colluveen
    who-UM come-COND say.FUT
    INTENDED: ‘I will tell you if anyone comes.’

2.5.1 NPIs with –UM only under negation(s), NPIs with –AVDU elsewhere

The NPIs considered so far occur only with negation in its various morphophonological guises. Tamil slices up into two sections the various environments in which NPI English any is licensed.19 The ‘elsewhere’ NPI is also formed from WH-phrases, in combination with the suffix –AVDU. I show that this amounts to a strong versus weak NPI distinction based on Zwarts’ (1998) classification. That [WH+UM] creates only strong NPIs plays an important role in this paper for two reasons:

(i) In § 3, I make an argument that unconditionals are sui generis in Tamil because they do not involve an NPI, even though they are formed using [WH+UM]. The distinction between the different types of NPIs is a central concern in that regard. In brief, the argument is as follows: unconditional structures like (3) include a conditional and a main-clause modal, both of which seem to be ‘licensors’ for NPIs. However, the only NPI which these can license is the weak [WH+AVDU], crucially not the strong [WH+UM].

(ii) The prediction made by analysing [WH+UM] NPI under a Lahiri (1998)/Erlewine and Kotek (2016) framework is that they should be weak, licensed in all polarity reversing contexts (i.e. in all Downward-Entailing environments). This prediction is not met for Tamil, and therefore this data constitutes an argument against this approach. I discuss this in detail in § 7.

The following examples show the ‘weak’ distribution of [WH+AVDU]. The suffix –AVDU means ‘at least’ when used with regular, non-indeterminate NPs:

Context: I did not get the present I wanted for my birthday, but…

(48) nalla dress-avdu kaDacudu
    good dress-AVDU get.PAST
    ‘At least (I) got a nice dress.’

19 In FCI environments, a third combination exists, [WH+VêNA], which is outside the scope of this paper.
20 External argument drop.
The combination [WH+AVDU] is polarity-sensitive (49b), but its licensors are in complementary distribution with the licensors of [WH+UM]. Example (49a–b) are the same as (37a–b) above, but with –AVDU instead.

(49)  a. *yaar-avdu partii-le vara-le
       who-AVDU party-in come-NEG
       ‘No one came to the party.’

       b. *yaar-avdu partii-le vandaa
           who-AVDU party-in come.PST.3PL

The weak NPI is not licensed with clausemate negation (or from outside a non-finite clause), but licensed across a finite clause. This is the opposite of the behaviour observed earlier with the strong NPI in (39) and (40). In opposition to what the –UM NPI does (46/47), the –AVDU NPI is also good in polar questions and in conditionals (52/53). Additionally, the –AVDU NPI is licensed in other downward-entailing contexts that block the –UM NPI.

**LICENSING ACROSS FINITE CLAUSE, BUT NOT CLAUSEMATE**

(50)  *ragu [nni yaar-ai-avdu paattad]-aa colla-le
       Raghu [you who-ACC-AVDU see.PFV]-NONFINC say.INF-NEG
       ‘Raghu didn’t say you saw anyone.’

(51)  a. ragu [nni yaar-ai-avdu paatte]-na colla-le
       Raghu [you who-ACC-AVDU see.PST.2S]-COMP say.INF-NEG
       ‘Raghu didn’t say you saw anyone.’

       b. ragu [nni yaar-ai-avdu paatte]-na ninaikka-le
           Raghu [you who-ACC-AVDU see.PST.2S]-COMP think.INF-NEG
           ‘Raghu didn’t think you saw anyone.’

**LICENSED IN POLAR QUESTIONS**

(52)  yaar-avdu vandaal-aa?
       who-AVDU come.PST.3PL-Q
       INTENDED: ‘Did anyone come?’

**LICENSED IN CONDITIONALS**

(53)  yaar-avdu vand-aa colluveen
       who-AVDU come-COND say.FUT
       INTENDED: ‘I will tell you if anyone comes.’

21 The ‘bagel problem’ (coined Pereltsvaig 2004, cited in Giannakidou and Zeijlstra 2016): in Serbo-Croatian and other Slavic languages, the ‘existential’ NPI is blocked under NEG, and a special n-word is licensed instead. This “hole” in the DE-paradigm can also be thought of as weak NPIs behaving like PPIs under NEG (Balusu et al. 2015).
‘LESS THAN FOUR’

(54) naalu-vuDa koranja peru ed-{ avdu | *um } saapTaa
    four-FROM less people which-{ AVDU | *UM } eat.PAST
    ‘Less than four people ate anything.’

RESTRICTION OF UNIVERSAL

(55) ed-{ avdu | *um } saapTa ellar-kk-um food-poisoning aaiDutu
    which-{ AVDU | *UM } eat.PFV everyone-DAT-UM food-poisoning happen.PAST
    ‘All people who ate anything got food-poisoning.’

‘BEFORE’-CLAUSE

(56) avan [yaar-{ avdu | ??um } paakarttu]-ku minnaaDi poiTTaan
    avan [who-{ AVDU | ??UM } see.INF]-DAT BEFORE go.PFV.PST
    ‘He left before anyone saw.’

2.5.2 Antimorphic licensing for –UM

The table below summarises the licensing environments for –UM NPIs versus –AVDU NPIs²².

<table>
<thead>
<tr>
<th>ENVIRONMENTS</th>
<th>[WH+UM]</th>
<th>[WH+AVDU]</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLAUSEMATE NEGATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SENTENTIAL</td>
<td>YES</td>
<td>*</td>
</tr>
<tr>
<td>MODAL</td>
<td>YES</td>
<td>*</td>
</tr>
<tr>
<td>LEXICAL</td>
<td>YES</td>
<td>*</td>
</tr>
<tr>
<td>SUPERORDINATE NEGATION</td>
<td>*</td>
<td>YES</td>
</tr>
<tr>
<td>POLAR QUESTIONS</td>
<td>*</td>
<td>YES</td>
</tr>
<tr>
<td>CONDITIONALS</td>
<td>*</td>
<td>YES</td>
</tr>
<tr>
<td>BEFORE CLAUSES</td>
<td>*/?</td>
<td>YES</td>
</tr>
<tr>
<td>LESS THAN FOUR</td>
<td>*</td>
<td>YES</td>
</tr>
<tr>
<td>RESTRICTION OF UNIVERSAL</td>
<td>*</td>
<td>YES</td>
</tr>
</tbody>
</table>

Classical negation is an anti-morphic function (Zwarts 1998) in that it validates the equivalences in (58). An example of how this works is in (59), where the function \( f = \) classical negation, and the propositions are \( A = John \) drinks and \( B = John \) drives.

²² An exception to the stated generalisation is the fact that positive modals, which are not Downward Entailing, also license AVDU. Their distribution is therefore perhaps more accurately described as under non-veridical operators. I leave this possibility to further work.

(iii) yaar-{ avdu | *um } vara {-Num | muDiyum | -vaa}
    who-{ AVDU | *UM } come.INF {-SHOULD | CAN | -FUT}
    ‘Someone {can|should|will} come.’
(58)  
\begin{align*}
\text{a. } f(A \lor B) & = f(A) \land f(B) \\
\text{b. } f(A \land B) & = f(A) \lor f(B)
\end{align*}

(59)  
\begin{align*}
\text{a1. } \neg (\text{John drinks} \lor \text{John drives}) & = \neg \text{John drinks} \land \neg \text{John drives} \\
\text{b1. } \neg (\text{John drinks} \land \text{John drives}) & = \neg \text{John drinks} \lor \neg \text{John drives}
\end{align*}

We can now update the properties of strong NPIs as stated in (36), for a clearer generalisation. Negation in its various morphophonological forms has been shown to be anti-morphic. Therefore \textit{–UM NPIs} are licensed in anti-morphic contexts. Since \textit{–AVDU NPIs} are licensed in all non-negation DE environments, we can characterise the full distribution as follows\textsuperscript{23}. Using terminology from Zwarts (1998), these two categories may be referred to as ‘strong’ and ‘weak’ as below, for ease of exposition.

\begin{align*}
\text{(60) } \textit{–UM NPI} & \quad \text{Licensed only by anti-morphic functions} & \text{(STRONG)} \\
\textit{–AVDU NPI} & \quad \text{Licensed only by non-antimorphic DE functions} & \text{(WEAK)}
\end{align*}

\[ \text{GREY} = \text{WH+AVDU} \]
\[ \text{WHITE} = \text{WH+UM} \]

\textit{Fig. 1}

To recall what was stated at the beginning of this subsection on NPIs, this distribution is central to the present discussion for two reasons:

(i) It will serve as a useful tool in § 3 to build the argument that there is no NPI in unconditionals, since they have no requirement to contain negation.

(ii) It constitutes an argument against \textit{–UM NPIs} being Lahiri\textit{an even}-NPIs which would be expected to exist under in any downward-entailing environments (§ 7).

### 2.6 Unconditionals

In English, unconditionals are sentences like (61) and (62). The meaning of constructions known as “unconditionals” is characterised by what Rawlins (2013) calls “relational indifference”. There

\textsuperscript{23} Balusu \textit{et al.} (2015) come to the same conclusion, figure from their handout.
is an indifference implicature: the speaker thinks that the resolution of the issue expressed by the adjunct is independent of the truth of the main clause. This implicature is indicated above with a squiggly arrow. In addition, unconditional sentences entail the content of the main clause consequent, indicated by a normal entailment arrow.

(61) Whatever we do, we’ll lose.
   a. IMPLICATURE: \( \Rightarrow \) It doesn’t matter what we do.
   b. ENTAILMENT: \( \rightarrow \) We’ll lose.

