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# The Nanti reality status system: Implications for the typological validity of the realis/irrealis contrast

**Abstract:** This article describes the reality status system of Nanti (Arawak) and argues that it constitutes an instance of a canonical reality status system. The relevance of such a system is examined in the light of literature that casts doubt on the typological validity of reality status as crosslinguistic grammatical category. It is shown that reality status is an obligatory inflectional category in Nanti, and that the distribution of realis and irrealis marking across Nanti construction types hews closely to expectations based on notional understandings of “realis” and “irrealis” categories grounded in a contrast between “realized” and “unrealized” situations. It is also shown that the Nanti reality status system does not exhibit evidence of being based, either synchronically or diachronically, on semantically narrower notions that could account for the distribution of reality status marking in the language, without recourse to the more generalized notions of realized and unrealized events. It is suggested that the Nanti reality status system might serve as a suitable canonical system around which a canonical typology of reality status might be built.

**Keywords:** Amazonia, Arawak, inflection, modality, mood, Nanti, realis/irrealis, reality status, syntax

DOI 10.1515/lingty-2014-0011

Received: 1 July 2013. Revised: 17 February 2014

## 1 Introduction

### 1.1 The issue

Nanti, an Arawak language of Peruvian Amazonia, obligatorily marks a binary verbal distinction between “realized” and “unrealized” situations, resulting in

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what is typically called a realis/irrealis mood system (Palmer 2001) or “reality status” system (Elliott 2000). The aim of this article is to describe the Nanti reality status (henceforth RS) system, and to argue that it constitutes a good candidate for a prototypical or canonical RS system, providing a possible anchor for the study of RS within the framework of canonical typology (Corbett 2003, 2005, 2007). In this respect, this article seeks to contribute to the debate regarding the typological validity of reality status as a grammatical category, in dialogue with critical surveys of the notions of “realis” and “irrealis” by Bybee et al. (1994), Bybee (1998), and de Haan (2012). These authors have questioned the validity of RS as a typologically valid category on the basis of (i) the considerable semantic and structural heterogeneity among RS systems and (ii) the apparent lack of RS systems that approach the expected prototype, in which a binary distinction between “realized” and “unrealized” states of affairs is obligatorily marked in all major construction types of a language. Bybee (1998) and Cristofaro (2012) further argue that so-called realis/irrealis contrasts arise in most, if not all, cases from grammaticalization processes that yield considerable multi-functionality in modal and related domains, but without the emergence of a notional basis that unites these instances of multifunctionality. On this view, RS is simply a label of convenience for cases of modal multifunctionality, and has little or no synchronic or diachronic notional reality.

Unlike many languages discussed in the literature, in which RS is marked only in certain construction types (see, e.g., Palmer 2001: 161–163), RS in Nanti is an obligatory verbal inflectional category marked in virtually all morphosyntactic environments.<sup>1</sup> Moreover, as an inspection of Table 1 indicates, realis and irrealis marking in Nanti patterns in accord with the notional definitions of realis and irrealis given by scholars such as Mithun (see below), responding to one of Bybee

**Table 1:** Semantic parameter values and reality status marking

Semantic parameter	Realis marking	Irrealis marking
Temporal reference	non-future	future
Polarity	positive	negative
Hypotheticality	actual	hypothetical, (conditional), (counterfactual)
Speaker-oriented modality	∅	imperative, polite directive/exhortative
Agent-oriented modality	∅	obligation, need
Prospectiveness	∅	purposive, prospective complement

<sup>1</sup> Four irregular verbs, the copula *nti*, the positive animate and inanimate existential verbs *ainyo* and *aityo*, and the negative existential *mameri*, do not take verbal inflection of any kind, including RS marking.

and colleagues' principal criticisms of putative RS systems. Nanti also exhibits a "doubly irrealis" construction, which surfaces when a clause exhibits two semantic parameter values that by themselves each trigger irrealis constructions (e.g., negation and future temporal reference), supporting that irrealisness in Nanti has a notional basis. Finally, comparative evidence is provided that indicates that RS is a stable grammatical category within the Kampan branch of Arawak, of which Nanti is a member.

Whether RS is a typologically valid category cannot be resolved, of course, by any single language, no matter how canonical or prototypical. The goal of this article, however, is to bring to typologists' attention a language that should be relevant to any effort to assess the status of RS as a typologically valid category, since the Nanti system so closely hews to our notional and structural expectations regarding this debated grammatical category. In Section 5 I return to the question of how we can make use of the Nanti facts to explore and assess the typological validity of RS, suggesting that the Nanti system can serve as a canonical (or near canonical) instance of a RS system in a canonical typological approach to RS.

The remainder of this article is organized as follows: Section 1.2 describes common understandings of the terms "realis", "irrealis", and "reality status", while Section 1.3 summarizes the debate over the crosslinguistic validity of these terms. Sociolinguistic background and a brief typological profile of Nanti is provided in Section 1.4, and previous research on RS in the Kampan branch of Arawak is summarized in Section 1.5. The morphology of RS marking in Nanti is described in Section 2, while Section 3 is the empirical core of the article, the description of the morphosyntax and semantics of the Nanti RS system. A brief comparison of RS systems in Southern Arawak languages is provided in Section 4, and a discussion of the significance of the empirical results of the preceding sections with respect to the debate on RS, and concluding comments, are given in Section 5.

## 1.2 Realis, irrealis, and reality status as grammatical categories

The modern uses of the terms "realis" and "irrealis" were introduced by Arthur Capell (1940) in his description of the inflectional systems of Aboriginal languages of northwestern Australia.<sup>2</sup> Mithun (1999: 173) summarizes the modern understanding of these RS values in the following terms:

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<sup>2</sup> The terms themselves are of greater antiquity, having been long used by philologists to describe inflectional marking in protasis clauses of conditional constructions. Sapir's (1930: 168) use of the term "irrealis" is broader than the older philological usage, covering counterfactual,

The realis portrays situations as actualized, as having occurred or actually occurring, knowable through direct perception. The irrealis portrays situations as purely within the realm of thought, knowable only through imagination.

In Nanti, for example, positive polarity clauses with non-future temporal reference (i.e., clauses denoting “realized” situations) bear realis marking, as in (1a), while negative polarity clauses with non-future temporal reference, and positive polarity clauses with future temporal reference (both being clause types denoting “unrealized” situations) both bear irrealis marking, as in (1b) and (1c).<sup>3</sup>

(1) a. *Opoki maika.*

*o=pok-Ø-i* *maika*  
 3.NONM.SBJ=COME-IPFV-REAL.I now  
 ‘She is coming now.’

b. *Ompoke kamani.*

*o=N-pok-Ø-e* *kamani*  
 3.NONM.SBJ=IRR-COME-IPFV-IRR.I tomorrow  
 ‘She will come tomorrow.’

c. *Tera ompoke chapi.*

*te=ra* *o=N-pok-e* *chapi*  
 NEG.REAL=TEMP 3.NONM.SBJ=IRR-COME-IRR.I yesterday  
 ‘She did not come yesterday.’

