

## **UC Berkeley**

### **Proceedings of the Annual Meeting of the Berkeley Linguistics Society**

#### **Title**

Irrealis as Verbal Non-Specificity in Koro (Oceanic)

#### **Permalink**

<https://escholarship.org/uc/item/36d5g4j5>

#### **Journal**

Proceedings of the Annual Meeting of the Berkeley Linguistics Society, 40(40)

#### **ISSN**

2377-1666

#### **Author**

Cleary-Kemp, Jessica

#### **Publication Date**

2014

Peer reviewed

PROCEEDINGS OF THE FORTIETH ANNUAL MEETING OF THE  
**BERKELEY LINGUISTICS SOCIETY**

February 7-9, 2014

**General Session**

**Special Session**

Approaches to the Syntax-Phonology Interface

**Parasessions**

Semantic Theory in Underdescribed Languages  
Language, Inequality, and Globalization

**Editors**

Herman Leung  
Zachary O'Hagan  
Sarah Bakst  
Auburn Lutzross  
Jonathan Manker  
Nicholas Rolle  
Katie Sardinha

Berkeley Linguistics Society  
Berkeley, CA, USA

Berkeley Linguistics Society  
University of California, Berkeley  
Department of Linguistics  
1203 Dwinelle Hall  
Berkeley, CA 94720-2650  
USA

All papers copyright © 2014 by the Berkeley Linguistics Society, Inc.

All rights reserved.

ISSN: 0363-2946

LCCN: 76-640143

# Contents

<b>Acknowledgments</b>	<b>v</b>
<b>Foreword</b>	<b>vii</b>
<i>Weak Crossover and the Syntax-Phonology Interface</i> Calixto Agüero Bautista .....	1
<i>Irrealis as verbal non-specificity in Koro (Oceanic)</i> Jessica Cleary-Kemp .....	20
<i>Subjectification in the Development of Clitic Doubling: A Diachronic Study of Romanian and Spanish</i> Oana A. David .....	42
<i>Reportativity, (not-)at-issueness, and assertion</i> Martina Faller .....	62
<i>When Phonology Undergenerates: Evidence from Asturian Enclitic Structures</i> Francisco J. Fernández-Rubiera .....	85
<i>Contour Tones and Prosodic Structure in Medumba</i> Kathryn H. Franich .....	102
<i>Asymmetric Correlations between English Verb Transitivity and Stress</i> Michelle A. Fullwood .....	125
<i>Micro-Variation within Bizkaiera Basque: Evidence from RCs</i> Ager Gondra .....	139
<i>Scandinavian Object Shift: The Interface between Syntax, Phonology, and Information Structure</i> Mayumi Hosono .....	159
<i>The Unit Phrase in Mandarin</i> Yu-Yin Hsu .....	182

<i>On the Category of Speaker Expectation of Interlocutor Knowledge in Kurtöp</i> Gwendolyn Hyslop .....	201
<i>The Effect of Duration and Glottalization on the Perception of Rhythm</i> Niamh Kelly, Megan Crowhurst, and Crystal Cobb .....	215
<i>The Syntax of Tone in Guinean Kpelle</i> Maria Konoshenko .....	233
<i>The Three Degrees of Definiteness</i> Maria Kyriakaki .....	253
<i>Possessive Structures as Evidence for DP in West Greenlandic</i> Kathleen Langr .....	270
<i>The Pragmatics and Syntax of German Inalienable Possession Constructions</i> Vera Lee-Schoenfeld and Gabriele Diewald .....	286
<i>Case and agreement in Cupeño: Morphology obscures a simple syntax</i> Theodore Levin and Ryo Masuda .....	311
<i>Revisiting the Phonology and Morphosyntax of Chechen and Ingush Verb Doubling</i> Ryo Masuda .....	336
<i>The role of morphological markedness in inclusive/exclusive pronouns</i> Beata Moskal .....	354
<i>Toward a Comprehensive Model for Nahuatl Language Research and Revitalization</i> Justyna Olko and John Sullivan .....	369
<i>More learnable than thou? Testing metrical phonology representations with child-directed speech</i> Lisa Pearl, Timothy Ho, and Zephyr Detrano .....	398
<i>The Rhetorics of Urban Aboriginal Place-Making: Studying Aboriginal and Non-Aboriginal Relationship Building in the Intercultural Speaking Event</i> Stephen K.H. Peters .....	423
<i>Encoding Contrast, Inviting Disapproval: The Place of Ata in Belizean Kriol</i> William Salmon .....	437
<i>Whose Kriol is Moa Beta? Prestige and Dialects of Kriol in Belize</i> William Salmon and Jennifer Gómez Menjívar .....	456
<i>Implicative organization facilitates morphological learning</i> Scott Seyfarth, Farrell Ackerman, and Robert Malouf .....	480

<i>The Prosody of Split and Glued Verb Constructions in Chácobo (Pano)</i> Adam J. Tallman .....	495
<i>Only and Focus in Imbabura Quichua</i> Jos Tellings .....	523
<i>Stative versus Eventive Predicates and vP-internal Structure</i> Jozina Vander Klok and Rose-Marie Déchaine .....	545



# Acknowledgments

The Executive Committee of the 40th Annual Meeting of the Berkeley Linguistics Society is grateful to conference participants, our volunteers, session chairs, and the faculty, all of whom made the event an intellectually stimulating and enriching event. Special thanks go to Paula Floro and Belén Flores, without whose grace and administrative dexterity BLS40 would not have been possible.

Financial support came from the following funders at the University of California, Berkeley.

Department of Linguistics  
Student Opportunity Fund  
Graduate Assembly  
Department of Psychology  
Department of Spanish & Portuguese  
Center for African Studies  
Department of Philosophy  
Anthropology Department  
Department of Slavic Languages and Literatures  
Department of German  
Berkeley Language Center





# Foreword

This monograph contains 28 of the 51 talks given at the 40th Annual Meeting of the Berkeley Linguistics Society, held in Berkeley, California, February 7-9, 2014. The conference included a General Session, one Special Session entitled *Approaches to the Syntax-Phonology Interface*, and two Parasessions entitled *Semantic Theory in Underdescribed Languages* and *Language, Inequality, and Globalization*. It was planned and run by all then second-year graduate students in the Department of Linguistics at the University of California, Berkeley. The members of the Executive Committee were Sarah Bakst, Herman Leung, Auburn Lutzross, Jonathan Manker, Zachary O'Hagan, Orchid Pusey, Nicholas Rolle, and Katie Sardinha.

The papers contained herein were, upon first submission, edited principally for style by members of the Executive Committee. These edited versions were incorporated by Herman Leung and Zachary O'Hagan into a draft manuscript that was circulated among authors either for their approval or for further editing. Following resubmission, final versions of papers were incorporated by Zachary O'Hagan into the monograph found here. Our goal has been the speedy publication of these proceedings, and as such, certain aspects – e.g., the complete unification of formatting – have been sacrificed. It is our belief that this does not detract from the final publication in any way.