(62) Whoever comes, Lily must open the door.
   a. IMPLICATURE: \( \Rightarrow \) It doesn’t matter who comes.
   b. ENTAILMENT: \( \rightarrow \) Lily must open the door.

In Tamil, this type of construction is formed with [WH+UM], with exactly the same flavour of relational indifference as the English examples above, entailing the content of the consequent. The particular configuration in which this reading arises is shown schematically in (63).

(63) \[ TP \ [vp \ldots WH \ldots COND]-UM \quad [TP \ldots MODAL] \]

(64) [yaar objection paNN-aal]-um naan partii-le vara-Num
   [who objection do.COND]-UM I party-in come-MUST
   a. IMPLICATURE: \( \Rightarrow \) It doesn’t matter who objects.
   b. ENTAILMENT: \( \rightarrow \) I must come to the party.

In previous sections it has been established that the combination [WH+UM] is an NPI, and in particular a strong NPI, licensed only in anti-morphic contexts, as seen at the end of § 2.5. Its appearance in this structure is (at first pass) mysterious because the environment above is non-antimorphic. The first Zwarts equivalence holds, but the second does not, meaning that this environment does not meet the conditions for being anti-morphic:

(65) a1. Whoever (drinks \( \lor \) drives), I must note their number plate\(^{25} \) \( \equiv \)
    a2. (Whoever drinks) \( \land \) (whoever drives), I must note their number plate.
    b1. Whoever (drinks \( \land \) drives), I must note their number plate. \( \neq \)
    b2. (Whoever drinks) \( \lor \) (whoever drives), I must note their number plate.

Sentences like (64) illustrate that the NPI-hood of [WH+UM] is not the complete picture – the combination can also occur in a non-antimorphic environment, i.e. the unconditional

\(^{25}\) The existence of a bound pronoun like their is not essential to make the point, but facilitates the readings. Without that, the sentence would need a little more context.
construction. Unconditionals make use of [WH+UM], not as a polarity sensitive complex, but rather as a contributor of universal force.

In § 3 I explain at length the empirical reasons to consider Tamil unconditionals to be just like English unconditionals as analysed in Rawlins (2013), with some small modifications. His account of unconditionals hinges on the presence of two main components: a conditional phrase of interrogative type, and universal closure. The first component in Tamil is transparent – there is a WH-phrase in a clause which is marked by the dedicated conditional suffix on the verbal stem. Rawlins (2013) argues for interrogative structure of the unconditional in English, and this structure is reflected in the attested in the lexical items in Tamil, thus giving further empirical support to his proposal. In § 4 I show that –UM is the instantiation of universal closure in unconditionals. If it is allowed to take clausal scope, we generate the correct meaning of the unconditional.

3 Unconditionals and their properties in Tamil

As introduced in § 2.6 above, the combination [WH+UM] can be used in one particular environment that is non-antimorphic, that is unconditional sentences.

(66) [yaar objection paNN-aal]-um naan partii-le vara-Num
[who objection do.COND]-UM I party-in come-MUST
‘Whoever objects, I must come to the party.’ [=(3)]

a. IMPICATURE: ⇒ It doesn’t matter who objects.
b. ENTAILMENT: → I must come to the party.

My agenda in this section is to show that –UM is a contributor of universal force, and that this can be observed unambiguously in its function as universal closure in unconditionals. I go on in the paper to show that this analysis of –UM carries over into its role in polarity contexts as well. In both unconditionals and anti-morphic contexts which licence NPIs, I argue that –UM has the same purpose, and thus derive the desired meanings.

There is, of course, a possible counter-hypothesis, which is the following: that the purported unconditional structures are nothing but regular conditionals. Since conditionals are licensors of, for example, English any, we might want to consider them NPI licensors in Tamil as well. The ability of [WH+UM] to exist inside a conditional would not be surprising, it would simply constitute a reason to consider –UM NPIs as weaker than observed in § 2.5, and include conditionals in the list of environments that license them. Under such a view, there would need to be a way to reconcile the unavailability of [WH+UM] in conditionals (as reported in example (47), § 2.5) with the fact that now they seem available in conditionals all of a sudden. It could be that what is special about the so-called unconditionals is that instead of a non-contiguous
polarity-sensitive unit [WH+UM], the –UM seems to float away in the surface syntax, somehow mitigating the previously observed ban on conditionals licensing these strong NPIs.

There are some fundamental problems to this hypothesis. The first problem is that there is nothing special about this syntactic/morphological non-contiguity of [WH] and [UM] that might alter the licensing requirements of the complex. In point of fact, both the –UM NPIs and the weak –AVDU NPIs can (and in some cases must) occur discontinuously while being subject to their usual licensing constraints (see table in example 57, § 2.5.2).

**NON-CONTIGUOUS STRONG NPI GOOD WITH NEGATION, BAD WITHOUT**

(67) a. avan [yaar-conna kuRandai]-vai-um { kuupDa-le | *kuupTaan }
   he [who-tell.PARTchild]-ACC-UM { call-NEG | *call.PST }
   ‘He [didn’t he invite | *invited] the kid anyone named.’

**NON-CONTIGUOUS WEAK NPI BAD WITH NEGATION**

b. avan [yaar-conna kuRandai]-vai-avdu kuupDa-le
   he [who-tell.PARTchild]-ACC-AVDU call-NEG

The second problem is that a conditional is not an anti-morphic environment, as illustrated by the failed equivalence between b1 and b2. Thus, to posit that [WH+UM] is licensed here would be inconsistent with its distribution. In fact, we already know from § 2.5.1 that weak –AVDU NPIs are in complementary distribution with –UM NPIs, and that the list of licensing environments –AVDU NPIs includes conditionals. There is thus _prima facie_ no reason to expect –UM NPIs to be licensed here.

(68) a1. I will be concerned [if John (drinks ∨ drives)].  
   a2. I will be concerned [(if John drinks) ∧ (if John drives)].
   b1. I will be concerned [if John (drinks ∧ drives)].
   b2. I will be concerned (if John drinks) ∨ (if John drives).

For these reasons, I do not entertain any further the hypothesis that the [WH+UM] in unconditionals is the same as polarity sensitive [WH+UM].

In the following subsections, I provide a detailed discussion of the properties of unconditionals. I present the view that unconditionals cannot be reduced to regular conditionals because they have distinct meanings. To this end, I develop three original diagnostic tests for Tamil building on a prediction that falls out of Rawlins (2013) for free.

So what is the meaning of [WH+UM] in unconditionals? From the point of view of Rawlins’ analysis, they will turn out to be truly discontinuous, the [WH] and [UM] functional quite
separately. While the indeterminate merely serves to introduce constitute sets, \( \neg \text{UM} \) is universal closure that applies at clausal level. Thus, \([WH+UM]\) in unconditionals constitute \textit{sui generis} universals with conditional morphology.

This then gives us an implementation of the idea being pursued throughout this paper – that \( \neg \text{UM} \) NPIs may actually involve universal force taking scope above negation. Essentially, the application of universal closure at clausal level derives this result in negative sentences. Both unconditionals and \text{UM}-NPIs are argued to involve the same operation of \( \neg \text{UM} \) taking high scope.

### 3.1 The unconditional cannot be reduced to a regular conditional: three diagnostic tests

At first blush, it appears that (69a) can be paraphrased as (69b), which seems to suggest that unconditionals are no different from regular conditionals with in NPI inside. However, when we look at other cases, this apparent equivalence starts to thin (70).

\textit{Rawlins (2013)}

\[(69)\]
\begin{align*}
\text{a.} & \quad \text{Whoever comes, Lily must open the door.} \\
& \quad = A \text{ comes } \rightarrow \text{ Lily opens the door; } B \text{ comes } \rightarrow \text{ Lily opens the door; etc.}
\end{align*}
\begin{align*}
\text{b.} & \quad \text{If anyone comes, Lily must open the door.} \\
& \quad = A \text{ comes } \rightarrow \text{ Lily opens the door; } B \text{ comes } \rightarrow \text{ Lily opens the door; etc.}
\end{align*}

\textit{Context: Just like in any normal game, winning/losing are determined at the end, by looking at which side played better. In this situation, this team has realised that nothing it can do can save it from losing.}

\[(70)\]
\begin{align*}
\text{a.} & \quad \text{Whatever we do, we’ll lose. } \rightarrow \text{ We’ll lose.} \\
\text{b.} & \quad \# \text{If we do anything, we’ll lose. } \not\rightarrow \text{ We’ll lose.}
\end{align*}

Above, (70a) is felicitous to utter in this context, and entails the consequent. On the other hand, (70b) spoken with neutral intonation, is anomalous given this context. It would have only a weird reading, as if our team was all under some penalty such that they were not allowed to play. Therefore doing anything at all would be considered a foul and they would lose. That is definitely not the meaning of the a. sentence, which is perfectly natural to say. Of course, a felicitous FCI reading\(^{27}\) is possible for the b. sentence, but it requires focal pitch accent on \textit{any}, as follows. I put aside this point as involving a separate reading under a special strategy not relevant to the present discussion.

\[(71)\] If we do [ANY]thing, we’ll lose.

\(^{27}\) I assume that the acceptability reported for (74b) by Seth Cable and other speakers is due to this reading.
3.2 The predictions of Rawlins-Q

In order to systematically show that there are interpretive differences between conditionals and unconditionals, I introduce here a core component of the Rawlins (2013) account and outline its predictions. In § 4 I deal with the entire account in detail, here I present only an abbreviated version, as follows.