Since many of the semantic factors that determine realis and irrealis marking in diverse languages also underlie accepted modal categories such as deonticity and conditionality, realis and irrealis were long considered modal categories (see, e.g., Bybee & Fleischman (eds.) 1995, Palmer 2001, Steele 1975). More recently, however, grammatical categories formerly lumped under the broader category of “modality” have been subjected to greater scrutiny (e.g., Foley & Van Valin 1984, de Haan 2005), with the result that a number of categories formerly treated as modal ones, such as evidentiality (de Haan 1999, 2001; Aikhenvald 2004), are now argued to constitute non-modal categories of their own. Elliott (2000) makes a similar argument for the realis/irrealis contrast, coining the term “reality status”

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optative, deontic, and possibly epistemic modal senses (Sapir 1930: 223), but is narrower than the usage Capell introduced.

<sup>3</sup> The orthography is phonemic and largely self-explanatory; N represents a nasal unspecified for place of articulation. The first line of interlinearized examples shows surface forms that have undergone morphophonological processes; in this line, roman t and a represent epenthetic segments; they are not segmented or glossed in other lines.

for this category, which I adopt in this article. Elliott's (2000: 74) argument for treating RS as non-modal rests on characterizing "modality" as "reflect[ing] a range of speaker attitudes towards a given event", and on distinguishing modality from sentential mood (e.g., declarative, interrogative, and interrogative).<sup>4</sup> Having done so, Elliott observes that whether or not a given situation is characterizable as "realis" or "irrealis" is independent of speaker attitude towards that event, which suggests that the RS of a situation is logically distinct from modal characterizations of that event.<sup>5</sup> For example, the compatibility of realis or irrealis constructions with a variety of epistemic modal markings demonstrates the notional independence of RS and epistemic modality. We can also observe that RS marking is typically dependent on the temporal reference of the clause, itself not a modal semantic parameter per se. In short, RS, while crosscutting modal categories, is not reducible to modality.

### 1.3 The reality status debate

The terms "realis" and "irrealis" have come to be widely used by descriptive linguists since they were popularized by Capell & Hinch (1970) in their description of Maung, an Australian language. Bybee (1998) and Bybee et al. (1994), however, mounted a sustained critique of the presumption that "realis" and "irrealis" constitute coherent crosslinguistically valid grammatical categories, triggering a debate that still remains to be resolved. De Haan (2012) re-considers the question of typological validity of RS from a prototype perspective but fails to identify any common core semantic characteristics of "realis" or "irrealis" categories, ultimately rejecting the validity of RS as a crosslinguistically valid grammatical category.

I first summarize Bybee and colleagues' critiques of "realis" and "irrealis", and then turn to de Haan's critique. I then consider several responses to these cri-

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<sup>4</sup> As Elliot notes, a very similar set of distinctions are drawn by Foley & Van Valin (1984: 213–215).

<sup>5</sup> A reviewer asks in what sense the realis or irrealis status of a situation can be considered independent of the relevant speaker's attitude towards that situation. This independence can perhaps be best appreciated by considering some of the semantic bases for the realis/irrealis distinction in Nanti, such as non-future vs. future temporal reference, or affirmative vs. negated propositions. Whether a situation lies in the future or not, or whether situations are truthfully asserted with positive or negative polarity, is not a question of speaker attitude per se, beyond the trivial sense that any utterance reflects the speaker's viewpoint in some respect. This contrasts, for example, with optative or epistemic modality, which encodes a speaker's assessment of a situation as desirable or likely, respectively.

tiques, which leads fairly directly to reframing the question of the typological validity of RS in terms of Corbett's (2005) canonical typology approach.

Bybee et al.'s (1994) critique of the validity of "realis" and "irrealis" as cross-linguistic categories is based on their examination of tense/aspect/mood systems in 76 languages. They observe that none of the surveyed languages exhibit a prototypical RS system in which (i) realis and irrealis form an obligatorily marked binary distinction that is realized as a morphologically tidy paradigm found in all major construction types and (ii) the marking of realis and irrealis patterns as expected from notional definition of these category values. They remark that instead, the marking of "realis" and "irrealis" diverges from notional expectations, and that it is vanishingly rare for RS marking to be realized as a binary, grammatically pervasive, and morphologically distinct category. In Maung, for example, future temporal reference triggers realis marking, although we would expect, based on the "unrealized" nature of future events, that clauses with future temporal reference would trigger irrealis marking.

Bybee et al. (1994) observe that modal morphemes may grammaticalize along a variety of trajectories, so that a given form may serve to express, in a diverse set of constructional contexts, a variety of modal meanings. Bybee (1998) further argues that the categories "realis" and "irrealis" are chimeras resulting from efforts to analyze the notionally diverse sets of modal meanings resulting from complex grammaticalization categories in terms of Jakobsonian binary categories, which are inappropriate in cases of complex grammaticalization of this type:

[. . .] I conclude that instances where the label "irrealis" has been used to characterize the meaning of a grammatical morpheme fall into one of two categories: either they are cases in which a more specific characterization would be more useful, or they are cases in which the analyst has tried to come up with a single meaning for an element that is common to many different constructions, where, in fact, it is the construction as a whole that is supplying the (usually more specific) sense. (Bybee 1998: 269)

Bybee (1998: 267) effectively concludes that the notion "irrealis", and by extension RS, has no psychological reality, remarking that "a highly generalized notion such as 'lacking in reality' is probably too abstract to be of much communicative use" and is at best "a pointer to a very broad domain" (Bybee 1998: 269). Although sympathetic to the analytical utility of "realis" and "irrealis", Palmer (2001: 160) echoes a similar sentiment when he accounts for the rarity or non-existence of binary RS systems by noting that "such a binary contrast would allow for a great deal of ambiguity".

Bybee and colleagues' conclusions drew a variety of responses. Mithun (1995) acknowledged the variation in reality systems noted by Bybee and colleagues,

but argued that it did not pose a grave challenge to the typological validity of RS, since these variations could be accounted for either as the result of language-specific grammaticalization trajectories that cause RS marking to diverge from its prototypical pattern, or due to crosslinguistic variation in the scopal relations between RS, negation, and interrogative illocutionary force. With regards to the former explanation, for example, Mithun discusses the behavior of RS marking with reference to temporal reference in Central Pomo, observing that the realis is used for future temporal reference if the speaker judges the posited future situation as likely to transpire, but that irrealis is used when the situation is judged to be unlikely to transpire. Mithun observes that this RS marking pattern is “semantically coherent”, and may have arisen due to the semantic markedness of Irrealis.