The Executive Committee  
October 2014



# Irrealis as verbal non-specificity in Koro (Oceanic)

JESSICA CLEARY-KEMP

*University of California, Berkeley\**

## 1 Introduction

Reality status is a verbal category that is typically understood as distinguishing between realized and unrealized, or hypothetical, states of affairs (see, e.g., Mithun 1999).<sup>1</sup> However, significant variability has been observed in the function of so-called ‘irrealis’ morphemes across languages, and this has led some scholars, such as Bybee (1998) and De Haan (2012), to question the validity of irrealis as a cross-linguistic category. I will argue for an alternative hypothesis — namely that there exist two overlapping but notionally distinct categories that have both been labelled ‘irrealis’. These categories are ‘unreality’ and ‘temporal non-specificity’. I will give evidence from Koro, an Oceanic language of Papua New Guinea, for the existence of a coherent grammatical category encoding temporal non-specificity, and argue that the marker is a single morpheme with a stable meaning across uses. My thesis is that the apparent lack of a coherent ‘irrealis’ category, as bemoaned by those such as Bybee, is due to promiscuous descriptive use of the label, rather than due to the non-existence of such a category. A number of scholars have previously proposed that the irrealis construction in a given language has semantics of temporal non-specificity; what I would like to suggest here is that the ‘temporal non-specificity’ category is in fact notionally distinct from the ‘unrealized’ category, and that, despite their considerable overlap, they should be treated as separate domains in descriptive and typological work. Further cross-linguistic research on reality status is clearly necessary to confirm this hypothesis, but such research will be greatly aided by maintaining an analytical distinction between the two categories that have traditionally been referred to as ‘irrealis’.

---

\*The data presented here come from research generously funded by Endangered Languages Documentation Programme (ELDP) grant IGS0124 from the Hans Rausing Endangered Languages Project and an Oswald Endangered Language Grant from the Survey of California and Other Indian Languages. I would like to thank my many consultants and friends in Koro village, especially John Kris and Mary Clara Hinduwan, Sylvia Pokisel, Stephen, Rose, and Rex Paura, Margaret Pohnu, Rose Kewin, Michaela Kupwai, and Maria and Kris Pokisel. I would also like to thank Lev Michael, Peter Jenks, Tammy Stark, and the participants of BLS40 for their guidance and insightful comments. Any remaining errors are, of course, my own.

<sup>1</sup>The following abbreviations are used in this paper: ANDAT ‘andative’, COORD ‘coordinator’, DAT ‘dative’, DEF ‘definite’, DIST ‘distal’, DU ‘dual’, EXCL ‘exclusive’, IMPFV ‘imperfective’, INAN ‘inanimate’, INCL ‘inclusive’, IRR ‘irrealis’, NEG ‘negation’, NMLZR ‘nominalizer’, OBJ ‘object’, PERF ‘perfect’, PL ‘plural’, POSS ‘possessive’, PREP ‘preposition’, PROHIB ‘prohibitive’, PROSP ‘prospective’, PROX ‘proximal’, PRXMV ‘proximative’, REAL ‘realis’, SBJ ‘subject’, SG ‘singular’, SIMIL ‘similative’, SPEC ‘specific’. Examples with a reference beginning ‘Elicitation’ were elicited, while all other examples are spontaneous utterances taken from recorded narratives, conversations, stimulus response tasks, etc. The following noteworthy orthographic conventions are used: ⟨br⟩ represents /b/, ⟨j⟩ represents /j/ (which is realized /dʒ/ in younger people’s speech), and ⟨r⟩ represents /r/.

## 1.1 Definitions of reality status

Traditional characterizations of reality status articulate a category that distinguishes between ‘realized’ or ‘actual’ and ‘unrealized’ or ‘non-actual’ situations (e.g., Mithun 1999:173). This approach emphasizes the truth-conditional semantics of propositions. Within such a framework, realis contexts include non-future tense, positive polarity, and indicative mood, while irrealis contexts include future tense and prospective aspect, conditionals (including counterfactuals), negative polarity, and jussive modalities. However, it has also been noted that in many languages other contexts can trigger the same marking found in irrealis contexts. For example, subjunctive in the Romance languages, which is used in many of the irrealis contexts outlined above, is also found in utterances where the proposition is not strongly asserted, either because it is in doubt, or because it is presupposed (Palmer 2001:11). Such systems suggest that ‘non-assertion’ is the core meaning of irrealis. This is related to the idea of ‘uncertainty’ — the less certain a speaker is about their assertion, the more likely irrealis is to occur (e.g., Timberlake 2007:328). As such, the contexts for occurrence of the irrealis include presupposition, doubt, and unrealized or hypothetical contexts such as future and counterfactual. This characterization of reality status focuses on the communicative function of irrealis. On the other hand, a number of languages use irrealis in what seems superficially to be a clearly realis context — past habitual. For example, the Papuan language Bargam uses irrealis marking in combination with past imperfective to mark backgrounded habitual events (Hepner 2006:134), and Givón (2001:359) notes that in many Austronesian languages the primary tense–aspect–mood distinction is between realis and irrealis, the latter category being used in habituais, among other contexts. This type of system has led to an alternative characterization of irrealis, namely that it encodes temporal non-specificity. This type of approach treats irrealis as analogous to ‘non-specific’ in the nominal domain, in that realis asserts or presupposes the existence of an event E, whereas irrealis does not. Past habitual is non-specific in this sense because it quantifies over multiple past events, none of which is referred to directly. Expected contexts for irrealis marking under this approach include future tense and prospective aspect, conditionals (including counterfactuals), and past habituais.

Table 1 summarizes the contexts in which irrealis marking is expected, given each of these respective characterizations of its semantics. Contexts above the line are those in which the three types of semantic characterizations make the same predictions, while those below the line have different predictions for each definition of irrealis. It is clear from this table that contexts of negation, presupposition, uncertainty, and past habitual are the key environments in which to test the function of irrealis in a given language. In the following sections I will demonstrate that irrealis marking in Koro occurs in just those environments predicted by the ‘temporal non-specificity’ characterization.

## 1.2 Criticisms of the notion of ‘reality status’

Given the cross-linguistic variation touched upon in the above discussion, a number of scholars have questioned the validity and usefulness of identifying an ‘irrealis’ category cross-linguistically. Bybee (1998), for example, argues that irrealis is not a universal gram-type (where gram-types are “crosslinguistically common focal points for grammatical expression” in a given conceptual domain (p.262)). She observes that we know of no language in which a single grammatical category expresses a distinction between real and unreal states of affairs, and she contrasts this with cate-

Semantics	Unrealized marking predicted	Non-assertion marking predicted	Temporally non-specific marking predicted
Jussive	Yes	Yes	Yes
Conditional	Yes	Yes	Yes
Negation	Yes	No	No
Future, prospective	Yes	No	Yes
Presupposition	No	Yes	No
Uncertainty	No	Yes	No
Interrogative	No	Yes	No
Past habitual	No	No	Yes

Table 1: Comparison of contexts in which unrealized marking and temporally non-specific marking are predicted

gories such as perfective and imperfective aspect, which are grammatically encoded in language after language, and for which a stable core meaning can be posited cross-linguistically. However, Michael (to appear) has recently presented compelling evidence that Nanti, an Arawak language of Peru, does in fact have a binary inflectional category that distinguishes real from unreal states of affairs. Moreover, he shows that reality status is a stable grammatical category within the Kampan branch of Arawak, to which Nanti belongs. Given this counter-example, and the relative newness of scholarship on reality status, we might expect that other such neat reality status systems will be discovered as the concept is explored in more and more languages.

Bybee claims that languages fall into one of two categories in their treatment of the irrealis domain. The first type of language has a number of different morphemes, each of which covers only part of the conceptual domain of ‘irrealis’. For example, Lake Miwok (Callaghan 1998) has separate morphemes for future, negation, purposive, and counterfactual, alongside a single morpheme that covers desire, intention and sometimes future and imperative. Bybee claims that in such languages there is no grammaticalized irrealis category; instead, there is a range of different morphemes with more specific meanings, such as ‘desiderative’ or ‘optative’. This is a fair analysis of languages such as Lake Miwok, and I do not wish to propose that every language has a grammatically instantiated irrealis category. However, the existence of such languages does not disprove the cross-linguistic validity of ‘irrealis’ as a category. Many languages divide up other accepted gram-types into more fine-grained distinctions. For example, the category of ‘past tense’ in languages like Matses (Fleck 2007) and Luganda (Comrie 1985:93) is divided into finer semantic distinctions, such as recent, remote and distant, but this does not detract from the fact that ‘past tense’ forms a coherent semantic domain for grammatical expression cross-linguistically. The difference between past tense and irrealis in this respect is that past tense is grammaticalized much more frequently in the world’s languages than is irrealis. The claim here though is that this is a quantitative, rather than a qualitative, difference, and that the relative infrequency of its realization as a grammatical category is not strong evidence against the validity of irrealis as a cross-linguistic category.