Unconditionals are basically just simple conditionals with some extra features. A classical Lewis-Kratzer-Heim treatment would analyse the antecedent of the conditional as a proposition that provides a contextual restriction to the quantificational domain of a modal in the main clause, by intersection with its modal base. The difference here is that the unconditional has an antecedent which is not a single proposition, but rather a Hamblin-set of propositions, since it is of interrogative type. Pointwise functional application enables this set of propositions to combine with the main clause to achieve the same end, restricting the modal. Since the denotation of the sentence is now a set of propositions, at the very end of the computation, there is still a set that now needs to be closed off in order to remove the interrogative meaning of a set denotation, and become a singleton set, thus arriving at the desired declarative meaning. This closing-off is achieved by universal closure, which in Tamil is morphologically attested as –UM.

Notice that this summary does not yet speak to the characteristic property of relational indifference that needs to be modelled for unconditionals. This property is derived by Rawlins using the idea that the interrogative nature of the antecedent has a syntactic requirement to encode force using a Q-operator on the lines of Kratzer (2005). This is essentially a type of Agree or any other standard licensing relation which would state that an interrogative pronoun bears a [Q] feature, and thus must be c-commanded by the Q-operator. Now, the particular flavour of meaning we want is effected by building some presuppositions into this Q-operator such that they indicate how the universe of possibilities is partitioned into Hamblin-alternatives. The bundling of these presuppositions into the Q-operator is an innovation of Rawlins, and departs from the Kratzer and Shimoyama (2002) interrogative concord Q-operator – I therefore refer to it as Rawlins-Q^{28}. It is defined as shown below, where c is the input context of interpretation (equivalent to the assignment function), and cs is the ‘context set’ and is basically just common ground (the set of worlds representing shared discourse commitments).

(72) Rawlins-Q

\[ [ [\text{Rawlins-Q}] \alpha ]^c = [\alpha]^c \]

defined for c, \( \alpha \), only if \([\alpha]^c \subseteq D_{c,s}\) and

(i) \( \forall w \in cs : \exists p \in [\alpha]^c : p(w) = 1 \) \hspace{1cm} EXHAUSTIVE

(ii) \( \forall p, p' \in [\alpha]^c : [p \neq p'] \rightarrow \exists w \in cs : [p(w) \land p'(w)] \) \hspace{1cm} MUTUALLY EXCLUSIVE

^{28} Note that exhaustivity is defined here in a particular way that is not equivalent to the exhaustification operator used by, for example, Chierchia (2013).
These presuppositions are based on an old intuition going back to Kartunnen’s (1977) modification of Hamblin (1973): that the meaning of a question is the set of true answers to it. Groenendijk and Stokhof (1982) took this idea further, and developed an influential idea of question denotations as partitions of possible worlds. In the specific context of unconditionals, Rawlins (2013) points out that the possible worlds have to be partitioned in a particular way to get the right meaning. Consider the example below – (73) is a sentence with an unconditional antecedent introducing only two alternatives Alfonso has a cold and Alfonso has the flu. Intuitively, it seems to exclude from possible situations that cases where Alfonso has some illness other than cold or flu (or no illness at all), or the case where he has both cold and flu. The alternatives seem to exhaust the domain of possibilities, and also to mutually exclude each other.

Rawlins (2013)

(73) Whether Alfonso has a cold or the flu, he should stay home from school.

It is this basic intuition that is implemented in the definition of Rawlins-Q, but it extends to cases of constituent unconditionals of the type I have been laying out thus far in the paper. Imagine a toy world where there are only three diseases: cold, flu, and mumps. In (74), it seems to only say that if Alfonso has a cold he should stay home; if Alfonso has the flu he should stay home; and if Alfonso has mumps he should stay home. It does not allow for possibilities like Alfonso has no illness or Alfonso has both the flu and mumps.

(74) Whatever Alfonso has, he should stay away from school.

I adopt Rawlins-Q as is for Tamil – doing so makes some particular predictions which can be tested in Tamil to show conclusively that the Tamil structures under scrutiny are indeed unconditionals. One prediction is that an answer of the type that violates exhaustivity will be disallowed, and the other is that an answer of the type that violates mutual exclusivity will be disallowed. In terms of possible worlds, this can be expressed as in (75).

(75) Predictions of Rawlins-Q

\[ [Q \alpha] \] is undefined if:

(i) \[ \exists w \in cs_c : \neg \exists p \in [\alpha]^c : p(w) = 1 \] \hspace{1cm} \text{NON-EXHAUSTIVE}

(ii) \[ \exists p, p' \in [\alpha]^c : [p \neq p'] \rightarrow \exists w \in cs_c : [p(w) \land p'(w)] \] \hspace{1cm} \text{NON-EXCLUSIVE}

3.2.1 Diagnostic tests confirm predictions of Rawlins-Q

Diagnostic 1

Imagine a situation where a rebellious teenager states that she must attend an upcoming party no matter who objects to her attending. The Tamil unconditional (64) is repeated below.
Since the sentence is grammatical and felicitous, Rawlins-Q must be defined. Therefore, exhaustivity currently holds in the context set.

\( \forall w : \exists p \in \{ A \text{ objects, B objects, C objects...} \} : p(w) = 1 \quad \text{EXHAUSTIVE} \)

As we have seen in Prediction (i) above, we expect anomaly when the following situation obtains:

\( \exists w : \neg \exists p \in \{ A \text{ objects, B objects, C objects...} \} : p(w) = 1 \quad \text{NON-EXHAUSTIVE} \)

For our purposes, we can show this anomaly by updating the context set to include the non-exhaustive situation, thereby creating a contradiction within the context set. This can be done using a follow-up as below. This follow-up, as indicated above, is anomalous. This stands in contrast to its regular-conditional counterpart (80), which allows such a follow-up.

\( \# \text{iru, uTTa-taLLa, pannaTa-taLLa-varu-Num} \)  
wait, leave.PERF-push.IMP, do-NEGCONT-UM come-MUST  
‘Hang on, screw that! I must come if no one objects, too!’

\text{Context: I’m a teenager going through a rebellious phase. I tend to do the things I’m told not to do, and nothing else.}

\( \begin{align*} 
\text{(a)} & \quad \text{[yaar-avdu objection paNN-aal] naan partii-le vara-Num} \quad \text{[who-AVDU objection do.COND] I party-in come-MUST} \\
& \quad \text{‘If someone objects, I must come to the party.’} \\
\text{(b)} & \quad \text{iru, uTTa-taLLa, pannaTa-taLLa-varu-Num} \\
& \quad \text{wait, leave.PERF-push.IMP, do-NEGCONT-UM come-MUST} \\
& \quad \text{‘Hang on, screw that! I must come if no one objects, too!’}
\end{align*} \)

This contrast falls out of Rawlins’ definition of what it means for the universe of propositions to be divided up correctly.

\textbf{Diagnostic 2}  
Similar to Diagnostic 1, the following test exploits the property of exhaustivity built into Rawlins-Q. Conditionals in past contexts cause a counterfactual reading of the main clause; this property can be used to create a contrast between regular past conditionals and past unconditionals.
For the sentence (81a) below, the continuation (81b) is illicit – it creates a contradiction within the context set, by violating exhaustivity, just as seen in the previous test. A follow-up that does not create a contradiction is good (81c).

(81) a. [yaar fon eDutta irund-aal]-um naan pesi-iruppen –
    [who phone take.PERF be.PERF-COND]-UM I talk-BE.FUT –
    ‘Whoever picked up the phone, I would have talked (to them) –’

   ana naan paesa-le
   but I talk-NEG
   ‘but I did not (talk)…

   b. …#yennaaka yaar-um fon-a eDukka-ve ille
       …because who-UM phone-ACC take-FOC NEG
       …#because no one picked up the phone.’

   c. yennaaka nii paesa-ve uDa-le
       because you talk-FOC allow-NEG
       …because you didn’t let me.’

By contrast, the corresponding regular-conditional (82a) can be followed up with (82b) with no problems.

(82) a. [yaar-avdu fon eDutta irund-aal] naan pesi-iruppen –
    [who-AVDU phone take.PERF be.PERF-COND]I talk-BE.FUT –
    ‘If anyone had picked up the phone, I would have talked (to them) –’

   ana naan paesa-le
   but I talk-NEG
   ‘but I did not (talk)…

   b. …yennaaka yaar-um fon-a eDukka-ve ille
       …because who-UM phone-ACC take-FOC NEG
       …because no one picked up the phone.’

It can be concluded on the basis of these tests that unconditionals need to be treated differently from regular conditional sentences. There is thus empirical justification to pursue the idea that unconditionals do indeed constitute an example of [WH+UM] being used in a non-NPI way. Making the link between this usage and the intuitive “universal-ness” of –UM is something that
has not yet been explored in the literature. The following arguments are thus an attempt to quantify that intuition as described in Jayaseelan (2001), (2011).

4 Analysis of Tamil unconditionals

The semantics I provide here is based heavily on the approach taken in Rawlins (2013) for unconditionals in English. In short, this analysis relies on the unconditional clause having an interrogative, that is, set-denoting meaning, which goes on to restrict the domain of some operator in the main clause. His analysis and mine focus on modals as the main clause operators in question.

The actual components required for the semantics are as follows:

(i) The conditional clause is an interrogative, contributing a set of propositions.
(ii) Since the conditional is interrogative, there is a Q operator in ForceP that contributes exhaustivity and mutual exclusivity.
(iii) The conditional clause applies pointwise to the main clause, creating a pointwise restriction for the main clause modal.
(iv) Normal conditionals are simply singleton-set versions of interrogative conditionals.
(v) At the end, we are left with a set of propositions, which amounts to interrogative meaning, but the sentence itself is declarative. Therefore a universal operator is inserted to ‘catch’ all the alternatives and reduce them to a singleton set.