Although Mithun’s account for the divergence of Central Pomo RS marking from our notional expectations is certainly plausible (and we would expect the existence of non-prototypical systems in any grammatical domain), it presupposes the crosslinguistic validity of RS, which is the very issue at stake. If it were possible to establish an RS prototype, then it would be feasible to consider systems like the Central Pomo one as non-prototypical RS systems. However, recall that it is precisely Bybee’s observation that the traditional notional definitions of realis and irrealis fail to predict marking in putative RS systems that leads her to question the crosslinguistic validity of RS in the first place. Consequently, the observation that the Central Pomo system, with its additional epistemic modal component, is “semantically coherent”, fails as a defense of the typological validity of RS, at least on Bybee’s terms.<sup>6</sup>

In the same work, Mithun proposes another means to account for the diversity found in putative RS systems: differences in the scopal relations between RS, negation, and interrogative mood. Observing that in comparing Central Pomo with Caddo, one finds that RS marking in Caddo is sensitive to interrogative mood and negation, while in Central Pomo one finds no such sensitivity, Mithun proposes that in Caddo RS categorization applies “outside” interrogative mood and negation, while in Central Pomo, the opposite is the case. As I observe in Section 6, this proposal may be very important to developing a typology of RS, but it too presupposes the crosslinguistic validity of RS, and thus likewise fails to compellingly rebut the empirical core of Bybee and colleagues’ arguments.

Givón (1994), in contrast, responds to Bybee and colleagues’ arguments by arguing that the criteria they employ in identifying crosslinguistically valid gram-

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<sup>6</sup> Mithun (1995: 386) also observes that by discarding RS as a comparative category, we miss the considerable similarities among RS systems. However, the skeptic can respond that this does not in any way support the typological validity of RS, but simply reflects that certain grammaticalization trajectories are common crosslinguistically in the modal domain.

matical categories is too restrictive. He characterizes this position in the following terms (Givón 1994: 323):

Only cognitive-communicative categories that are marked uniformly by a single language, or are grouped in the same way by most languages, have mental reality. [...] This is a rather extreme approach to both functional universals and cross-linguistic grammatical typology. Complex functional categories that involve clusters of both semantic and pragmatic features seldom if ever abide by such simple expectations.

De Haan's (2012) careful re-evaluation of the question of the typological validity of RS explicitly takes up the possibility, adumbrated by Mithun's (1995) and Givón's (1994) comments, of defining RS in terms of realis and irrealis prototypes. Focusing on the prototypical meaning of "irrealis", de Haan examines a typologically diverse set of languages for how RS is marked in a range of constructions in which one would expect irrealis marking, including those exhibiting future temporal reference, negation, imperative mood, and conditionality, among others. De Haan remarks that there not only is no crosslinguistic uniformity in how these categories are marked (*pace* Bybee and colleagues), but that he could identify no core meaning around which an irrealis prototype could be constructed, concluding that, "[...] there is no linguistic basis for the category of reality status" (de Haan 2012: 128).

The conclusions of Bybee and colleagues and de Haan, though well supported by the data they examine and their assumptions about how typologically valid grammatical categories are to be defined, are somewhat puzzling in light of the RS system of Nanti, described below, and the other Kampan Arawak languages. Nanti appears to meet, for example, Bybee's desideratum for an attested case of a notionally and structurally well-behaved RS system. If, however, Nanti provides an example of a prototypical RS system, we are challenged to reconcile this with de Haan's inability to find a prototypical or core meaning for "irrealis".

One possible solution that takes advantage of the prototypicality of the Nanti RS system is to adopt a canonical typology approach to RS. This approach does not assume that there is anything common to all instances of a phenomenon, but rather, that particular instances of the phenomenon can diverge from the canonical instance of the phenomenon in varied ways, such that there is no single core aspect of the phenomenon as such. As Corbett (2003: 109) remarks with reference to the canonical typology of agreement:

We first establish 'canonical' instances of agreement, by which we mean the best, clearest, indisputable (according to the 'canon') [...]. Then we discuss weakenings of the criteria as a result of which some but not all linguists would accept a particular phenomenon as agree-

ment. In doing so, we set in place some of the underpinnings for a typological database of agreement.

Under such an approach, the typological study of RS does not proceed by weakening the definition of *realis* and *irrealis* from the canonical definition provided above by Mithun (1999), but instead by starting from an understanding of the canonical instance of the phenomenon, and then examining the ways in which systems can diverge from this canonical instance.<sup>7</sup> The contribution that Nanti makes to such a project is to provide evidence that canonical (or near-canonical) RS systems are in fact attested in human languages.

The fact that RS systems like the Nanti one are not at all common is not an intrinsic problem for the canonical approach since, in Corbett's (2007: 9) words,

[...] canonical instances, that is, the best, clearest, indisputable (the ones closely matching the canon), are unlikely to be frequent. Rather, they are likely to be rare or even non-existent.

The ultimate project to develop a canonical typology of RS is beyond scope of this article, but the fact that Nanti presents a plausible example of a canonical RS system may serve as a starting point for this project.

## 1.4 Nanti: Sociolinguistic and typological background

Nanti is a language of the Kampan family,<sup>8</sup> a group of closely-related Arawak languages spoken in the Andean foothills region of southeastern Peru and in the adjacent lowland regions of Peru and Brazil (Michael 2008). Nanti is spoken by

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<sup>7</sup> A reviewer asks how one determines what constitutes the canonical RS system. As the above discussion by Corbett makes clear, the canonical case of a phenomenon is the "clearest" and "indisputable" one, in light of linguists' idealized understanding of the phenomenon, i.e., what Corbett (2007: 9) characterizes as the "logical endpoint" of the definition of a given phenomenon. In the case of RS, the clearest and indisputable, and hence, canonical, RS system would presumably be one that would optimally satisfy Bybee and other critics of the typological validity of RS, i.e., one that obligatorily marks RS in a binary fashion in a manner consistent with the realized/unrealized semantics that, in the ideal case, underlie the *realis/irrealis* distinction.

<sup>8</sup> This family is also known as "Pre-Andine" Arawak. Apart from Nanti, the Kampan family includes six commonly recognized varieties: Asháninka, Ashéninka, Kakinte, Matsigenka, and Nomatsigenka. Linguists differ on the number of distinct languages they recognize in this family, from three (Kaufman 1990, Campbell 1997), to four (Solís 2003), to six (Aikhenvald 1999). Since Nanti speakers avoided contact with non-Nantis until the early 1990s (Michael 2008), only more recent classifications mention them (Gordon (ed.) 2005).

some 450 individuals who live in the headwaters regions of the Camisea River and Timpia River. Until the mid-1990s, Nantis were entirely monolingual, but now several young men have acquired a thorough knowledge of Matsigenka, and more recently still, a few young men have also acquired a rudimentary knowledge of Spanish.