In the second type of language that Bybee describes, a highly generalized morpheme occurs in most, but not all, of the contexts covered by the notion of ‘irrealis’. Moreover, this generalized

morpheme cooccurs with another, more specific, morpheme in each of its different uses. An example of this type of language is Caddo (Chafe 1995), in which the so-called ‘irrealis’ personal prefixes, when occurring alone, mark a polar interrogative. In all other uses they pair with another morpheme that specifies the type of irrealis meaning, such as negation, prohibition, obligation, conditional, simulative, infrequency, and surprise. Bybee analyzes so-called ‘irrealis’ morphemes in such languages as instead being a set of polysemous morphemes that each gets its specific meaning from the construction in which it occurs. This analysis likens the irrealis morpheme in such languages to morphemes like *have* in English. Aside from its lexical meaning of possession, *have* can denote obligation (*I have to go to France*) or perfect aspect (*I have gone to France*). These two uses of *have* do not reflect a core shared semantics, and in addition there are phonological and selectional differences between the two (for example, *have* selects an infinitival complement in one case and a past participle in the other). As such, it is clear that these two morphemes are separate morphemes that happen to have grammaticalized from the same source. Bybee argues that this is likewise the case for irrealis morphemes in languages of the type described here. I will argue, however, that Koro is an example of a language where this analysis does not fit. In contrast, I claim that the irrealis morpheme in Koro is indeed a single morpheme, and that it has a consistent, if abstract, core semantics across its uses.

The remainder of the paper is structured as follows. In §2 I first describe some relevant aspects of the grammar of Koro, then in §3 I outline the morpho-syntactic characteristics of reality status marking in Koro. In §4 I describe and exemplify each of the semantic contexts that trigger irrealis marking in Koro, and in §5 I explore the implications of the Koro data for a theory of reality status cross-linguistically. It should be noted that throughout this paper, although I refer to the morphemes in question as reality status morphemes, this is a matter of terminological convenience, and does not indicate an analytical claim. I urge the reader to keep in mind that these morphemes in Koro encode a distinction between temporal specificity and non-specificity, rather than a distinction between real and unreal events. One of my proposals is that the terminology in this domain should be made more precise, so as to distinguish between the different types of so-called reality status that have been identified. Since I know of no simple alternative, however, I retain the label ‘irrealis’ as a short-hand for the Koro category throughout this discussion.

## 2 The Koro language and its speakers

Koro is an Austronesian language, spoken by a few hundred people in Manus Province, off the north coast of the Papua New Guinea mainland. It is part of the little-studied Admiralties branch of the Oceanic sub-group. The dialect described here is spoken by some hundred or so people in the villages of Papitalai, Riu Riu, and Naringel, on Los Negros Island. Due mostly to pressure from Tok Pisin and English, intergenerational transmission is declining sharply in these villages, and all community members use Tok Pisin as their main language of everyday communication. The analysis presented here is based on data collected by the author during approximately seven months of fieldwork from 2009 to 2013, primarily conducted in Papitalai village.

Koro has strict SVO word order, and there is no case case-marking, other than in a small number of pronouns. The language is largely isolating, with aspect and mood categories primarily indicated by free morphemes. There is no grammaticalized tense, but reality status is obligatorily marked in verbal clauses. As shown in (1-2), morpheme *k-* indicates ‘irrealis’, and occurs between

the subject and the verb, while realis is unmarked (see §3 below for further details).

- (1) Ha you ku lisi Luwe.

ha you k-u lisi Luwe  
PROSP 1SG.SBJ IRR-1SG see Luwe

‘I’ll see Luwe.’ (2011-03-11-AH\_AV-02\_0257)

- (2) I lisi Luwe.

i ∅ lisi Luwe  
3SG REAL see Luwe

‘He saw Luwe.’ (2011-03-11-AH\_AV-02\_0258)

Perfect aspect and negation morphemes also occur between the subject and the verb. As shown in (3), perfect aspect is marked by morpheme *k-...-ni*, while negation is marked by preverbal *ta* combined with clause-final *pwi*, as in (4).

- (3) I pihin a, i kini hekohe timou ndramat ta lohanum.

i pihin a i k-i-ni hekohe timou ndramat ta lohanum  
3SG woman DIST 3SG PERF-3SG-PERF hide one:PERSON person LOC inside.house

‘That woman, she has hidden a man inside her house.’ (v2012-08-02-CB-04\_0231)

- (4) I ta jan pwi.

i ta jan ∅ pwi  
3SG NEG eat 3INAN.OBJ NEG

‘He didn’t eat it.’ (2011-03-09-AH\_AV-01\_0078)

Reality status, perfect aspect, and negation are in complementary distribution, and only one of the three categories can occur in a simplex clause. There is also a pre-verbal aspectual slot, which houses prospective marker (*ha*), and an additional slot immediately before reality status, in which proximative *p-* can occur. Prospective is used with future temporal reference where the speaker has a high degree of certainty about the eventuality occurring, as illustrated in (5). Proximative, on the other hand, is used for imminent states of affairs regardless of certainty, and often has a desiderative implicature, as shown in (6). Both require irrealis *k-* to cooccur (as discussed further in §4 below).

- (5) Ha i ki los me pwan.

ha i k-i los me pwan  
PROSP 3SG IRR-3SG fall come down

‘He will fall down.’ (Elicitation-2013-07-30-AD\_CA\_0122)

- (6) I pi ki los me pwan.

i p-i k-i los me pwan  
3SG PRXMV-3SG IRR-3SG fall come down

‘He is about to fall down~He wants to fall down.’ (Elicitation-2013-07-30-AD\_CA\_0121)

Table 2 shows the positional slots in the Koro verbal clause (where ‘AM’ stands for ‘aspect–modality’).



AM slot 1	Subject	AM slot 2	AM slot 3	Verb	Clause-final
(h)a PROSP		p- PRXMV	k- IRR k...-ni PERF ta NEG		pwi NEG

Table 2: Surface positional slots in the Koro clause

### 3 Morpho-syntax of reality status in Koro

As noted above, irrealis in Koro is marked by pre-verbal particle *k-*, which occurs immediately before the verb. This is illustrated again in (7), where the irrealis morpheme *ku* occurs between subject *you* ‘first person singular’ and verb *piri* ‘take (a person)’.

(7) You *ku piri nambrulu*.

you k-u piri nambrulu- $\emptyset$   
1SG.SBJ IRR-1SG take:person spouse-1SG.POSS

‘I’m going to take a wife.’ (2011-03-07-AH\_AV-03\_0092)

Realis, on the other hand, is indicated by the absence of an overt marker between the subject and verb, as in (8). Here there is no marker between subject *yourun* ‘first person plural exclusive’ and verb *la* ‘walk’. The utterance is interpreted as realis, and by default, past tense.

(8) Yourun *la le hou a*.

yourun  $\emptyset$  la le hou a  
1PL.EXCL REAL walk go.to bush DIST

‘We walked to the bush.’ (v2012-07-21-AD\_BZ-02\_0029)

Irrealis *k-* inflects to agree with the subject of the clause. However, there is massive syncretism in the irrealis paradigm. Koro personal pronouns distinguish three persons, as well as singular, dual and plural number, and inclusive and exclusive in the first person. In the irrealis inflections on the other hand, three persons are distinguished in the singular, but there is just a single suffix for all non-singular persons. Note that with the first person singular subject in (7) above irrealis has the form *ku*, while with third person singular subject *i* in (9) it becomes *ki*.