For computing the meaning of the unconditional clause, a now-standard Hamblin semantics in the Kratzer and Shimoyama (2002) implementation is used. For a language like Tamil with indeterminates, this is fairly straightforward. The indeterminate creates alternatives that continue to expand up the structure. As we will see in this section, they expand until they are closed off by universal closure at the end of the computation.

For the modal, Rawlins follows the implementation of the Lewis-Kratzer-Heim system used previously by Geis (1985), von Fintel (1994), Bhatt and Pancheva (2006) and others. In this implementation, the conditional clause binds a variable that provides a restrictor to an operator in its scope. A modal is a quantificational operator over possible worlds and is contingent on two parameters: the modal base that determines the domain restriction, and the the ordering source. The restriction provided by the conditional interacts with the modal base.

Crucially, at the time of composing with the main clause, the conditional clause is a set of propositions. It therefore composes using Pointwise Function Application. Therefore, each alternative in the set of propositions provides a domain restriction to the modal in the main clause. The following subsections lay out in detail the semantics as it applies to Tamil.
4.1 Hamblin semantics for the Tamil indeterminate

The unconditional clause is simply a proposition containing an indeterminate. As such, following Kratzer and Shimoyama (2002), the denotation of the indeterminate is a set of individuals. This set expands, creating further sets of alternatives of the appropriate types, until it reaches an operator that selects them. The LF for the Tamil unconditional (64) is given in (83):

\[(83) \text{LF:} \]

\[
\text{TP6 <st>}
\]

\[
\text{CP1}
\]

\[
\text{TP5 <<st> <st>>}
\]

\[
\text{TP2 Raw-Q [naan party-le vara] –Num}
\]

\[
\text{I party-in come should}
\]

\[
\text{vP1 [yaar objection panna]}
\]

\[
\text{who objection do}
\]

The basic meaning for the vP1 is the set of propositions, as shown (to be refined):

\[(84) \llbracket\text{yaar objection panna}\rrbracket = \{ \lambda w . A \text{ objects in } w, \lambda w . B \text{ objects in } w, \lambda w . C \text{ objects in } w, \ldots \} \]

This meaning comes about because the set of alternatives contributed by the indeterminate is fed to ordinary composition using Pointwise Function Application (PFA). I employ the notation used in Rawlins (2013), which provides a general definition for PFA. The composition of an indeterminate is the special case where a set of individuals combines pointwise with a singleton property, creating another set, this time of propositions. The building blocks are laid out below:

\[(85) \text{Types}\]

A linguistic expression \(\alpha\) is of type \(T\) iff \(\llbracket\alpha\rrbracket \subseteq D_T\)

A variable \(\phi\) is of type \(T\) iff the value of \(\phi\) \(\in D_T\)

\[(86) \text{Pointwise Function Application}\]

If \(\alpha\) and \(\beta\) are daughters of \(\gamma\), and \(\llbracket\alpha\rrbracket \subseteq D_{AB}\) and \(\llbracket\beta\rrbracket \subseteq D_A\) for some types \(A\) and \(B\), then

\(\llbracket\gamma\rrbracket = \text{PFA}(\llbracket\alpha\rrbracket, \llbracket\beta\rrbracket) = \{ Y \in D_B \mid \exists f \in \llbracket\alpha\rrbracket : \exists X \in \llbracket\beta\rrbracket : f(X) = Y \}\)

For the example above, there is a set of individuals as shown, but a singleton function.

\[(87) \llbracket\text{yaar}\rrbracket = \{ x \in D_e \mid x \text{ is human} \}\]

\[(88) \llbracket\text{objection panna}\rrbracket = \{ \lambda x_e . \lambda w_s . x \text{ objects in } w \}\]
Applying PFA:

\[
[\nu P1]^h = \{ p \in D_{\lessdot,s,t} \mid \exists f \in \{ \lambda x. \lambda w. x \text{ objects in } w \} : \exists x \in \{ x \mid x \text{ is human} \} : f(x) = p \}
\]

This is the meaning of the node labelled as \([\nu P1]\), equivalent to the question ‘Who objects?’ – going further up the tree, it must now compose with the main clause. The next subsection lays out the mediating steps that enable this composition.

Here, several clarifications are in order. The conditional suffix –AAL is not represented in the LF shown. I omit it for clarity of exposition, and assume that it is only an indicator in the morphology that conditional meaning must be used. This is achieved using the semantics of the modal in the main clause. As such, adding the conditional suffix makes no difference to the meaning of the \(vP1\) or the \(TP2\) above. The –UM is also omitted at this stage, and will be introduced as universal closure over proposition sets in the final step. At the end of this section I provide reasons for composing –UM at that level, and the problems that would arise if it was composed where it is pronounced.

At this point, Rawlins-Q composes, which is vacuous since it has no semantic contribution except to let alternatives through untouched. Essentially, this point in the composition is a check to see if the definedness conditions of Rawlins-Q are met or not. They are normally met by definition.

\[
\text{Rawlins-Q}
\]

\[
\llbracket [Q] \alpha \rrbracket c = \llbracket \alpha \rrbracket c
\]

defined for \(c, \alpha\), only if \(\llbracket \alpha \rrbracket \subseteq D_{\lessdot,s,t}\) and

(iii) \(\forall w \in cs_c : \exists p \in \llbracket \alpha \rrbracket c : p(w) = 1\) \hspace{1cm} \text{EXHAUSTIVE}

(iv) \(\forall p, p' \in \llbracket \alpha \rrbracket c : [p \neq p'] \rightarrow \neg \exists w \in cs_c : [p(w) \land p'(w)]\) \hspace{1cm} \text{MUTUALLY EXCLUSIVE}

4.2 The unconditional clause restricts the main clause modal

This subsection is simply applying Rawlins (2013) to Tamil. Here I will not go into much detail about the semantics of the modal itself. In a von Fintel and Heim (2010) framework, the denotation for the main clause modal ‘must’ is as follows. This is a fairly standard tripartite semantics where the modal takes three arguments, the modal base, the ordering source, and the prejacent proposition. Since it is in the context of a conditional statement, the modal includes an intersection of its modal base with a a domain restriction: a proposition whose value will end up being filled by the proposition expressed by the conditional clause. In unconditionals, the domain restriction will be a set of propositions expressed by the conditional clause. Since this is only brief overview of the modal semantics, I have merely stated this in the LF as an index ‘i’ on the \(\lambda\) that is sister to TP4, and matched the index on the proposition \(p\) in the denotation of the modal in (92).
(91) LF:

\[ \begin{array}{c}
\text{TP6} <\text{st}> \\
\text{CP1} \quad \text{TP5} <\text{st}> <\text{st}> \\
[\text{yaar objection pann}] \quad \lambda[<\text{st}>] \quad \text{TP4} <\text{st}> \\
\lambda[s] \quad \text{TP3} <\text{t}> \\
\text{vP2} <\text{st}> \quad \text{MODAL} <<\text{st}>t>> \\
[\text{naan party-le vara}] \quad \neg \text{Num} [...p...]
\end{array} \]

(92) \[ [\text{MODAL}]^h = [[\neg-\text{Num} \ [\text{mb } w_0] \ p] \ [\text{os } w_0]]^h = \{ \lambda q_{\text{ext}}, \forall w' \in \text{MAXOS}(w_0) \ (\exists \text{mb}(w_0)) \cap p_i : q(w') = 1 \} \]

defined for \( h \) only if

(i) \( \text{mb, os} \in D_{\text{ext} \cap \text{t}} \)

(ii) \( (\exists \text{mb}(w_0)) \cap p_i \) is circumstantial

(iii) \( \text{os}(w_0) \) is doxastic

(93) \[ [\text{vP2}]^h = [\text{naan party-le vara}]^h = \lambda w . \text{I come to the party in } w \]

Since the modal is of type \( <<\text{st}>t>> \), Function Application can apply to compose it with \( [\text{vP2}] \) of type \( <\text{st}> \), and yield \( \text{TP3} <\text{t}> \).

(94) \[ [\text{TP3}]^h = [\text{MODAL}]^h ([\text{vP2}]^h) = \{ \lambda q_{\text{ext}}, \forall w' \in \text{MAXOS}(w_0) \ (\exists \text{mb}(w_0)) \cap p_i : q(w') = 1 \} \]

\( \lambda w . \text{I come to the party in } w \)

defined for \( h \) only if

(i) \( \text{mb, os} \in D_{\text{ext} \cap \text{t}} \)

(ii) \( (\exists \text{mb}(w_0)) \cap p_i \) is circumstantial

(iii) \( \text{os}(w_0) \) is doxastic

This is followed by lambda abstraction over the world variable to raise the type again to \( <\text{st}> \) so that further composition may occur.