Nanti is a polysynthetic agglutinative head-marking language with extensive, principally suffixal verb morphology. Apart from RS, aspect is the only other verbal inflectional category. Nanti mainly displays nominative-accusative alignment, but exhibits traces of the split intransitivity characteristic of the Ashéninka branch of the family (Payne & Payne 2005). Arguments are realized either as person marker clitics or, much less frequently, as free NPs. Basic constituent order is arguably SVO, although at most a single verbal argument is realized as a free NP in any clause. Inflectional nominal morphology is minimal, consisting of optional plural marking and a single general locative case marker/postposition.

I gathered the data on which this article is based in the Nanti community of Montetoni during some 20 months of fieldwork between 1997 and 2005. All the data presented is drawn from non-elicited, naturally-occurring discourse.

## 1.5 Previous research on Kampan reality status systems

Michael (2008) is the sole prior discussion of the Nanti RS system, but all Kampan languages possess RS systems resembling the Nanti one (see Section 4). Early works on these languages treated the realis/irrealis contrasts in these languages as non-future/future tense contrasts (Aza 1924, Payne 1981, Snell & Wise 1963), with Swift's (1988: 55) description of Kakinte being the first work to analyze the inflectional distinction in question as a realis/irrealis distinction. (Wise (1986: 586) alludes to the possibility of such an analysis, however, in her overview of "Pre-Andine" Arawak languages.) Although other works on Kampan languages have followed Swift's lead (e.g., Snell 1999, Payne 2001, Cysouw 2007), his description of the Kakinte RS system remains the most detailed description of a Kampan RS system other than that of Nanti.

Drawing heavily on Payne's (1981) description of the cognate Ashéninka affixes, Swift (1988) describes the allomorphy of Kakinte RS affixes and notes that they code a realis/irrealis distinction. He does not, however, provide any discussion of the semantic parameters involved in determining Kakinte RS marking, or of the interaction between RS and negation, or the superficially inconsistent RS marking found in doubly irrealis constructions (see Section 3.2). Swift's description of the Kakinte RS system also omits any mention of multi-clause constructions. In summary, Swift makes a significant contribution by correcting the mis-

conception that the inflectional contrast in question in the Kampan languages is based on tense, but leaves the semantic basis and morphosyntax of RS marking relatively unexplored.

## 2 Reality status morphology and morphophonology

### 2.1 Introduction

This section describes Nanti RS affix allomorphy and the morphophonological processes that affect their surface realization. As evident in (2a), realis is marked by a suffix that occupies the outermost inflectional position of the verb stem, following any directional or aspectual suffixes. Irrealis, in contrast, is marked by a circumfix, as evident in (2b). The leftmost element of the circumfix, which I call the “irrealis prefix”, typically appears immediately to the left of the verb stem, while the rightmost element of the circumfix, which I call the “irrealis suffix”, appears in the same morphological position as the realis suffix. Clitics, such as person markers and conditional and counterfactual modal clitics, follow the realis and irrealis suffixes (Michael 2008).

(2) a. *Ipiganahi.*

*i=pig-an-ah-i*

3.M.SBJ=return-ABL-REG-REAL.I

‘He returned back away (from where he came).’

b. *Impiganahe.*

*i=N-pig-an-ah-e*

3.M.SBJ=IRR-return-ABL-REG-IRR.I

‘He will return back away (from where he came).’

As summarized in Table 2, the irrealis prefix and the RS suffixes each display two allomorphs, most of which are subject to further morphophonological processes that affect their surface realization, as discussed in the next two subsections.

**Table 2:** Reality status affix allomorphy

	Irrealis prefix		Verb stem	Realis suffix		Irrealis suffix	
Allomorphs	<i>n-</i>	<i>ri-</i>	V	<i>-i</i>	<i>-a</i>	<i>-e</i>	<i>-enpa</i>
Realizations	<i>m-, n-, ŋ-, Ø-</i>	<i>ri-, r-</i>	V	<i>-i-, -e-, -a</i>	<i>-a</i>	<i>-e</i>	<i>-empa</i>

## 2.2 Irrealis prefix allomorphy and metathesis

The irrealis prefix exhibits two morphologically-conditioned allomorphs, *N-* and *ri-*. The *ri-* allomorph only appears following 3rd person masculine subject clitics, as in (3a), while *N-*, an underspecified nasal,<sup>9</sup> appears in all other contexts, as in (4a), below.<sup>10</sup> Note that the vowel of the *ri-* allomorph deletes preceding vowel-initial stems, as in (3b), following the general patterns of pre-root vowel hiatus resolution in Nanti (Michael 2008).

(3) a. *Iri nihakena.*

*i=ri-nih-ak-e=na*

3.M.SBJ=IRR-speak-PFV-IRR.I=1.OBJ

‘He will speak to me.’

b. *Iramero.*

*i=ri-am-Ø-e=ro*

3.M.SBJ=IRR-bring-IPFV-IRR.I=3.NONM.OBJ

‘He will bring it.’

The underspecified nasal allomorph appears verb-stem initially,<sup>11</sup> and must acquire its place of articulation from a voiceless stop or affricate to its right, or failing to do so, delete. In the simplest case, the initial segment of the verb stem is a voiceless stop or affricate, and the nasal simply acquires its point of articulation from that segment, as in (4a) and (4b).

(4) a. *Ompakena sekatsi.*

*o=N-p-ak-e=na*

*sekatsi*

3.NONM.SBJ=IRR-give-PFV-IRR.I=1.SBJ yuca

‘She will give me yuca.’

b. *Nontsagate.*

*no=N-tsaga-Ø-e*

1.SBJ=IRR-fish-IPFV-IRR.I

‘I will fish.’

<sup>9</sup> Payne (1981) and Swift (1988) analyze the cognate prefixes in Ashéninca and Kakinte, respectively, as archiphonemes.

<sup>10</sup> Note that the underspecified nasal allomorph also encroaches partially on the environments of the *ri-* allomorph. Prior to consonant-initial roots (and following the 3rd person masculine subject marker), many speakers show free variation between the *ri-* and *N-* allomorphs.

<sup>11</sup> At most, a causative prefix may intervene between the irrealis prefix and the verb stem.

If no stem-initial voiceless stop or affricate is available to provide place of articulation features, the irrealis prefix can metathesize with a single stem-initial vowel in order to acquire those features, as in (5).

(5) *Nantagutake.*

*no=N-atagu-ak-e*

3.NONM.SBJ=IRR-climb-PFV-IRR.I

‘I will climb.’