(9) I *ki tuweni kaikai*.

i k-i tuwe-ni kaikai  
3SG IRR-3SG cook-SPEC.OBJ food

‘She will cook the food.’ (2011-04-23-AA-02\_0038)

In contrast, irrealis is realized invariantly as *ka* with both second person dual *aru* in (10) and first person plural exclusive *yourun* in (11). It does not inflect for person, nor are there different forms for dual and plural number.

(10) Aru ka la hou!

aru k-a la hou  
2DU IRR-NON.SG go:ANDAT bush

‘You two go to the bush!’ (v2012-07-21-AD\_BZ-02\_0014)

(11) Yourun ka la mwa yourun ka lisi.

yourun k-a la mwa yourun k-a lisi ∅  
1PL.EXCL IRR-NON.SG go COORD 1PL.EXCL IRR-NON.SG see 3INAN.OBJ

‘We’ll go and we’ll watch it.’ (v2012-07-21-AD\_BZ-02\_0067)

Suppletive irrealis form *a* occurs in second person singular, as shown in (12).

(12) Au a la hou liye, a la kah pamei e warah!

au a la hou liye a la kah pamei e  
2SG 2SG:IRR go:ANDAT bush again 2SG:IRR go:ANDAT look.for betelnut COORD  
warah  
mustard

‘You, go to the bush again and look for betelnut and mustard!’  
(2011-03-08-AH\_AV-01\_0051)

Often the second person singular pronoun *au* is omitted in such constructions, as in (13).

(13) A le pelingan, a nak pamei sarah!

a le pelingan a nak pamei sa-rah  
2SG:IRR go up 2SG:IRR climb betelnut stand-DIST

‘Go up there and climb the betelnut that’s standing over there!’  
(2011-03-08-AH\_AV-01\_0080)

Table 3 shows the full Koro irrealis paradigm.

	1 <sup>st</sup> person	2 <sup>nd</sup> person	3 <sup>rd</sup> person
SINGULAR	<i>k-u</i>	<i>a</i>	<i>k-i</i>
NON-SINGULAR	<i>k-a</i>		

Table 3: Koro irrealis forms

## 4 Distribution of irrealis in Koro

Here I outline the range of functions that irrealis-marked clauses fulfill in Koro discourse. These divide into contexts in which irrealis *k-* can or must be the only instantiation of irrealis in the construction, and those in which *k-* obligatorily combines with another, more specific, irrealis morpheme. I discuss each of these contexts in turn. Past habitual is discussed separately. Finally, I present a number of contexts that are marked as irrealis in other languages, but are realis in Koro. Table 4 summarizes the contexts that trigger irrealis marking in Koro.

Semantics	Triggers irrealis in Koro	Additional morpheme
Future	Yes	<i>ha</i> optional
Prospective	Yes	<i>ha</i> optional (very rare)
Jussive modalities	Yes	none
Other deontic modalities	Yes	<i>mas, kara</i> optional with necessity
Purposive complement	Yes	<i>piri</i> optional
Desiderative complement	Yes	none
Conditionals	Yes	<i>lengeri, tehene</i> optional on protasis
Proximative	Yes	<i>p-</i>
Prohibitive	Yes	<i>mbrwa</i>
‘In case’	Yes	<i>mala (pwi)</i>
Past habitual	Optional	none
Negation	No	NA
Uncertainty/inference	No	NA
Frustrative	No	NA
Interrogatives	No	NA

Table 4: Distribution of irrealis marking in Koro

#### 4.1 Irrealis contexts that do not require an additional specifying morpheme

Future tense, prospective aspect, jussive (or speaker-oriented) modalities, other deontic modalities, purposive adjuncts, and desiderative complements require irrealis *k-* to occur in Koro. All of these meanings are frequently realized without the addition of a more specific morpheme, and jussive modalities and desiderative complements do not allow any additional irrealis morpheme to occur. As such, the meaning of an irrealis clause is often only discernible in context. All translations in the following examples are those given by native speakers in the context of the ongoing discourse. Elicited examples are typically speakers’ translations into Koro of sentences I presented in English.

The utterances in (14–15) have **future temporal reference**. The clause in (14) is marked only by irrealis *ku*, whereas that in (15) is marked additionally by prospective aspect marker *ha*. The difference between future referring clauses with and without *ha* is not entirely clear, but it appears that those marked with *ha* may indicate greater certainty on the part of the speaker than those without. The exact semantic contribution of *ha* requires further research.

(14) Mwah you ku me nam niu.

mwah you k-u me namw niu  
 next.day 1SG.SBJ IRR-1SG come scrape coconut

‘Tomorrow I’ll come and scrape coconut.’

(Elicitation-2013-07-18-AD\_0003)

(15) Mwah, ha you ku senisim au.

mwah ha you k-u senisim au  
 next.day PROSP 1SG.SBJ IRR-1SG change 2SG

‘Tomorrow, I will change you.’

(2011-03-07-AH\_AV-03\_0056)

Irrealis *k-* and prospective *ha* also occur in relative future, alternatively termed **prospective aspect** (although *ha* occurs only rarely in these contexts). In prospective aspect, the reference time is prior to the time of utterance, but the time of the event is projected to be after the reference time. In other words, it is the ‘future in the past’. The utterance in (16), for example, is from a first person narrative in which the speaker is recounting events that actually occurred in the past. She uses irrealis *ka* to indicate the subjects’ intention at the time to go and look for betelnut. In (17), on the other hand, irrealis marking occurs in the complement clause *ha i ki me* ‘he would come’. The reference time here is the time at which Rex informed the speaker, and use of irrealis indicates that Rex’s coming was anticipated to occur after that time. (The final clause indicates this did not in fact eventuate.)

(16) Yourun ka la kah pamei.

yourun k-a la kah pamei  
1PL.EXCL IRR-NON.SG go:ANDAT look.for betelnut

‘We were going to go and look for betelnut.’ (v2012-08-02-CB-01\_0042)

(17) Rex i popohar jua munuwe ha i ki me, tapwah i ta me pwi.

Rex i ∅ popohar jua munuwe ha i k-i me tapwah i ta me  
Rex 3SG REAL inform 1SG prev.day PROSP 3SG IRR-3SG come but 3SG NEG come  
pwi  
NEG

‘Rex told me yesterday he would come, but he didn’t come.’

(Elicitation-2012-07-12-AD\_BZ\_0132)

Another context in which irrealis *k-* is obligatory is with **jussive modalities**, including imperative (18), hortative (19), and optative (20). The optative clause in (20) *ki ru* (literally ‘let it stay’) is used here as a polite imperative ‘leave it!’

(18) A rei mweh!

a re-i mweh  
2SG:IRR hit-SPEC:OBJ dog

‘Hit the dog!’ (Elicitation-2011-03-09-AH\_AV\_0024)

(19) To ka la so ni!

to k-a la so ni  
1PL.INCL.SBJ IRR-NON.SG go spear fish

‘Let’s go and spear fish!’ (2011-03-08-AH\_AV-01\_0107)

(20) Ndwal a ki mekek. Ki ru!

ndwal a k-i mekek k-i ru  
canoe DIST IRR-3SG flimsy IRR-3SG stay

‘The canoe will be too flimsy. Leave it (literally: let it stay)!’

(2011-03-21-AH\_AV-02\_0038)

All of the jussive modalities are expressed by the irrealis, with no additional specifying morpheme.

**Deontic modalities** of weak and strong necessity also require irrealis *k-*, with or without another specifying morpheme. For example, in (21), deontic ‘should’ is encoded solely by irrealis marking, while in (22) irrealis marking combines with distal demonstrative *kara* to encode a similar meaning.