(95) \[ [\text{TP4}]^h = \{ \lambda w'' . \forall w' \in \text{MAXOS}(w) \ (\exists \text{mb}(w'')) \cap p_i : \text{I come to the party in } (w') = 1 \} \]
A second lambda abstraction, over the propositional variable, creates a function from propositions to propositions \(<\varphi, \psi>\). This is the key step to allow the denotation of the antecedent to actually modify the main clause modal. In the Rawlins (2013) system, this second lambda binder bears the same index as a propositional variable inside the node labelled ‘MODAL’ in the LF.

\[(96) \quad \llbracket TP5 \rrbracket^h = \{\lambda p_i. \lambda w'' . \forall w' \in \text{MAXOS}(w) ((\cap \text{mb}(w'')) \cap p_i) : \text{I come to the party in } (w') = 1\} \]

\textit{defined for } h \textit{ only if}

(iv) \quad \text{mb, os } \in D_{\varphi, \psi, \delta, \theta}

(v) \quad ((\cap \text{mb}(w_0)) \cap p_j) \text{ is circumstantial}

(vi) \quad \text{os}(w_0) \text{ is doxastic}

At this point, \(TP5\) composes with the denotation of the unconditional antecedent, as derived in (89) at the end of the previous subsection. Plugging in (89) via Pointwise Functional Application, we obtain:

\[(97) \quad \llbracket TP6 \rrbracket = \llbracket TP5 \rrbracket^h (\llbracket CP2 \rrbracket^h) \quad (\text{POINTWISE})
\]

\[= \{\lambda p_i. \lambda w'' . \forall w' \in \text{MAXOS}(w) ((\cap \text{mb}(w'')) \cap (p_j) : \text{I come to the party in } (w') = 1\}

\text{defined for } c, \alpha, \text{ only if } \llbracket \alpha \rrbracket^c \subseteq D_{\varphi, \psi, \delta, \theta} \text{ and}

(i) \quad \forall w \in \text{cs}_c : \exists p \in \llbracket \alpha \rrbracket^c : p(w) = 1 \quad \text{EXHAUSTIVE}

(ii) \quad \forall p, p' \in \llbracket \alpha \rrbracket^c : [p \neq p'] \rightarrow \neg \exists w \in \text{cs}_c : [p(w) \wedge p'(w)] \quad \text{MUTUALLY EXCLUSIVE}

The computation at this point still has the form of a set of propositions \(p\) such that in all the worlds appropriately accessible to the actual world, there exists an individual such that if they object, I come to the party. However, a set denotation must be closed to give a singleton proposition and arrive at the correct meaning of this sentence.

4.3 \quad \text{The } –\text{UM composes to give the right type of final object}

If Rawlins (2013) did not insert an obligatory universal closure in the final step, the sentence would still be a set – that means it would be interpreted as an interrogative. This is undesirable – universal closure is required here.
(98)  **Hamblin universal operator (Kratzer and Shimoyama 2002):**
Where \([\alpha]^h \subseteq D_{\text{st}}\),
\(\lceil \text{–UM} \alpha \rceil^h = \{ \lambda w. \forall p_{\text{st}} \in [\alpha]^h : p(w) = 1 \}\)

(99)  **LF:**

\[
\begin{array}{c}
\text{CP2} \\
\text{–UM} \\
\text{TP6} \langle \text{st} \rangle \\
\text{CP1} \\
\text{TP5} \langle \text{st} \rangle \langle \text{st} \rangle \\
\lambda[\langle \text{st} \rangle] \text{TP4} \langle \text{st} \rangle \\
\lambda[s] \text{TP3} \langle t \rangle \\
\nu P2 \langle \text{st} \rangle \text{MODAL} \langle \text{st} \rangle \langle t \rangle \\
[\text{naan party-le vara}] \text{–NUM} [\ldots p \ldots]
\end{array}
\]

Applying this closure to the denotation of \([\lceil \text{TP6} \rceil^h] \) obtained in (97) above, we obtain:

(100)  \([\lceil \text{CP2} \rceil] \)
\[
= \lceil \text{–UM} \rceil^h (\lceil \text{TP6} \rceil^h)
\]
\[
= \{ p = \lambda w. \forall w' \in \text{MAXOS}(w) \cap (\exists x : x \text{ is human } \land x \text{ objects in } w)) \\
\text{I come to the party in } (w') = 1 \}
\]
\[
= \{ \lambda w . \forall p \in [\lceil \text{TP6} \rceil^h] : p(w) = 1 \}
\]

4.4  **The –UM is interpreted high to avoid being undefined for Rawlins-Q**

In the semantics sketched above, I have so far side-stepped the issue of why –UM cannot be interpreted in its surface position. I address this issue here. Attempting to apply Rawlins’ analysis to Tamil presents a particular scope problem. In the Tamil LF above, –UM is attached to the verbal complex. If we assume that –UM is morphological instantiation of the Hamblin universal operator, it is not in the ‘right place’ with respect to the analysis of English conditionals. Applying the universal operator to the VP meaning derived above would derive the wrong meaning:

(101)  **Hamblin universal operator (Kratzer and Shimoyama 2002):**
Where \([\alpha]^h \subseteq D_{\text{st}}\),
\([\forall \alpha]^h = \{ \lambda w. \forall p_{\text{st}} \in [\alpha]^h : p(w) = 1 \}\)
This is the wrong result – in the result above, the unconditional clause has been reduced to a singleton set. It is completely identical to a regular conditional that has the following meaning: If everyone objects. This would then compose further and go on to restrict the modal in the main clause. The meaning of the entire sentence would turn out to be: If everyone objects, I must come to the party. That is not what this sentence actually means.

In fact, the meaning produced here creates a contradiction with one of the presuppositions of Rawlins-Q – mutual exclusivity is now violated. Rawlins-Q requires there to be only one alternative true in every world. Here we have arrived at the exact opposite. The LF would therefore crash at this point because it would lead to an undefined object which cannot pass through Rawlins-Q. 

4.5 Multiple indeterminates

The extension of the semantics to sentences with multiple occurrences of an indeterminate in the same clause is trivial. They can be treated in exactly the same way. The only difference will be in the composition of the verb phrase. The presence of two indeterminates will introduce two sets of alternatives. Thus the propositional Hamblin alternatives produced by the system will involve pointwise application, as shown in (103) below, and the computation will proceed as expected.

31 So then why is –UM pronounced where it is? Descriptively speaking, there exists a morphological constraint which bars the attachment of –UM cannot attach to the outside of tensed/negated clauses. Following Amritavalli and Jayaseelan, I assume negation to sit in the same position as tense, since they appear in complementary distribution. Why does this constraint apply to all disparate uses of –UM? To this, I have no answer.

(iv) a. **ru gaaDinaan**
Raghu sing.PAST
‘Raghu sang.’

b. **ru gaaDinaan-um kudiccaan-um**
Raghu sing.PAST-CONJ jump.PAST-CONJ
INTENDED: ‘Raghu sang and jumped.’

c. **ru paaT-um gaaDinaan oru kudi-um kudiccaan**
Raghu song-UM sing.PAST one jump-UM jump.PAST
‘Raghu [sang a song] and [jumped a jump].’

(v) a. **ru gaaDa-um ille kudikka-um ille**
Raghu sing.PAST-UM NEG jump.PAST-UM NEG
‘[Raghu didn’t sing] and [Bala didn’t jump].’

b. **ru gaaDa-le-um bala kudikka-le-um**
[Raghu sing-NEG-UM] [Bala jump-NEG-UM]
5 Extending the account back to NPIs

At this point, Assuming the semantics for –UM sketched out before, the meaning of the NPI falls out straightforwardly. Consider again the baseline NPI sentence:

(105) a. [yaar-um partii-le vara]-le GOOD WITH NEGATION
who-UM party-in come-NEG
‘No one came to the party.’

b. *yaar-um partii-le vandaa BAD WITHOUT NEGATION
who-UM party-in come.PST.3PL

(106) [yaar] = { x ∈ D_e | x is human }

(107) [parti-le vara] = { λx_e . λw_s . x comes to the party in w }

(108) NEG ([parti-le vara]) = { λx_e . λw_s . x does not come to the party in w }

(109) Applying PFA:
[yaar parti-le vara-le]h
= { p ∈ D_{∞,p} | ∃f ∈ { λx_e . λw_s . x comes to the party in w }
: ∃x ∈ { x_e | x is human} : f(x) = p }

(110) [-UM ([yaar parti-le vara-le]h)]h
= { λw. ∀p ∈ [parti-le vara-le]h : p(w) = 1 }

⇒ { λw. [A is human ∧ A does not come to the party in w,
B is human ∧ B does not come to the party in w...] ]
⇒ { λw. ∀x . x is human ∧ x does not come to the party in w...}
(111)  [yaar-um  enge-um  vara]-le
who-UM  where-UM  come-NEG
‘No one came to the any place.’ (Lit. ‘It is not the case that anyone came to any place.’)

What has been shown above is that the existence of (105a) above is unproblematic. The challenge then is explaining the ungrammaticality of (105b), an NPI in a non-negative context\textsuperscript{32}. The literature on universal NPIs is noticeably silent on this particular issue. There is no explanation so far that derives this fact.

The approach taken in this paper has been shown to have certain consequences. Analysing –UM as universal closure applying at the sentential level means that the heretofore ignored unconditional sentences are simply the Tamil counterparts of Rawlins’ English unconditionals. The important contribution of the discussion of Tamil to the theory of unconditionals is that it affords an extension of the theory to languages which form these structures using indeterminates. The true NPI cases straightforwardly follow from –UM being universal closure. Essentially, polarity behaviour is incidental. The presence of negation inside the scope of universal closure derives the correct meaning. Thus the NPI cases are consistent with the analysis pursued here. The question of what is the locus of polarity distribution is left open for further research. In leaving this question open, I am doing no more and no less than other before me: the NPIs-as-universals approach taken by Sells and Kim and Shimoyama does not raise the issue at all. Their discussion takes the fact of NPIs to be given, and the shows that NPI-containing sentences must be analysed as having narrow-scope negation and a wide-scope universal. As such, I inherit the lacunae present in prior work.

Having said that, the following sections take the discussion forward by a few steps, leaving it at a point somewhat further than older work has considered. The rest of the paper is applied to showing that the somewhat unsatisfactory conclusion reached above is the only one which is

\textsuperscript{32} The exception in the Tamil paradigm (and also Malayalam, and equivalent forms in Telugu) is [WHEN+UM eppo-um, which means ‘always’ (vi). This abberant combination is no longer surprising if treated as a covert unconditional. In fact, a commonly-used frozen form exists (vii). Chennai Tamil also optionally forms a universal with enge-um ‘everywhere’. If we allow for a null verbal head in these cases, they can be subsumed under the category of universals. In that case, Tamil would look more like Japanese, in that all the combinations of [WH+UM] would have an optional universal reading.