Finally, if no voiceless stops or affricates are available to supply point-of-articulation features, even through metathesis, the irrealis prefix simply deletes, as in (6).

(6) *Tera nagabehe.*

*te=ra*                      *no=N-agabeh-e*

NEG.REAL=TEMP 1.SBJ=IRR-be.able-IRR.I

‘I am not able.’

Note that irrealis prefixes never surface in imperative forms, despite the fact that they take irrealis suffixes. This apparent gap arises from a combination of morphological processes affecting the imperative, and the application of general phonotactic constraints. In particular, subject proclitics delete in imperative forms, as do any subsequently exposed stem-initial vowels, as in (7). The deletion of word-initial vowels is a general process that occurs whenever subject clitics are omitted (e.g., in focus and interrogative constructions) and is not restricted to the imperative. The combination of deletion of the imperative subject proclitics and word- and stem-initial vowels results in a consonant cluster consisting maximally of a nasal stop and voiceless stop or affricate, which then simplifies by deletion of the nasal, due to an unviolated constraint against complex onsets in the language (Crowhurst & Michael 2005).

(7) *Tinkasetero.*

*N-otink-se-e=ro*

IRR-mash-CL:MASS-IRR.I=3.NONM.OBJ

‘Mash it.’

## 2.3 Reality status suffix allomorphy and morphophonology

Nanti realis and irrealis suffixes exhibit allomorphy conditioned by the class of the verb stem to which they attach. I refer to these two semantically arbitrary verb classes as the I- and A-classes,<sup>12</sup> and the RS suffix allomorphy they condition is given in Table 3.

**Table 3:** Reality status affix allomorphy

	I-class stem	A-class stem
Realis	-i	-a
Irrealis	-e	-enpa

The class of a given verb stem is based on the class of its root, but there are several suffixes that alter the class of the stem to which they attach. These include the instrumental *-ant*, the frustrative *-be*, and the reciprocal *-abakag*, all of which derive A-class stems from I-class roots, as well as the regressive *-ah*, which derives I-class stems from A-class roots. The effect of class-altering derivational suffixes can be seen by comparing (8a) which exhibits the I-class stem formed on the I-class root *tim* ‘live’, with (8b), which exhibits the A-class stem that results from adding the frustrative *-be* to that root.

(8) a. *Notimi Montetoniku.*

*no=tim-Ø-i*                      *Montetoni-ku*  
 1.SBJ=live-IPFV-REAL.I    Montetoni-LOC  
 ‘I live in Montetoni.’

b. *Notimabetaka Marankehariku.*

*no=tim-be-ak-a*                      *Marankehari-ku*  
 1.SBJ=live-FRUS-PFV-REAL.A    Marankehari-LOC  
 ‘I formerly lived in Marankehari.’

In certain environments, morphophonological processes neutralize the surface contrast between particular RS suffixes. In particular, following the

<sup>12</sup> In the previous scholarship on Kampan languages, I-class verbs and A-class verbs have frequently been referred to as “irreflexive” and “reflexive” verbs, respectively, following Payne’s (1981) influential description of Ashéninka. Payne identifies a strong tendency in this language for A-class verbs to be reflexive and I-class verbs to be non-reflexive. In Nanti, however, there is no reliable relationship between the reflexivity of a given verb root and its membership in the I- or A-classes. Whereas in Matsigenka, for example, reflexive forms of verbs can be formed by changing the class of a root from “irreflexive” to “reflexive”, Nanti reflexives are instead formed with reflexive pronouns (Michael 2008: 376–377).

perfective *-ak*, the I-class realis suffix *-i* and irrealis suffix *-e* neutralize to *-e*, as in (9b, c).

(9) a. *Ipoki.*

*i=pok-Ø-i*

3.M.SBJ=come-IPFV-REAL.I

‘He is/was coming.’

b. *Ipokake.*

*i=pok-ak-i*

3.M.SBJ=come-PFV-REAL.I

‘He came.’

c. *Impokake.*

*i=N-pok-ak-e*

3.M.SBJ=IRR-come-PFV-IRR.I

‘He will come.’

In these cases, as in many others, it is still possible to determine the RS of the verb, since the irrealis prefix remains to distinguish realis and irrealis verbs. In those cases in which the irrealis prefix additionally deletes, however, there is complete morphological neutralization of RS marking, and the speaker must depend on adverbial elements or context to determine RS. Michael (2008: 253) also describes a rarer neutralization between I-class and A-class realis suffixes.

## 2.4 Passive reality status portmanteaux

Passives in Nanti are formed with suffixes that supplant both the aspect and RS morphemes that are otherwise obligatory on the verb. The morphemes in question are portmanteaux that both reduce the valence of the verb and express RS: *-agani* ‘realis passive’ and *-enkani* ‘irrealis passive’, as exemplified in (10a, b), respectively.

(10) a. *Tsuharo yoogagani.*

*tsuharo* *i=oog-agani*

caterpillar.species 3.M.SBJ=consume-PASS.REAL

‘*Tsuharo* caterpillars are eaten (i.e., are edible).’

b. *Tera impenkani kotsiro.*

*te=ra* *i=N-p-enkani* *kotsiro*

NEG.REAL=TEMP 3.M.SBJ=IRR-give-PASS.IRR knife

‘He was not given a knife.’

### 3 The semantics and morphosyntax of reality status in Nanti

The marking of RS in Nanti is sensitive to several semantic parameters and parameter values, enumerated in Table 1 above. Depending on the number of notionally irrealis semantic parameter values present in a clause, one of three constructions is triggered: a realis one (no irrealis parameter values), an irrealis one (exactly one irrealis parameter value), or a “doubly irrealis” one (exactly two irrealis parameter values). I will begin by first considering the semantic patterning of the basic realis and irrealis construction in simple sentences, and subsequently describe the semantic basis and structure of the “doubly irrealis” construction.

#### 3.1 The realis/irrealis contrast in simple sentences

RS marking in monoclausal sentences depends on the following semantic parameters: temporal reference (non-future vs. future), clausal polarity (positive vs. negative), speaker-oriented modality, agent-oriented modality, epistemic modality, and hypotheticality. As summarized in Table 4, the marking of realis and irrealis for each of these semantic parameters hews closely to our expectations, based on the notional definitions of realism and irrealism given in Section 1.2.

The constructions discussed in this section fall into two general types: bare and joint RS constructions. Bare RS constructions exhibit no overt marking that identifies which semantic parameter in particular is responsible for triggering the RS marking found on the verb, making them somewhat ambiguous. Irrealis marking in a bare single-clause construction could indicate future temporal reference, a polite directive/exhortative, prospective obligation, or hypothetical status, making pragmatics important in determining the appropriate interpretation.