- (21) I pwai le he kei, kei le ndramat piri pwan, rang i ki ru, kei ta chinal, ki mul le pilingan.

i    ∅    pwa-i            le    he    kei    kei    le    ndramat    piri    pwan    rang    i  
 3SG REAL say-SPEC.OBJ go.to DAT tree tree go.to man    of ground day 3SG  
 k-i    ru    kei    ta    chinal    k-i    mul    le    pilingan  
 IRR-3SG stay tree POSS devil IRR-3SG return go.to sky

‘He said to the tree, if it was a man from the earth, it should stay in the day, if it was a devil’s tree it should go back to the sky.’ (2011-03-07-AH\_AV-03\_0106-09)

- (22) Kara a chim rais le taun le cha mbrunen ndohin.

kara    a            chim    rais    le    taun    le    chah    mbrune-n        ndohin  
 DIST 2SG:IRR buy rice go.to town because price-3SG.POSS small

‘You should buy rice in town because it’s cheaper.’

(Elicitation-2011-03-22-AH\_AV\_0094)

Strong necessity can also be encoded by either irrealis alone, as in (23), or by irrealis in combination with control verb *mas* ‘must’, as in (24).

- (23) Aruwar to ka inei mangas cholan.

aruwar    to            k-a            inei    mangas    cholan  
 now 1PL.INCL.SBJ IRR-NON.SG make work plenty

‘Now we must do a lot of work.’

(Elicitation-2012-07-12-AD\_BZ\_0160)

- (24) You mas you ku la kah yenian.

you    ∅    mas    you    k-u    la            kah    yenian  
 1SG.SBJ REAL must 1SG.SBJ IRR-1SG go:ANDAT look.for food

‘I must go and find some food.’

(2011-03-22-AH\_AV-03\_0015)

Purposive and desiderative constituents also require irrealis marking. **Purposive adjuncts** either take irrealis marking by itself, as in (25), or they are introduced by preposition *piri* ‘for, of’, as in (26). There is no clear semantic distinction between purposives with and without *piri*. (Note that the events marked as irrealis in (26) have actually occurred at the time of utterance, and are therefore ‘realized’ events in the strictest understanding of the term.)

- (25) You ku ruwi au a la leti a senisim au mwa. . .

you    k-u    ruwi    au    a    la            le=ti    a            senisim    au  
 1SG.SBJ IRR-1SG put 2SG 2SG:IRR go:ANDAT PROX=stay 2SG:IRR change 2SG  
 mwa  
 COORD

‘I will take you so you can go and change yourself, and...’

(2011-03-07-AH\_AV-03\_0060)

(26) Au senisim au piri a me mwa a piri jua.

au ∅ senisim au piri a me mwa a piri jua  
2SG REAL change 2SG for 2SG:IRR come COORD 2SG:IRR get.person 1SG.OBJ

‘You changed yourself so that you could come and marry me.’

(2011-03-08-AH\_AV-01\_0182)

**Complements of desiderative verbs** such as *lengi*, *laikim* ‘want, like’, and *mbrwere-* ‘not want, dislike’ are marked as irrealis, as in (27–28). The complement is optionally introduced by the preposition *lengeri* ‘like’.<sup>2</sup>

(27) i ∅ laikim lengeri ni mwatih k-i ru polo ndwal  
3SG REAL want like fish every IRR-3SG stay top canoe

‘He wanted all the fish to stay in the canoe.’

(2011-03-08-AH\_AV-01\_0116)

(28) You mbrwere ni ki lus.

you ∅ mbrwere-∅ ni k-i lus  
1SG.SBJ REAL not.want-1SG:POSS fish IRR-3SG be.lost

‘I don’t want the fish to disappear.’

(2011-03-08-AH\_AV-01\_0112)

In the above examples the desired (or undesired) event is after the reference time, and therefore this usage falls within an analysis of irrealis as a marker of prospective aspect. When the desiderative complement does not have future temporal reference, however, it surfaces instead as a nominalized VP. This is shown in (29–30), where the nominal complements instantiate ongoing or iterated activities with past or present temporal reference.

(29) You lengi mesenga ndap.

you ∅ lengi meseng-a ndap  
1SG.SBJ REAL like make-NMLZR basket

‘I like making baskets.’

(Elicitation-2012-07-11-AD\_BZ\_0085)

(30) I ta mbrweren kaniya epi.

i ta mbrwere-n kan-iya epi  
3SG IMPFV not.want-3SG.POSS eat-NMLZR sago

‘He never wants to eat sago.’

(Elicitation-2013-07-31-AD\_CA\_0103)

Certain verbs, however, cannot be nominalized. These include all path and locative verbs. When such a verb occurs in the complement to a verb of desire, it is marked as irrealis, whether it has future temporal reference or not. This is illustrated in (31), where the activity of going to town is understood to have occurred, and continues to occur, every day. Since path verb *le* ‘go to’ cannot be nominalized, it instead occurs in an irrealis-marked clausal complement.

<sup>2</sup>The root *mbrwere-* is one of a small class of predicative elements that behave morphologically like inalienable nouns, taking a possessive suffix to agree with the subject of the clause. The other such roots are *mucho-* ‘be full’ and *tana-* ‘know’.

(31) You lengi you ku le taun le rang mamonein.

you    ∅    lengi you    k-u    le    taun le    rang mamonein  
 1SG.SBJ REAL like 1SG.SBJ IRR-1SG go.to town PREP day every

‘I like to go to town every day.’ (Elicitation-2012-07-11-AD\_BZ-0096)

This shows that the function of irrealis in desiderative complements cannot be reduced to prospective aspect, since not all occurrences fit the criteria for prospective aspect.

**Conditionals**, including hypothetical and counterfactual constructions, are another context in which irrealis marking is obligatory. In Koro, the protasis of a conditional is typically introduced with *tehene* ‘thus’ or *lengeri* ‘like’, although there is occasionally no overt marking of the protasis (see (33) below). In a hypothetical conditional, only the apodosis must be marked for irrealis. This is demonstrated in (32), where the protasis *lengeri i kini koh niu* ‘if she has gathered coconuts’ is marked for perfect aspect, and the apodosis *ha i ki ru mesenge ndrelike* ‘she will be making oil’ is marked as irrealis.

(32) Lengeri i kini koh niu, ha i ki ru mesenge ndrelike.

lengeri i    k-i-ni                    koh niu    ha    i    k-i            ru mesenge ndrelike  
 like    3SG PERF-3SG-PERF gather coconut PROSP 3SG IRR-3SG stay make oil

‘If she has gathered coconuts, she will be making oil.’ (Elicitation-2012-08-08-BZ\_0048)

In hypothetical conditionals such as this, the speaker is not committed to the truth of the proposition in the protasis, but nor are they committed to its falsehood. Counterfactuals, on the other hand, entail that the proposition in the protasis is false. As such, both the protasis and the apodosis of a counterfactual conditional are marked for irrealis. For instance, the utterance in (33) entails that the subject is not here now, and the protasis *i ki ru rangeh* ‘if she were here now’ is marked as irrealis. The apodosis is not irrealis-marked in this example because it has a non-verbal predicate *tehene ke jua* ‘like me’, which cannot host any aspect or mood marking.

(33) I ki ru rangeh e i tehene ke jua kepi e.

i    k-i            ru            rangeh e            i    tehen-e            ke jua kepi e  
 3SG IRR-3SG stay:IRR now    COORD 3SG SIMIL-PROX DAT 1SG only PROX

‘If she were still here she would be just like me.’ (2011-04-23-AA-02\_0180–81)

In contrast, the utterance in (34) has a non-verbal protasis and a verbal apodosis, and here the apodosis takes irrealis marking.