(vi)  ragu  eppo-um  let-aa  eRundirukkaraan
Raghu when-UM  late-ADJ  arise.HAB
‘Raghu always wakes up late.’

(vii)  ragu  eppo-pat-aal-um  let-aa  eRundirukkaraan
Raghu when-see-COND-UM  late-ADJ  arise.HAB
‘Raghu always wakes up late.’  (Lit. ‘Raghu wakes up late every time you look.’)
applicable to the Tamil data; § 6 shows that there does not exist any positive evidence to consider Tamil as an existential-NPI language; § 7 shows that attempts at deriving the polarity behaviour of composite NPIs like \([WH+UM]\) from the properties of \(\neg UM\) necessarily fails in Tamil.

6 Scope of \(\neg UM\) NPIs with respect to negation

NPIs like English \(any\) have historically been treated as existentials under the scope of negation (Ladusaw 1979, Carlson 1980, Kadmon and Landman 1993). This has informed much of the literature on NPIs (including and up to Chierchia 2013). However, there is a body of work not on English (Giannakidou 1998, 2000; Sells and Kim 2006; Shimoyama 2005, 2011) that argues for the need to recognise a different analysis for NPIs for these languages (Greek, Korean, Japanese, Hungarian).

At the core of this split is the problem that in general, negation over existential (\(\neg \exists\)) is equivalent to universal over negation (\(\forall \neg\)). § 2.5 established that NPIs in Tamil are licensed only anti-morphic functions which validates the following equivalences, as seen earlier:

\[
\begin{align*}
(112) & \quad a. \quad f(A \lor B) = f(A) \land f(B) \\
& \quad b. \quad f(A \land B) = f(A) \lor f(B)
\end{align*}
\]

In the context of indeterminate NPIs, this amounts to saying that narrow-scope existential with respect to \(f_{\text{ANTIMORPHIC}}\) is equivalent to wide-scope universal with respect to \(f_{\text{ANTIMORPHIC}}\). For simplicity, I represent this type of function simply as negation throughout this section.

\[
(113) \quad \neg \exists x . P(x) \iff \forall x . \neg P(x)
\]

In § 3 were presented detailed arguments to consider the semantic contribution of \(\neg UM\) to be universal quantification. What remains to be shown is that the putative universals of the form \([WH+UM]\) do, in fact, take scope above, rather than below, negation. In Tamil the scope relations between arguments and negation is not diagnosable from surface syntax, due to the agglutinating and strictly head-final nature of the language. Like Japanese and Korean, Tamil also shows two properties which are seemingly incompatible: in general negation tends to take low scope, but on the other hand subject NPIs are attested and perfectly grammatical.

To diagnose the relative scope of the quantifier with respect to negation, Shimoyama (2004/2008/2011) uses quantificational adverbs as scope-interveners. The logic of the diagnostic is that an adverb like \(usually\) in combination with negation, creates a non-anti-additive environment. Thus the equivalence in (115) is no longer validated, and different readings can be observed to arise.
There are two possible scopal readings that are informative. If the first reading (114a) arises, it will unambiguously show that the NPI has the interpretation of a universal over negation (with the adverb intervening). On the other hand, if the second reading (114b) arises, it will unambiguously show that the NPI has the interpretation of an existential under negation (with the adverb intervening).

(114)  
   a. $\forall \ >> \ Q_{\text{ADV}} \ >> \ \neg$
   b. $\neg \ >> \ Q_{\text{ADV}} \ >> \ \exists$

It has been observed across languages that there is a tendency for NPIs not to allow scope-taking elements to take intermediate scope between the quantifier and negation. This empirical observation has been called the ISC (Immediate Scope Constraint; Linebarger 1987, Guerzoni 2006, Sells and Kim 2006, Kim and Sells 2007). In Korean and Japanese, there is strong evidence that the NPI takes scope over negation, because in spite of the ISC, the reading that obtains is (114a) above, and not (114b).

There are, of course, more scopal possibilities which could arise. The configurations below in fact are consistent with the ISC. The quantifier (along with negation) might be interpreted above the adverb, leading to the following readings. These readings are uninformative, since they are equivalent. Similarly, if the adverb simply receives highest scope, the readings obtained below again do not disambiguate between the possible interpretations. Unfortunately, the Tamil data falls into this last category. The kind of adverb used in this test ends up taking highest scope, and thus cannot be used as an intervenor. I lay out the shape of the test below and show why it is not informative in Tamil.

**Uninformative Low Scope of Adverb**

(115)  
   a. $\forall \ >> \ \neg \ >> \ Q_{\text{ADV}}$
   b. $\neg \ >> \ \exists \ >> \ Q_{\text{ADV}}$

**Uninformative High Scope of Adverb**

(116)  
   a. $Q_{\text{ADV}} \ >> \ \forall \ >> \ \neg$
   b. $Q_{\text{ADV}} \ >> \ \neg \ >> \ \exists$

6.1 The scope test

Following Shimoyama (2011), the first step is to show that ‘usually’ takes scope above negation in a simple sentence without any WH-phrase. Since Tamil is a language that allows for some amount of scrambling, the example below is shown in all possible word orders. The adverb takes scope over negation in all cases, regardless of its surface position. This property ensures that in the test cases the adverb is not trapped below negation.
We know that this sentence shows high scope of the adverb with respect to negation, and not low, because the readings are different. A situation which distinguishes the two readings is:

**Context:** Bala eats breakfast every alternate day. Thus, 50% of the time she eats breakfast, and 50% of the time she does not.

(118)  

a. **NEG >> USUALLY** = **TRUE**  
b. **USUALLY >> NEG** = **FALSE**  
c. **FALSE**

‘Usually, Bala fails to eat breakfast.’

A sentence with the scope in (118b) would be judged as **FALSE** in a situation where 50% of the time Bala eats breakfast, and 50% of the time she does not eat breakfast. For the sentence to be true, it has to be stronger than equivocal – it must be established that *more than half the time*, Bala refuses breakfast. In Tamil, the relevant sentence is judged **FALSE**, showing that the scope is indeed adverb over negation. There is a potential confound here, of course, which is that the negation may originate below the adverb and be interpreted above it due to the neg-raising properties of ‘usually’ (cf. English *John usually doesn’t eat breakfast* = *Usually, John doesn’t eat breakfast*). This is not a problem here; as pointed out in Shimoyama (2011), if that were the case, the reading (118b) above should also be available as it would be in English. That is not observed in Tamil (nor in Japanese).

Thus, initial conditions for application of the test are met – ‘usually’ truly scopes over negation in Tamil, and is therefore a potential intervenor just like in Japanese. To set this up, consider the following sentence:

(119) **yaar-um** meetings-le varad-il-le  
    who-UM meetings-in come-INF-NEG  
    ‘No one comes to meetings.’
Now consider the same sentence but with the adverb ‘usually’ present (130). There are many possible scope readings of this sentence, as in (120) below. But the sentence only has the uninformative reading, boxed in (121d).

**Test Case**

(120) saadaaraNamaa yaar-um meetings-le varad-il le
   usually who-UM meetings-in com.e INF-NEG
   ‘Usually, no one comes to meetings.’

**Possible Scopes**

(121) a. \( \forall \gg Q_{ADV} \gg \neg \)  
   ‘Everyone is such that usually they do not come to meetings.’

b. \( \neg \gg Q_{ADV} \gg \exists \)  
   ‘It is not the case that usually there is a person who comes to meetings.’

c. \( NPI \gg Q_{ADV} \)  
   ‘There is no person who usually comes to meetings.’

d. \( Q_{ADV} \gg NPI \)  
   ‘It is usually the case that no one comes to meetings.’

6.1.1 "Everyone’s a slacker" context

Below is an attendance sheet for 3 students to attend 6 group meetings. For all students, it is the case that they are usually absent from meetings. Each one has more than 3 out of 6 meetings marked absent. It makes the scope reading in (121a) above felicitous.

<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
<th>m3</th>
<th>m4</th>
<th>m5</th>
<th>m6</th>
</tr>
</thead>
<tbody>
<tr>
<td>student1</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>student2</td>
<td></td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td></td>
</tr>
<tr>
<td>student3</td>
<td></td>
<td></td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
</tr>
</tbody>
</table>

If the scope in (124a) \( \forall \gg Q_{ADV} \gg \neg \) was attested, the sentence above would be judged as True in the given context. This is the case with the Japanese version (122) of the configuration in (120) above.

Japanese; Shimoyama (2011)

(122) Nihozin gakusei-no dare-mo hudan(-wa)/taitei sankasi-nakat-ta
   Japanese student-GEN who-MO usually-WA/mostly participate-NEG-PST
   ‘For every Japanese student, it was usually/mostly the case that they did not participate.’

Unhelpfully, the Tamil sentence (120) is judged False in this context. That alone has one interpretation: there is no positive evidence for the NPI having the reading where it necessarily
scopes above negation. However, further probing reveals that there is no evidence for the (121b) reading either ($\neg \gg Q_{\text{ADV}} \gg \exists$).

6.1.2 “At chance” context

This further probing is achieved by the following context. The attendance sheet below shows that some meetings were totally unattended, and others had some attendees (at least one in each). This is the case where 50% of the time, nobody attends, and 50% of the time, somebody attends. The scope in (121b) is validated by this context.