**Table 4:** Reality status semantics in simple sentences

Semantic parameter	Realis marking	Irrealis marking	Additional marking
Temporal reference	non-future	future	∅
Polarity	positive	negative	<i>te</i> (NEG)
Speaker-oriented modality	∅	imperative, polite directive/exhortative	subject deletion, ∅
Agent-oriented modality	∅	obligation, necessity	∅, = <i>me</i>
Epistemic modality	certainty	uncertainty	∅
Hypotheticality	non-hypothetical	hypothetical	∅

Joint RS constructions<sup>13</sup> exhibit both RS marking and additional morphology that identifies the semantic parameter responsible for determining the RS marking on the verb.

### 3.1.1 Temporal reference

RS marking patterns with respect to temporal reference in accord with the notional definitions of realis and irrealis: positive-polarity declarative sentences with non-future temporal reference take realis marking, as in (11a), while their future temporal reference counterparts take irrealis marking, as in (11b).

(11) a. *Yamutiri.*

*i=amu-Ø-i=ri*

3.M.SBJ=help-IPFV-REAL.I=3.M.OBJ

‘He helps him.’

b. *Iramakero oka kaseta.*

*i=ri-am-ak-e=ro*

*o-oka*

3.M.SBJ=IRR-bring-PFV-IRR.I=3.NONM.OBJ 3.NONM.POSS-this

*kaseta*

audio.recorder

‘He will bring this audio recorder.’

### 3.1.2 Polarity

RS marking also patterns as notionally expected with respect to sentence polarity: positive polarity sentences with non-future temporal reference exhibit realis marking, as in (12a), while their negative polarity counterparts exhibit irrealis marking, as in (12b).<sup>14</sup>

(12) a. *Naro shintaro magashipogo.*

*naro ashint-Ø-a=ro*

*magashipogo*

1.PRO OWN-IPFV-REAL.A=3.NONM.OBJ old.garden

‘I own the old garden.’

<sup>13</sup> See Palmer (2001) for a typology of joint and non-joint RS systems.

<sup>14</sup> Note that the perfective/imperfective contrast is neutralized in negative polarity clauses, as evident in (12b).

b. *Tera naro shintemparo magashipogo.*

*te=ra*                      *naro*                      *N-ashint-enpa=ro*                      *magashipogo*  
 NEG.REAL=TEMP    1.PRO.FOC    IRR-OWN-IRR.A=3.NONM.OBJ    old.garden  
 ‘I do not own the old garden.’

I refer to the form of negation that appears in the preceding example, *te*, as “realis negation”, since it takes a notionally realis complement. The realis negation element frequently bears a second position clitic, such as the temporal clitic *=ra* in (12b),<sup>15</sup> or the clitic *=tya* ‘until now, yet’, as in (13).

(13) *Tetya ompokahe.*

*te=tya*                      *o=N-pok-ah-e*  
 NEG.REAL=yet    3.NONM.SBJ=IRR-COME-REG-IRR.I  
 ‘She hasn’t come back yet.’

The realis negation may also appear without a clitic, as in (14), in which case it forms a prosodic word with the grammatical word immediately to its right.

(14) [*Teontime*] *pikoritiri?*

*te*                      *o=N-tim-e*                      *pi-koritiri*  
 NEG.REAL    3.NONM.SBJ=IRR-exist-IRR.I    2.POSS-spouse  
 ‘You don’t have a wife?’

Finally, the adverb *pahentya* ‘almost’ also triggers irrealis marking on the verb, as in (15). Irrealis marking is expected in this context for the same reason as in the negated clauses just considered, namely, that the situation denoted by the expression modified by this adverb was not realized.

(15) *Pahentya nonkame.*

*pahentya*    *no=N-kam-e*  
 almost    1.SBJ=IRR-die-IRR.I  
 ‘I almost died.’

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<sup>15</sup> The function of the temporal clitic, when cliticized to the realis negation *te* or the irrealis negation *ha* (see Section 3.2), is unclear, as it may be omitted in such cases with no apparent change in meaning.

### 3.1.3 Speaker-oriented modality: Directives, permissives, and exhortatives

Turning now to the relationship of RS marking to modality,<sup>16</sup> we first consider speaker-oriented modalities: directives, permissives, and hortatives (de Haan 2005). Two distinct constructions are employed to express speaker-oriented modalities, a dedicated imperative construction and the bare irrealis one.

The Nanti imperative construction serves to express either a bald directive, as in (16), or a permissive one. In either case, the construction denotes an event that has yet to be realized, and the verb accordingly takes irrealis marking, as evident in the examples. The Nanti imperative construction is characterized by the omission of the subject person marker, with the resulting phonotactically-motivated deletion processes discussed above.

(16) *Seneri*.<sup>17</sup>

*N-s-Ø-e=ni=ri*

IRR-pour-IPFV-IRR.I=3.INAN=3.M.OBJ

‘Pour it for him.’

The bare irrealis construction, in contrast, serves to express either a polite directive, as in (17), or a hortative utterance. As in the case of the imperative construction, the use of irrealis marking in expressing these meanings follows from their association with unrealized events.

(17) *Tsame pihokotagena mahempa*.

*tsame pi=N-hokotag-Ø-e=na mahempa*

come.on 2.SBJ=IRR-point.out-IPFV-IRR=1.OBJ tree.species

‘Come on, please point out the *mahempa* for me.’

### 3.1.4 Agent-oriented modality: Obligation and necessity

Nanti speakers employ two constructions to express meanings of obligation and necessity, depending on whether the clause (i) expresses a prospective obligation or need that REMAINS to be fulfilled or satisfied or (ii) retrospectively expresses an obligation or need that has failed to be fulfilled. In the case of prospective

<sup>16</sup> For purpose of convenience, I adopt de Haan’s (2005) typology of modality, although no aspect of my description rests crucially on the groupings of particular modal functions that he proposes.

<sup>17</sup> The oblique argument clitic =*ni* exhibits surfaces as =*ne* following /e/.



### 3.1.6 Habitual

Another notional domain known to trigger irrealis marking in some languages is the habitual past, as in Bargam (Palmer 2001: 179), a fact sometimes accounted for in terms of the non-specificity of the habitual. Nanti exhibits a habitual construction, formed with the verbal habitual suffix *-apini*, as in (21). The Nanti habitual construction crucially takes realis marking, in accord with our notional definition of realis and irrealis, since habitual constructions denote repeated realization of some situation.

(21) *Paniro iniro papinitiro sekatsi.*

<i>paniro</i>	<i>o-iniro</i>	<i>p-apini-i=ro</i>	<i>sekatsi</i>
only	3.NONM.POSS-mother	give-HAB-REAL.I=3.NONM.OBJ	manioc

‘Only her mother gave her manioc (during her month-long menarche seclusion).’