(34) Munuwe tehen lengin, you ku ru kor.

munuwe tehen-e    lengin you    k-u            ru            kor  
 yesterday SIMIL-PROX rain 1SG.SBJ IRR-1SG stay:IRR place

‘If it had rained yesterday, I would have stayed home.’

(Elicitation-2011-03-31-AH\_AV\_0002)

In summary, the apodosis of a hypothetical conditional is marked as irrealis, while the protasis, which the speaker neither asserts to be true nor false, is not. In contrast, the apodosis and protasis of a counterfactual, both of which the speaker asserts to be false, are both marked as irrealis.

## 4.2 Irrealis contexts that require an additional specifying morpheme

I now move on to discuss the contexts in which irrealis *k-* obligatorily combines with another, more specific, morpheme. These contexts are proximative aspect, prohibitives, and precautionary adjuncts.

**Proximative** is a grammatical aspect that indicates that the eventuality of the predicate is imminent (Heine 2002:90). In Koro this aspect is indicated by particle *p-*, which follows the same inflectional paradigm as irrealis *k-*.<sup>3</sup> For example, use of proximative in (35) indicates that the canoe is on the brink of floating away.

(35) Ndwal pi ki pit le mahun.

ndwal p-i            k-i        pit    le mahun  
canoe PRXMV-3SG IRR-3SG float go far

‘The canoe is about to float away.’ (Elicitation-2012-08-08-BZ)

Proximative aspect can occur with both volitional and non-volitional subjects, and with volitional subjects it typically has a desiderative implicature, as in (36–37).

(36) E pi ki la lisi. Pwi, ta tu pwi.

e        p-i            k-i        la            lisi ∅            pwi ta    tu    pwi  
COORD PRXMV-3SG IRR-3SG go:ANDAT see 3INAN.OBJ NEG NEG stay NEG

‘And she wanted to go and see it, but no, it wasn’t there.’ (2011-03-09-AH\_AV-01\_0071)

(37) Youru noh. Youru pa ka chong le hou.

youru    ∅        noh        youru    p-a            k-a            chong le    hou  
1DU.EXCL REAL be.afraid 1DU.EXCL PRXMV-NON.SG IRR-NON.SG enter go.to bush

‘We were afraid, we wanted to go into the bush.’ (v2012-07-21-AD\_BZ-03\_0015)

To express proximative aspect, both proximative *p-* and irrealis *k-* are required. As shown in (38), proximative cannot occur without irrealis marking.

(38) You pu \*(ku) metir.

you        p-u            k-u        metir  
1SG.SBJ PRXMV-1SG IRR-1SG sleep

‘I want to sleep.’ (Elicitation-2011-03-21-AH\_AV\_0089–91)

Like the proximative, **prohibitive** *mbrwa* also obligatorily occurs with irrealis. It is a modality indicating prohibition or admonition, as in (39) or negative optative, as in (40).

(39) Mbrwa a la hou!

<sup>3</sup>Older speakers, however, often realize this morpheme as *pa*, regardless of the person or number of the subject. It is likely that the proximative particle grammaticalized from lexical verb *pwa* ‘say’, and that the inflection observed in younger speakers’ discourse is a result of vowel harmony, influenced by the vowel of the following irrealis morpheme. I nonetheless treat it as morphological inflection here, since my primary consultants consider the invariant *pa* form incorrect.



mbrwa a la hou  
PROHIB 2SG:IRR go-ANDAT bush

‘Don’t go to the bush!’ (Elicitation-2011-03-21-AH\_AV\_0088)

(40) Mbrwa awei mandan ki me!

mbrwa awei mandan k-i me  
PROHIB wave big IRR-3SG come

‘Let a big wave not come!’ (Elicitation-2011-03-21-AH\_AV\_0087)

Finally, **precautionary adjuncts**, expressing a semantics of ‘in case’ or ‘lest’, are also obligatorily marked as irrealis. The precautionary semantics is encoded by the complementizer *mala* (*pwi*). The *pwi* (which is a negation particle) appears to be optional in this construction, and its inclusion or omission does not seem to affect the semantics of the construction. The proposition expressed in the *mala pwi* clause can be either a desired or an undesired event, as illustrated in (41–42) respectively.

(41) You letu sirah mala pwi to ko kah karahat.

you le=tu sirah ∅ mala pwi to k-a kah  
1SG.SBJ PROX=stay carry 3INAN.OBJ in.case 1PL.INCL.SBJ IRR-NON.SG search.for  
karahat  
mud.crab

‘I’m bringing it (a bag) in case we find any mud crabs.’ (Elicitation-2012-07-23-BZ\_0078)

(42) You chongani life jacket mala pwi ndwal ki lol.

you ∅ chongani life jacket mala pwi ndwal k-i lol  
1SG.SBJ REAL wear life.jacket in.case canoe IRR-3SG sink

‘I put on the life-jacket in case the canoe sinks.’ (Elicitation-2012-07-23-BZ\_0079)

The *mala pwi* clause can also express an aversive meaning, ‘lest’. In (43), for example, the proposition *u ka rei au* is an undesired event that the event of the main clause is intended to avert.

(43) You ku lop mala u ka rei au.

you k-u lop mala u k-a re-i au  
1SG.SBJ IRR-1SG hide in.case 3PL.SBJ IRR-NON.SG strike-SPEC.OBJ 2SG

‘I’ll hide, lest they beat you.’ (Elicitation-2012-06-29-AV\_0037)

As can be seen from the above examples, the *mala pwi* clause in all these uses takes irrealis marking.

### 4.3 Past habitual

For the most part, the contexts for irrealis marking described above are fairly unsurprising, and do not provide strong evidence against an interpretation of Koro irrealis as encoding ‘unrealized’ events. I discuss **past habitual** separately here because, given the ‘unrealized’ characterization



in the pictures. After setting up this background, she then relates a particular climactic event that occurred only once in the narrative. In relating this individual event, of the man hitting his wife, she switches from irrealis marking to unmarked realis.

- (47) a. U ndramat e u ka leti jin ndran,  
 u ndramat=e u k-a le=ti jin ndran  
 3PL man=PROX 3PL.SBJ IRR-NON.SG go.to=stay drink fresh.water  
 ‘These men would go out drinking.’
- b. hengorou piri keheya pihin a tirah.  
 hengorou piri kah-iyā pihin=a ti=rah.  
 thought of look.for-NMLZR woman=DIST stay=DIST  
 ‘and they would think about looking for women.’
- c. I ki mul le kor i ki le tah nambrulun.  
 i k-i mul le kor i k-i le tah nambrulu-n  
 3SG IRR-3SG return go.to village 3SG IRR-3SG go.to strike spouse-3SG.POSS  
 ‘He would return to the village and he would go and hit his wife.’
- d. I la i la i la, piri tih a i rei nambrulun.  
 i la i la i la piri tih=a i ∅ re-i nambrulu-n  
 3SG go 3SG go 3SG go time one=DIST 3SG REAL strike-SPEC.OBJ spouse-3SG.POSS  
 ‘This went on and on until one time he hit his wife.’ (2011-04-07-AH\_AV-03\_0391-94)

As is clear from these examples, irrealis marking is a common device used to relate events in habitual aspect. Its use in this context does not fit with a characterization of irrealis as marking ‘unrealized’ events. In §5 I will discuss further how habitual and related uses can be explained by invoking a ‘temporally non-specific’ semantics for irrealis aspect.

#### 4.4 Contexts that do not trigger irrealis marking

In this section I describe a number of contexts that are treated as irrealis in certain other languages, but do not trigger irrealis marking in Koro. These contexts include negative polarity, uncertainty, frustrative, and interrogative mood.

Events under the scope of negation are by definition unrealized, and would therefore be expected to trigger irrealis marking. In Koro, however, **negative polarity** does not trigger irrealis marking. As shown in (48), negation in verbal clauses is instead indicated by pre-verbal particle *ta*, in combination with clause-final *pwi*.