<table>
<thead>
<tr>
<th></th>
<th>m1</th>
<th>m2</th>
<th>m3</th>
<th>m4</th>
<th>m5</th>
<th>m6</th>
</tr>
</thead>
<tbody>
<tr>
<td>student1</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>student2</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td></td>
<td></td>
<td>absent</td>
</tr>
<tr>
<td>student3</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td>absent</td>
<td></td>
</tr>
</tbody>
</table>

Here, again, the Tamil sentence is judged $\text{FALSE}$. This shows that there is no positive evidence here for the NPI to be considered an existential. With respect to the scope test, Tamil NPIs are thus equally amenable to analysis as universals or as existentials.

6.2 Section conclusion

This section has shown that the adverb scope test from Shimoyama (2011) cannot be used in Tamil. It seems to be the case that this will turn out to be a general problem in the language. The same picture obtains with other adverbs which could potentially serve as scope intervenors but do not. In the examples below, sila samayam ‘sometimes’ behaves the same as ‘usually’. That is, it takes high scope with negation in regular negated sentences, and uninformatively high scope with respect to the NPI (negation + the quantifier) when present. The reading in (124) does not involve intervention by the adverb.

(123) sila samayam bala brekfast shaapDarad-ille $\text{SOMETIMES} \gg \text{NEG}$
    some time Bala breakfast eat-INF-NEG
    ‘Sometimes, Bala fails to eat breakfast.’

(124) sila samayam yaar-um meetings-le varad-ille $\text{SOMETIMES} \gg \text{NPI}$
    some time who-UM meetings-in come-INF-NEG
    ‘Sometimes, no one comes to meetings.’

I have not found any suitable elements in Tamil to serve as successful intervenors of the kind needed here. Descriptively, this state of affairs can be described as Tamil having a strong ISC. I leave it to future work to develop Tamil-specific tests that may be able to make a stronger
statement than I make in this section. One track to pursue is to try to create configurations that make use of the opposite relationships that strong and weak NPIs have to negation. For Japanese we have positive evidence for the reading of universal over negation, but in Tamil we do not have this evidence so far. Since there is not evidence against treating the NPI as a universal over negation, I conclude that the data from Tamil is compatible with such an analysis. More importantly, the predictions made by potentially considering these NPIs as existentials in the scope of negation are not met. Thus there is no conclusive reason at present to take that view.

7 Alternative routes to polarity

Recall from § 2.1 that one of the guises of the suffix –UM is as an additive particle like English too or also. The narrative pursued in this paper has taken the additive function of –UM of to be distinct from its universal function. This universal function has been observed and motivated in the context of unconditional sentences, and extended straightforwardly to sentences involving negation. Treating a so-called NPI-containing sentence as a negated proposition with wide scope universal closure gives rise to a meaning which is identical to that created by an existential that scopes below negation. Thus, the correct meaning is arrived at by making a theoretical shift in the conception of what counts as an NPI. At this point it is pertinent to consider an alternative route to the observed polarity behaviour of quantifiers of the form [WH+UM], a route based on additivity. Erlewine and Kotek (2016) present an analysis of NPIs of this form in Dharamshala Tibetan based on Lahiri’s (1998) account of similar polarity items in Hindi-Urdu. This line of analysis derives the distribution of these NPIs from the pragmatic contribution of each of their component parts. In both Hindi-Urdu and Dharamshala Tibetan, one series of NPIs is formed by combining the numeral ONE and an additive particle. This is observed in Tamil as well. In addition, Dharamshala Tibetan and Tamil also exhibit the now familiar WH-series of NPIs.

Dharamshala Tibetan; Erlewine and Kotek (2016)

(125) a. lopchuk chi-ye lep-ma-song
    student one-EVEN arrive-NEG-PRFV
    ‘No student arrived.’

b. su-yang lep-ma-song
    who-EVEN arrive-NEG-PRFV
    ‘No one arrived.’

Tamil

(126) a. oru student-um vara-le
    one student-UM shaera-NEG
    ‘No student arrived.’

b. yaar-um shaera-le
    who-UM arrive-NEG
    ‘No one arrived.’
Both Lahiri (1998) and Erlewine and Kotek (2016) make use of the central assumption that the additive particle in the relevant contexts carries with it not just the expected additivity presupposition but also a presupposition of unlikelihood. It thus functions just like English even. Erlewine and Kotek (2016) formalise this core idea by splitting the meaning of this ‘even’ into two components, ADD (additive) and SCAL (scalar). These are the presuppositions carried by the ‘additive’ particle –ye/yang in Dharamshala Tibetan\(^{33}\). To capture the intuition from Lee and Horn (1994) and Lahiri (1998): when SCAL associates with an indefinite, it forms an NPI. Conceptually this split goes back to Kartunnen and Peters (1979) based on Horn (1969). The implementation is based on Roothian (1992) alternative semantics for focus. The additive and scalar presuppositions are defined as follows\(^{34}\) for \(\alpha\) of propositional semantics type:

\[
\begin{align*}
\text{ADD}(\alpha) & \iff \exists \phi \in \llbracket \alpha \rrbracket^f \setminus \llbracket \alpha \rrbracket^o \ [ \phi \text{ true } ] \\
\text{SCAL}(\alpha) & \iff \forall \phi \in \llbracket \alpha \rrbracket^f \setminus \llbracket \alpha \rrbracket^o \ [ \llbracket \alpha \rrbracket^o < \text{likely } \phi ]
\end{align*}
\]

Erlewine and Kotek, following Lahiri, suggest the possibility of covert movement of the ‘even’ particle in Dharamshala Tibetan sentences like (129a) to arrive at their respective LFs (ignoring tense information). In their conception, the splitting of EVEN into ADD and SCAL in the ONE-series is vacuous, and is therefore not represented.

\textit{Dharamshala Tibetan; Erlewine and Kotek (2016)}

(129)  
\begin{align*}
a. \quad \text{lopchuk chi-ye lep-ma-song} \\
\text{student one-EVEN arrive-NEG-PRFV} \\
\text{‘No student arrived.’}
\end{align*}

\begin{align*}
b. \quad \text{LF:}
\end{align*}

\begin{itemize}
  \item \textbf{1. } lopchuk
  \item \textbf{2. } ma
    \item \textbf{3. } NEG
      \item \textbf{4. } EVEN
  \item \textbf{2. } lep
    \item \textbf{1. } arrive
  \item \textbf{2. } lep
    \item \textbf{1. } chi(k)
      \item \textbf{1. } [one]_f
  \item \textbf{2. } lep
    \item \textbf{1. } arrive
\end{itemize}

\(^{33}\) The equivalent of \textit{bhii} in HU, which associates with either the numeral \textit{ONE} or weak predicates like \textit{zara} ‘a little bit’, see Lahiri (1998) for details.

\(^{34}\) Notation from Erlewine and Kotek (2016).
(130)  

a. su-yang lep-ma-song  
who-EVEN arrive-NEG-PRFV  
‘No one arrived.’

b. LF:

Essentially, ADD presupposes that at least one non-\( \alpha \) member of the set of alternatives is true, and SCAL that the prejacent \( \alpha \) is less likely than all the other alternatives. The two series of NPIs in Dharamshala Tibetan are unified under the same mechanism. When numeral \( \text{ONE} \) is present, an indefinite is available. In the WH-series, Hamblin-alternatives are available, and ADD existentially quantifies over them to create an indefinite. The indefinite creates a proposition that is entailed by all its scalar alternatives, introduced by the \( f \)-marked numeral \( \text{ONE} \).

(131)  

a. \( \llbracket \text{②} \rrbracket^o = \llbracket \llbracket \text{[student [one]}^\text{f} \rrbracket \text{arrive} \rrbracket^o \)

  = \( \text{that at least one student arrives} \)

b. \( \llbracket \text{②} \rrbracket^f = \llbracket \llbracket \text{[student [one]}^\text{f} \rrbracket \text{arrive} \rrbracket^f \)

  = \{\( \text{that at least one student arrives,} \)

  \( \text{that at least two students arrive,} \)

  \( \text{that at least three students arrive,} \ldots \} \)

(132)  

a. \( \llbracket \text{③} \rrbracket^o = \llbracket \llbracket \text{[student [one]}^\text{f} \rrbracket \text{arrive] NEG} \rrbracket^o \)

  = \( \text{NEG (that at least one student arrives)} \)

  = \( \text{that no student arrives} \)

b. \( \llbracket \text{③} \rrbracket^f = \llbracket \llbracket \text{[student [one]}^\text{f} \rrbracket \text{arrive] NEG} \rrbracket^f \)

  = \{\( \text{NEG (that at least one student arrives),} \)

  \( \text{NEG (that at least two students arrive),} \)

  \( \text{NEG (that at least three students arrive),} \ldots \} \)

  = \{\( \text{that no student arrives,} \)

  \( \text{that less than two students arrive,} \)

  \( \text{that less than three students arrive,} \ldots \} \)
Scalar presupposition:

\[ \text{SCAL}(\{3\}) \iff \forall \phi \in \{3\}^f \setminus \{3\}^o \ [\{3\}^o <_{\text{likely}} \phi ] \]

= \forall \phi \in \{\text{that no student arrives, that less than two students arrive, …}\}

\[ \text{that no student arrives} <_{\text{likely}} \phi \]

\[ \text{that no student arrives} <_{\text{likely}} \text{that less than two students arrive,}\]

\[ \text{that no student arrives} <_{\text{likely}} \text{that less than three students arrive, …} \]

The proposition \[\text{that no student arrives}\] asymmetrically entails all its alternatives of the type above, and therefore SCAL, in other words the scalar presupposition, will necessarily be satisfied. This shows that in the presence of negation, the combination of \textsc{one} and SCAL is always grammatical. If negation were removed, (133) would ultimately yield a contradiction:

\[ \text{(134)} = \text{that at least one student arrives} <_{\text{likely}} \text{that at least two students arrive,}\]

\[ \text{that at least one student arrives} <_{\text{likely}} \text{that at least three students arrive, …} \]