## 3.2 The doubly irrealis construction in simple sentences

### 3.2.1 Unity of different irrealis constructions

The realis and (singly) irrealis constructions examined thus far demonstrate that realis and irrealis marking in simple sentences patterns in accord with the notional definitions of these two category values: positive polarity indicative clauses with non-future temporal reference exhibit realis marking, while clauses that exhibit either future temporal reference, negative polarity, imperative, or deontic modality, or hypothetical status, exhibit irrealis marking. We now examine the doubly irrealis construction, which appears in clauses which exhibit two semantic parameter values, each of which by themselves trigger irrealis constructions. Negative polarity is the only irrealis-triggering parameter value capable of combining with other irrealis-triggering parameter values, and thus all Nanti doubly irrealis constructions appear in clauses in which the complement of negation is itself an irrealis clause.

The significance of the doubly irrealis construction for evaluating the typological validity of RS lies in its providing compelling language-internal evidence against the contention that, as Bybee and colleagues argue, “irrealis” is a post-hoc label employed by linguists to group together the results of diverse grammaticalization trajectories under the (unjustified) assumption that they express a single grammatical category value. The Nanti doubly irrealis construction, however, shows that all singly irrealis constructions are treated as equivalent in a

particular way: the negation of each irrealis construction results in the corresponding doubly irrealis construction. Were it the case that each of the varied irrealis constructions expressed, as Bybee would have it, divergent construction-specific meanings, it is unclear why they would behave uniformly under negation, viz. triggering doubly irrealis constructions. The simplest assumption, rather, is that the irrealis constructions share a common property (i.e., being notionally irrealis), and that it is this property that results in the common process they all undergo when negated.

The doubly irrealis construction is characterized both by the form of negation employed and by the RS marking exhibited on the verb, as illustrated by the negative polarity clause with future temporal reference given in (22).

(22) *Hara ihati.*

*ha=ra*                      *i=ha-i*  
 NEG.IRR=TEMP    3.M.SBJ=go-DIRR.I  
 ‘He will not go.’

The negation element we find in doubly irrealis constructions is *ha*, and not *te*, the form found in singly irrealis constructions, such as (12b). Since *ha* selects for a notionally irrealis complement – in this case a complement with future temporal reference – I refer to it as “irrealis negation”. RS marking in doubly irrealis constructions consists of the realis suffix – in (22), the I-class suffix *-i*. The irrealis negation *ha* in fact obligatorily co-occurs with the realis suffix, which in this context does not by itself reflect the notional RS of the clause. For descriptive purposes, we can consider the co-presence of the irrealis negation *ha* and the realis suffix – either *-i* or *-a*, depending on the class of the verb – to non-compositionally form a construction that expresses the doubly irrealis nature of the clause. To avoid possible confusion, I will gloss the erstwhile realis suffix as doubly irreal in these circumstances, although it should be kept in mind that it is the construction as a whole that expresses the doubly irrealis nature of the clause.

The seemingly incongruous appearance of the realis suffix in the doubly irrealis construction is reminiscent of “fake tense” and “fake aspect” found in counterfactual conditional constructions in many languages (see, e.g., Bjorkman & Halpert to appear, Fleischman 1989, Iatridou 2000, Van Linden & Verstraete 2008). In the counterfactual constructions in question, morphemes that in other constructions indicate past tense, perfect aspect, or imperfective aspect, enter into a construction where they no longer mark the tense or aspect that they do elsewhere, but rather contribute to the counterfactual conditional meaning of the construction. The above-cited authors and others have proposed a number of competing explanation for how “fake” tense and aspect contribute to the mean-

ing of counterfactual conditions, but regardless of the details of the proposals, all reconcile, by either synchronic or diachronic processes, the discrepancy between the meanings of the relevant morphemes in counterfactual constructions and their normal tense and aspect meanings. I assume that a broadly similar phenomenon is at play in the Nanti doubly irrealis construction, where the “fake” realis forms a construction with irrealis negation in which the realis morpheme is not interpreted in the same way as in other constructions, but rather contributes to the doubly irrealis meaning of the construction. A detailed account of “fake” realis in Nanti doubly irrealis constructions remains an intriguing question for future research.

Having already considered the doubly irrealis construction that arises in the case of negative polarity clauses with future temporal reference, we now consider the other types of doubly irrealis constructions that arise in simple sentences.

### 3.2.2 Speaker-oriented modality

As discussed in Section 3.1, Nanti employs a dedicated imperative construction for bald directives and a bare irrealis construction for polite directives. Nanti exhibits an asymmetry between positive and negative polarity constructions in this notional domain, in that there is no prohibitive (i.e., negative imperative) construction. Instead, the negative polarity counterpart to the bare irrealis construction – the bare doubly irrealis construction – is employed for both bald and polite negative directives. The prohibitive function of this doubly irrealis construction is exemplified in (23a), and its negative hortative function in (23b).

(23) a. *Hara pitentiro.*

*ha=ra pi=tent-i=ro*  
 NEG.IRR=TEMP 2.SBJ=accompany-DIRR.I=3.NONM.OBJ  
 ‘Don’t accompany her.’

b. *Hara apahiri tsinane.*

*ha=ra a=p-ah-i=ri tsinane.*  
 NEG.IRR=TEMP 1PL.INCL.SBJ=give-REG-DIRR.I=3.M.OBJ woman  
 ‘Let’s (INCL) not give him another woman (i.e., wife).’

### 3.2.3 Agent-oriented modality

Positive polarity deontic constructions in Nanti take irrealis marking, and their negative polarity counterparts are doubly irrealis constructions, as we would

expect. Positive polarity prospective deontic constructions are bare irrealis constructions, and their negative polarity counterparts are bare doubly irrealis constructions. The positive polarity retrospective deontic construction is distinguished by the presence of the clitic *=me*, which in the negative polarity counterpart cliticizes to the irrealis negation *ha* of the doubly irrealis construction, as in (24).

(24) *Hame pitsosenatiro.*

*ha=me pi=tsot-se-na-i=ro*  
 NEG.IRR=DEONT 2.SBJ=slurp.up-CL:MASS-MALREP-DIRR.I=3.NONM.OBJ  
 ‘You shouldn’t slurp it up.’

### 3.2.4 Hypothetical

Finally, we observe that negative polarity hypothetical clauses are expressed by a doubly irrealis construction, as in (25), as we would expect from the fact that their positive polarity counterparts are expressed by a singly irrealis construction.

(25) *Hara yagiro.*

*ha=ra i=ag-i=ro.*  
 NEG.IRR=TEMP 3.M.SBJ=take-DIRR.I=3.NONM.OBJ  
 ‘He would not take her (as his wife).’