- (48) You ta tuweni ni pwi.  
 you ta tuwe-ni ni pwi  
 1SG.SBJ NEG cook-REF.OBJ fish NEG  
 ‘I didn’t cook the fish.’ (Elicitation-2012-07-14-AD\_BZ\_CA\_0015)

It is possible to express a negative irrealis meaning in Koro – for example to negate a future event – but this requires a raising construction in which modal verb *nap* ‘can’ takes the irrealis clause as its complement. This is illustrated in (49–50) below. In (49), the negated clause expresses a future event, while in (50) it expresses the consequent of a hypothetical conditional construction.

(49) Ta nap you ku tuweni ni pwi.

ta nap you k-u tuwe-ni ni pwi  
NEG can 1SG.SBJ IRR-1SG cook-SPEC.OBJ fish NEG

‘I won’t cook the fish.’ (Elicitation-2012-07-14-AD\_BZ\_CA)

(50) Ha kopwem ki la, ta nap i ki me pelingan pwi.

ha kopwe-m k-i la ta nap i k-i me pelingan pwi  
PROSP hand-2SG.POSS IRR-3SG go NEG can 3SG IRR-3SG come up NEG

‘If you put your hands (on it), it won’t come up.’ (2011-04-23-AA-03\_0239)

It is clear from these examples that negation is not an irrealis category in Koro. It does not trigger irrealis marking, and the realis–irrealis distinction is maintained under the scope of negation.

Another context in which irrealis marking is found in a number of languages is contexts of **uncertainty** or **inference**. As shown in (51), even when a speaker has a low level of confidence in the truth of a proposition, realis marking is still perfectly acceptable. Here the speaker does not know whether the subject hit his wife or not, but the subordinate proposition *i rei nambrulun* ‘he hit his wife’ is nonetheless marked as realis. Likewise, in (52), occurrence of the adverb *kapwa* indicates that the speaker is uncertain about the truth of the proposition, but this does not trigger irrealis marking.

(51) Pwi, you ta lisi i rei nambrulun pwi.

pwi you ta lisi i ∅ re-i nambrulu-n pwi  
NEG 1SG.SBJ NEG see 3SG REAL strike-SPEC.OBJ spouse-3SG.POSS NEG

‘No, I didn’t see him hit his wife.’ (Elicitation-2013-08-09-AD\_CA\_0143)

(52) Kapwa i chapol yesi window a i kini yau.

kapwa i ∅ chapol ye-si window=a i k-i-ni yau  
maybe 3SG REAL jump go-via window=DIST 3SG PERF-3SG-PERF leave:PERF

‘Maybe he jumped through the window and is gone.’ (2011-03-22-AH\_AV-02\_0036)

Similarly, inferential use of modal *mas* ‘must’, as in (53), does not trigger irrealis marking (compare this with its deontic use in (24) above, which does require irrealis marking).

(53) I mas i kini ndrah ndwal.

i ∅ mas i k-i-ni ndrah ndwal  
3SG REAL must 3SG PERF-3SG-PERF board canoe

‘He must have boarded the canoe.’ (Elicitation-2012-08-08-BZ\_0057)

Another context that surprisingly does not trigger irrealis marking is **frustrative** adverb *tahit*. This morpheme indicates that the event of the predicate was attempted, but not fully realized. For example, the utterance in (54) indicates that the subject tried to climb the tree, but did not make it to the top, and the utterance in (55) likewise entails that a spearing event took place, but that the intended object of the spearing was not struck. In neither case does the clause require irrealis marking.

(54) I nak kei a tahit.

i    ∅    nak kei=a    tahit  
3SG REAL climb tree=DIST FRUSTR

‘S/he tried to climb that tree (unsuccessfully).’                   (Elicitation-2012-07-23-BZ\_0054)

(55) You le soi i tahit.

you    ∅    le    so-i            i    tahit  
1SG.SBJ REAL go.to spear-SPEC.OBJ 3SG FRUSTR

‘I went and tried to spear him/her (unsuccessfully).’           (Elicitation-2012-07-23-BZ\_0061)

The final context in which irrealis marking might be expected is in **interrogatives**. In Koro, neither polar nor *wh*-interrogatives trigger irrealis marking. In (56), for example, a *wh*-question is unmarked for irrealis, while (57) shows an unmarked polar question.

(56) Mweh e mesi ndihe?

mweh=e    ∅    me-si    ndihe?  
dog=PROX REAL come-via where

‘Where did this dog come from?’   (v2012-08-02-CB-04\_0077)

(57) Au hurong komu atua ne pwi?

au    ∅    hurong komu atua    ne pwi?  
2SG REAL hear    talk    1SG.POSS or NEG

‘Did you hear what I said, or not?’   (2011-03-15-AH\_AV-01\_0183)

Both polar and content interrogatives can be marked for irrealis if this category is independently triggered, for example by future temporal reference, but interrogative mood does not in itself trigger irrealis marking.

## 5 Discussion

As discussed in §1.2, Bybee claims that languages such as Koro, where a single form is used in a wide variety of irrealis contexts, do not in fact have a coherent grammaticalized irrealis category. In contrast, she claims that what appears to be a single morpheme in such languages is in fact two or more polysemous morphemes, each having grammaticalized in its current construction from some common source morpheme. The Koro data, however, provide strong evidence that in this language the irrealis does constitute a single morpheme with an invariant, albeit abstract, meaning across uses.

Let us first consider the formal data. Polysemous morphemes often exhibit divergent phonological or morpho-syntactic behavior. Take the polysemous *have* in English, mentioned earlier. In its obligation use it takes an infinitival complement, and often has a devoiced final consonant, whereas in its perfect aspect usage it takes a participial complement, and is often reduced to just the final consonant /v/. In contrast, Koro *k-* has consistent phonological form and morpho-syntactic characteristics across all of its uses. Morphologically, the pattern of inflection is the same across all uses. Verbs in Koro do not inflect, and this inflectional paradigm is restricted to irrealis, perfect, and proximative aspect–mood heads. Likewise, the suppletive second person singular form *a* occurs in all uses. Syntactically, the restriction against co-occurrence with negation holds across all uses. This is particularly telling since there is no semantic reason for this restriction, and in all its functions the irrealis can occur in the periphrastic negation construction with raising verb *nap* ‘can’. It is also noteworthy that *k-* occurs in exactly the same syntactic environment in all of its uses — unlike English *have*, it does not take different types of complement depending on which type of irrealis meaning it expresses. Lastly, as illustrated amply above, most of the uses of irrealis do not require any additional morpheme to specify the particular type of irrealis meaning. Indeed, a number of contexts do not allow any additional specifying morpheme to occur. This must be taken as evidence that the irrealis meaning expressed in each construction is contributed by the irrealis morpheme itself.

Further, this analysis seems to hold true for the whole Admiralties family. A cognate form with the same patterns of inflection and suppletion, and with roughly the same range of uses, is found in each of the other Admiralties languages for which sufficient data is available.<sup>5</sup> This suggests that the current form and function of the irrealis have persevered for some time in the sub-group, and that this is not simply a recent idiosyncratic grammaticalization in Koro.

Turning now to semantics, we can note that a comparison of tables 1 and 4 above reveals that the Koro irrealis occurs in just those contexts predicted for a marker of temporal non-specificity. Namely, it occurs with future and prospective aspect, jussive modalities, conditional clauses, and past habitual aspect. Crucially, it is not triggered by negation, presupposition, uncertainty, or interrogative mood. These latter contexts are predicted to trigger irrealis marking for the ‘unrealized’ or ‘non-assertion’ types of irrealis, and they are reported to do so in a number of languages. The fact that Koro irrealis does not occur in these contexts suggests that neither of those characterizations captures its core meaning. I suggest, therefore, that the Koro irrealis encodes a meaning of ‘temporal non-specificity’.