The presupposition of SCAL would thus be unsatisfied in sentences without negation, leading to ungrammaticality. This derives the polarity distribution of these combination with ‘even’. In the \textsc{WH}-series, the logic of the computation is the same:

\[ \text{(135)} \]

a. \[ \{1\}^o = \text{undefined} \]

b. \[ \{1\}^f = \{\text{that A arrives,}\]

\[ \text{that B arrives,}\]

\[ \text{that C arrives, …}\} \]

Additive presupposition:

\[ \text{ADD}(\{1\}) \iff \exists \phi \in \{\alpha\}^f \setminus \{\alpha\}^o \ [\phi \text{ true}] \]

= \exists \phi \in \{1\}^f \ [\phi \text{ true}] \]

= \[\text{that A arrives}, \text{OR that B arrives}, \text{OR that C arrives} \ldots\]

= \[\exists x . x \text{ arrives} \]

At this stage, Erlewine and Kotek propose that by Local Accommodation (Heim 1983), the result of the additive presupposition becomes the new ordinary semantic value at \(\{2\}\), while the focus semantic value is passed up as usual.

\[ \text{(137)} \]

a. \[ \{2\}^o = \exists x . x \text{ arrives}\]

b. \[ \{2\}^f = \{\text{that A arrives,}\]

\[ \text{that B arrives,}\]

\[ \text{that C arrives, …}\} \]

46
Scalar presupposition:
\[ \text{SCAL}(\overline{\text{3}}) \iff \forall \phi \in \langle \overline{\text{3}} \rangle \setminus \langle \text{3} \rangle^{\circ} \ [\langle \overline{\text{3}} \rangle^{\circ} \prec \text{likely } \phi ] \]
\[ = \forall \phi \in \{\text{that A doesn’t arrive, that B doesn’t arrive, …}\} \]
\[ = \text{that no one arrives } \prec \text{likely that A doesn’t arrive,} \]
\[ \text{that no one arrives } \prec \text{likely that B doesn’t arrive, …} \]

Just as we saw before in the ONE-NPI, the result for WH-NPIs is the same: The proposition \{that no student arrives\} asymmetrically entails all its alternatives. Therefore, in the negated sentence discussed here, SCAL is always trivially satisfied. Conversely, consider the same sentence without negation. In that case, there is no node \text{3}, and SCAL composes directly with the meaning of \text{2}.

Scalar presupposition:
\[ \text{SCAL}(\overline{\text{2}}) \iff \forall \phi \in \langle \overline{\text{2}} \rangle \setminus \langle \text{2} \rangle^{\circ} \ [\langle \overline{\text{2}} \rangle^{\circ} \prec \text{likely } \phi ] \]
\[ = \forall \phi \in \{\text{that A arrives, that B arrives, …}\} \]
\[ = \text{that someone arrives } \prec \text{likely that A arrives,} \]
\[ \text{that someone arrives } \prec \text{likely that B arrives, …} \]

This result is a contradiction: the proposition \{that someone arrives\} is asymmetrically entailed by all its alternatives. Therefore SCAL can never be satisfied in the absence of negation. This derives polarity distribution: good with negation, bad without.

7.1 Why this system cannot work for Tamil

Notably, although the Dharamshala Tibetan and Tamil sentences appear superficially similar, the central assumption that \text{–ye/yang} in Dharamshala Tibetan can mean ‘even’ simply does not carry over to Tamil \text{–UM}. In other words, the putative SCAL component is missing in this construction in Tamil. This was demonstrated in § 2.1 using contexts which facilitated unlikelihood, and
should license the use of ‘even’, but systematically failed to license the use of –UM. In the following context (142) is felicitous in Dharamshala Tibetan (a) but not in Tamil (b).

*Context: Tenzen has done many things to advance her career. (Marrying the President is a highly unlikely thing to do, but…)*

(142)  

**Dharamshala Tibetan; Erlewine and Kotek (2016)**

a. (Tenzen-ki) sinzi-nyamto-ye/yang changsa gyap-pare
   Tenzen-ERG president-with-EVEN marriage LV-EVID
   ‘Tenzen even married [the President].’

**Tamil**

b. #(Tenzen) president-ai-um kalyaaNa paNNiNDaa
   Tenzen president-ACC-UM marriage do.PERF.PAST

This is the case even if prosodic prominence is given to the word *president* in order to focus-mark it. For the equivalent of (142b) to go through in Tamil, an entirely different dedicated ‘even’ particle *kuDa* is used. This dedicated particle is never found in any environments expects those that license English *even* – it does not participate in the NPI series, nor can it be argued to be a purely additive particle. Thus, there is a fundamental difference between the Dharamshala Tibetan and the Tamil. Lahiri’s original formulation for Hindi-Urdu has been criticised on much the same grounds by Bhatt and Schwarz (2004) who point out that Hindi-Urdu has a dedicated ‘even’ particle, namely *tak*, which functions exactly like Tamil *kuDa*. In both Hindi-Urdu (143a) and Tamil (143b) below, the ‘even’ particle is preferred in the unlikelihood context given above.35

(143)  

**Hindi-Urdu**

a. Tenzen-ne [president-se shaadi]-tak kar lii
   Tenzen-ERG president-with marriage-EVEN do take.PERF
   ‘Tenzen even married [the President].’

**Tamil**

b. Tenzen [president-ai kalyaaNa]-kuDa paNNiNDaa
   Tenzen-ERG president-with marriage-EVEN do.PERF.PAST
   ‘Tenzen even married [the President].’

In this model, given the facts presented here, the LF for the Tamil sentence corresponding to (129) would be as follows:

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35 These examples reproduce the Dharamshala Tibetan sentences given by Erlewine and Kotek, but are not the best kind, because the DP-external attachment of *tak* is potentially ambiguous at LF. Its associate could be either the entire DP [president-with marriage] position or only [president]. If the associate is only [president], the context is no longer sensible.
(144) a. yaar-um shaera-le
    who-UM arrive-NEG
    ‘No one arrived.’

b. LF:

```
     3
      \   /
     2   ma
   /     \
1   NEG
```

                yaar    shaera
                who    arrive

The meaning of the entire sentence would therefore be quite straightforward: ADD would create an existential statement which would undergo Local Accommodation and become the ordinary semantic value of \[2\]. At this point, the semantics fails to deliver the distinction between the sentence without negation \[2\] or with \[3\]. Thus the polarity behaviour remains entirely unexplained.

(145) a. \([2]^o\) = \(\exists x . x\) arrives
    b. \([2]^f\) = \{that A arrives,
                                that B arrives,
                                that C arrives, …\}

(146) a. \([3]^o\) = \(\neg(\exists x . x\) arrives\)
    = that no one arrives
    b. \([3]^f\) = \{that A doesn’t arrive,
                                that B doesn’t arrive,
                                that C doesn’t arrive, …\}

The derivation above fails to rule out the infelicitous (142b). This section has shown that SCAL, the crucial component of the semantics of ‘even’-like elements, is simply not part of the meaning of Tamil –UM. Therefore, any attempt to derive the NPI distribution of [WH+UM] will fail. There is no context in which a result like (142a), where the additive particle creates an existential out of an indeterminate, is attested in Tamil. In order to explain NPI behaviour based solely on the additive use of –UM, some further stipulation would be required in addition to the Lahiri-Erlewine and Kotek analysis. It is for this reason that this approach has not been taken in this paper.
8 Conclusion and further issues

This paper has explored a core problem (Carlson 1980) of NPIs in natural language – how to establish them either as either existential, or as universal quantifiers. The view taken in this paper follows a now long line of thinking (Giannakidou 1998, 2000; Shimoyama 2006, 2011; Sells and Kim 2006; Jayaseelan 2001, 2008, 2011; a.o.) which stems from work in non-English languages. The sum of this work has shown that in at least some languages – either (i) NPIs are universals, (ii) NPIs must scope over negation, or (iii) both. In the first category, independent papers have revolved around the idea that in a large set of unrelated languages (see Haspelmath 1997 for a large list), NPIs are formed compositionally using particles which can be independently argued to contribute universal force.

In Tamil, this independent evidence was gathered from the unconditional construction (Rawlins 2013), which has been ignored in indeterminate-NPI languages, following Rawlins’ assertion that unconditionals of the relevant form are unattested in Japanese. The universal force of the Tamil particle –UM, as inferred from its use in unconditionals, was used to compute the meaning of WH-NPIs as well, using Hamblin semantics (following Kratzer and Shimoyama 2002) for the indeterminate WH.

The analysis pursued in this paper does not attempt to derive the polarity distribution of [WH+UM]. Rather, following the position taken by Sells and Kim (2006), Shimoyama (2006, 2011), sentences containing negation have been considered only as testing ground for an alternate conception of NPIs vis à vis their status qua universals in languages like Korean, Japanese, and now Tamil. Attempts to explain why indeterminates and universal/additive particles form NPIs have not been made by these authors. The failing of this paper to address this issue is then an inherited problem. There is some ground for speculation on what the underlying conditioning factor for polarity behaviour might be. It has been shown using evidence from Tamil that runs counter to Lahiri (1998) and Erlewine and Kotek (2016) that this factor cannot simply be the pragmatic contribution of the ‘even’ particle. Thus, the only account on the market for deriving the distribution of indeterminate NPIs is unapplicable to Tamil, and indeed may not tell the complete story in Hindi-Urdu or Dharamshala Tibetan either. Finding out what makes an NPI an NPI I leave to future work.
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