The question remains, however, as to what exactly ‘temporal non-specificity’ is. It has been observed that what is common to all the uses of an irrealis like that in Koro is that no specific event is referred to. In the case of future or hypothetical events, they cannot be referred to because they do not exist, while in the case of past habituals, a set of iterated events is evoked, but no single instance is referred to directly. The meaning of temporal non-specificity therefore has nothing to do with how precisely an event is located in time (for example with a temporal adverbial such as ‘yesterday at 3:15 in the morning’), but has to do instead with whether the predicate refers to an instance of that event in the real world of the discourse. (I use the term ‘real world of the discourse’ to distinguish this from any possible worlds evoked, for example, by conditionals or deontic modals.) Baker and Travis (1997) provide a formal analysis of this notion of temporal non-specificity for

---

<sup>5</sup>These are Paluai (Dineke Schokkin, p.c.), Lele (Juliane Böttger, p.c.), Loni (Hamel 1994), Sivisa Titan (Bowern 2011), and Kele (Ross 2002).

Mohawk ‘future’ prefix *v-*, which has a very similar range of functions to those of irrealis in Koro. Most importantly, like the Koro irrealis, the Mohawk so-called ‘future’ occurs in past habitual contexts. Borrowing Heim’s concept of Quantifier Indexing from the nominal domain, Baker and Travis argue that this morpheme in Mohawk indicates that the event variable of the verb undergoes Quantifier Indexing, and thus gets its quantificational force from the environment, rather than having its own inherent quantificational force. Whether this particular formal implementation is the most useful remains to be seen, but the analogy between the nominal and verbal domains is an apt one — a verbal category like that in Koro and Mohawk does indeed have a similar non-referential function to that of a non-specific indefinite morpheme in the noun phrase.

Finally, let us briefly compare Koro with Nanti, a language that has been argued to exhibit a prototypical reality status category, expressing a binary distinction between realized and unrealized events (Michael to appear). Table 5 compares the contexts of irrealis marking in the two languages. It can be seen from this table that the contexts that trigger irrealis marking in Koro and Nanti largely overlap. However, in past habitual clauses and under the scope of negation, the two languages pattern differently. Koro allows irrealis marking in past habitual clauses, but not under negation, while Nanti exhibits the opposite pattern. The question at issue is whether these are idiosyncratic differences, explicable only by reference to particular grammaticalization trajectories within each language, or whether the differences point to the existence of two internally-coherent semantic categories. Clearly, an examination of just two languages cannot settle this debate, but I argue that these data are consistent with an analysis that invokes two stable categories — ‘unrealized’ and ‘temporally non-specific’. Where the two languages both use irrealis marking, these are contexts that are both unrealized and temporally non-specific. Where marking in the two languages differs, namely with past habitual and negation, these are contexts that have different values for realization and temporal specificity. Michael makes a strong case that the irrealis category in Nanti is in fact a cohesive grammatical category that marks unrealized events, and the data in the current paper likewise support an analysis of Koro irrealis as an internally consistent category expressing temporal non-specificity. It remains to be seen whether similar analyses can be invoked to account for the apparently idiosyncratic patterning of irrealis morphemes in other languages.

Semantics	Triggers irrealis in Nanti	Triggers irrealis in Koro
Future	Yes	Yes
Deontic modality	Yes	Yes
Conditionals	Yes	Yes
Prospective, purposive	Yes	Yes
Desiderative complement	Yes	Yes
Interrogatives	No	No
Past habitual	No	Yes
Negation	Yes	No

Table 5: Comparison of contexts that trigger irrealis marking in Koro (irrealis = temporally non-specific) and Nanti (irrealis = unrealized)

## 6 Conclusion

I have shown in this paper that Koro ‘irrealis’ morpheme *k-* occurs in a wide variety of environments, not all of which can be understood as expressing ‘unrealized’ events. I argue that this is because the category ‘irrealis’ in Koro instead has a core meaning of temporal non-specificity. In contrast to Bybee’s analysis of similar languages, I argue that the irrealis morpheme in Koro is a single morpheme with an invariant meaning across uses, and that it cannot be divided up into a number of polysemous morphemes with more specific meanings. When viewed in combination with a language such as Nanti, the Koro data suggest that there exist two distinct but stable notional domains that have been labeled ‘irrealis’ cross-linguistically — ‘unrealized’ and ‘temporally non-specific’. Future cross-linguistic research on the domain of reality status should treat these semantic categories separately, in the hopes of determining whether they are in fact valid cross-linguistically.

## 7 References

- BAKER, MARK and LISA TRAVIS. 1997. Mood as Verbal Definiteness in a “Tenseless” Language. *Natural Language Semantics* 5:213-269.
- BOWERN, CLAIRE. 2011. *Sivisa Titan: Sketch Grammar, Texts, Vocabulary Based on Material Collected by P. Josef Meier and Po Minis*. Hawaii: Oceanic Linguistics.
- BYBEE, JOAN. 1998. “Irrealis” as a Grammatical Category. *Anthropological Linguistics* 40:257-271.
- CALLAGHAN, CATHERINE. 1998. Lake Miwok Irrealis. *Anthropological Linguistics* 40:228-233.
- CHAFE, WALLACE. 1995. The Realis-Irrealis Distinction in Caddo, the Northern Iroquoian Languages, and English. In Joan Bybee and Suzanne Fleischman, eds., *Modality in Grammar and Discourse*, pp.349-365. Amsterdam: John Benjamins.
- COMRIE, BERNARD. 1985. *Tense*. Cambridge: Cambridge University Press.
- DE HAAN, FERDINAND. 2012. Irrealis: Fact or Fiction? *Language Sciences* 32: 107-130.
- FLECK, DAVID. 2007. Evidentiality and Double Tense in Matsigenka. *Language* 83(3):589-614.
- GIVÓN, TALMY. 2001. *Syntax: An Introduction*. Amsterdam, Philadelphia: John Benjamins.
- HAMEL, PATRICIA. 1993. *A Grammar and Lexicon of Loniu, Papua New Guinea*. Canberra: Pacific Linguistics.
- HEINE, BERND. 2002. On the Role of Context in Grammaticalization. In Ilse Wischer and Gabriele Diewald, eds., *New Reflections on Grammaticalization*, pp. 83-101. Amsterdam: John Benjamins.
- HEPNER, MARK. 2006. *Bargam Grammar Sketch*. S.I.L.
- MICHAEL, LEV. To appear. The Nanti Reality Status System: Implications for the Typological Validity of the Realis/Irrealis Contrast. *Linguistic Typology*.
- MITHUN, MARIANNE. 1999. *The Languages of Native North America*. New York: Cambridge University Press.
- PALMER, F.R. 2001. *Mood and Modality*. Cambridge: Cambridge University Press.
- ROSS, MALCOLM. 2002. Kele. In Malcolm Ross, John Lynch and Terry Crowley, eds., *The Oceanic Languages*, pp. 123-147. London, New York: Routledge.



- SAN ROQUE, LILA, ALAN RUMSEY, LAUREN GAWNE, STEF SPRONCK, DARJA HOENIGMAN, ALICE CARROLL, JULIA COLLEEN MILLER and NICHOLAS EVANS. 2012. Getting the Story Straight: Language Fieldwork Using a Narrative Problem-Solving Task. *Language Documentation and Conservation* 6:165-17.
- TIMBERLAKE, ALAN. 2007. Aspect, Tense, Mood. In Timothy Shopen, ed., *Language Typology and Syntactic Description, Volume III: Grammatical Categories and the Lexicon*, pp. 280-333. Cambridge: Cambridge University Press.