## 3.3 Reality status marking in clause-linking constructions

In this section I discuss RS marking in multi-clause constructions that impose construction-specific requirements on RS marking in at least one of the clauses. These include possible, counterfactual, and epistemic conditional constructions, and purposive and prospective complement constructions. I will not discuss here multi-clause constructions that do not impose any such requirements beyond those already mentioned for simple sentences (e.g., requirements due to the temporal reference).

This discussion of clause-linking constructions shows that even in these more complicated constructions, RS-marking can be understood to follow from the notional definitions shown to be operative in simple sentences. Clause-linking constructions do, however, show a distinctive RS phenomenon: prospectiveness, or the marking of RS values in a subordinate clause relative to the perspective expressed in the main clause.

### 3.3.1 Conditional constructions

The protasis clause of the Nanti POSSIBLE CONDITIONAL clause-linking construction bears the second-position conditional clitic =rika, while the apodosis clause bears no distinctive morphology. Positive polarity protasis and apodosis clauses take irrealis marking, as in (26a), which is consistent with the hypothetical status of these clauses. As would be expected on semantic grounds, negative polarity protasis and apodosis clauses are doubly irrealis constructions, as in (26b).

- (26) a. [Nomporohakerika hanta parikoti]<sub>COND</sub>, [irompa aka pokahena aka onkuta]<sub>RESULT</sub>  
 no=N-poroh-ak-e=rika hanta parikoti irompa  
 1.SBJ=IRR-clear.land-PFV-IRR.I=COND there far.away suddenly  
 aka pok-ah-e=na aka onkuta  
 here come-REG-IRR.I=1.OBJ here next.day  
 ‘If I were to clear land far away over there, I would promptly come back here the following day.’
- b. [Harika otimi hampi]<sub>COND</sub>, [hara nokanti maika aka pintimake aka]<sub>RESULT</sub>  
 ha=rika o=tim-i hampi ha=ra  
 NEG.IRR=COND 3.NONM.SBJ=live-DIRR.I medicine NEG.IRR=TEMP  
 no=kant-i maika aka pi=N-tim-ak-e aka  
 1.SBJ=say-DIRR.I now here 2.SBJ=IRR-live-PFV-IRR.I here  
 ‘If there were no medicine, I would not say, “Please live here.” ’

EPISTEMIC CONDITIONAL constructions are distinguished from their possible conditional counterparts by the fact that their protasis clauses refer to REALIZED states of affairs about which the speaker is ignorant, rather than hypothetical, unrealized ones. As one would expect on notional grounds, positive polarity protasis clauses in epistemic conditional constructions take realis marking, while negative polarity ones are only singly irrealis, as in (27), unlike their possible conditional counterparts, which are doubly irrealis. Like possible conditional constructions, the apodosis clause of an epistemic conditional is a hypothetical clause and takes RS marking accordingly.

- (27) [Terika intonke]<sub>COND</sub>, [hara yami ibatsa]<sub>RESULT</sub>  
 te=rika i=N-tonk-e ha=ra  
 1.SBJ=COND 3.M.SBJ=IRR-shoot-IRR.I NEG.IRR=TEMP  
 i=am-i i-batsa  
 3.M.SBJ=bring-DIRR.I 3.M.POSS-meat  
 ‘If he did not shoot (an animal), he will not bring meat.’

The COUNTERFACTUAL CONDITIONAL construction expresses a conditional relationship between two events that failed to be realized in the past. As is to be expected from the notionally irrealis nature of both events, the clauses that denote them take irrealis marking when they exhibit positive polarity, as in (28a), and doubly irrealis marking when they exhibit negative polarity, as in the protasis clause of (28b). Both clauses bear the second position counterfactual clitic =*me*.

(28) a. *Inkaharame nohate, nontsonkerome.*

*inkahara=me no=N-ha-Ø-e*

earlier=CNTF 1.SBJ=IRR-go-IPFV-IRR

*no=N-tsonk-Ø-e-ro=me*

1.SBJ=IRR-finish-IPFV-IRR.I=3.NONM.OBJ=CNTF

‘Had I gone earlier, I would have finished it (clearing the garden).’

b. *Hame nokisainiti matsontsori, nohatakeme inkenishiku.*

*ha=me no=kisaini-i matsontsori*

NEG.IRR=CNTF 1.SBJ=dream-DIRR.I jaguar

*no=ha-ak-e=me inkenishiku*

1.SBJ=go-PFV-IRR.I=CNTF forest

‘Had I not dreamed of a jaguar, I would have gone into the forest.’

### 3.3.2 Prospective constructions

Nanti exhibits two PURPOSE constructions, each of which imposes RS restrictions on their goal clauses, an “immediate purposive” construction, where an action is carried out to directly and immediately achieve a goal, and an “indirect purposive” construction, where an action is carried out as one step in a series of actions to achieve a goal. The immediate purposive construction exhibits two slightly different forms, depending on the polarity of the goal clause. Positive polarity goal clauses are characterized by the presence of the subordinate clause marker =*ra* and by irrealis marking, as in (29).

(29) *Yagutake niha irobiikempara.*

*i=agu-ak-i niha i-ri-obiik-Ø-enpa=ra*

3.M.SBJ=climb.down-PFV-REAL.I water 3.M.SBJ=IRR-drink-IPFV-IRR.A=SUB

‘He (a howler monkey) climbed down to drink water.’

Negative polarity immediate purposive goal clauses are doubly irrealis constructions, as in (30), as expected from the irrealis marking borne by their positive polarity counterparts. Interestingly, while positive polarity goal clauses are

marked by the subordinate clause clitic =*ra*, their negative polarity counterparts instead are marked by the purposive marker =*ni*. Cognates of this marker surface as second position clausal purposive clitics in both negative and positive polarity goal clauses in several other Kampan languages, such as Kakinte (Swift 1988: 27–28), and in the closely related Matsigenka (Snell 1998: 63).

(30) *Norobite hani omakasabiti.*

*no=*o[+voice]-*rog-bi-Ø-e*                      *ha=ni*  
 1.SBJ=CAUS-dry-CL:RIGID-IPFV-IRR.I    NEG.IRR=PURP  
*o=makasa-bi-i*  
 3.NONM.SBJ=decay-CL:RIGID-DIRR.I  
 ‘I will dry (the arrow cane) so that it does not decay.’

The Nanti distant purposive construction is formed with the applicative suffix -*ashi*, which appears on the main verb, and permits verbs to take clausal goal complements. The verb of the purposive complement is obligatorily irrealis-marked, as in (31). Note that only positive polarity purposive complements are permitted, a reflection of the general tendency in Nanti to restrict negation in clausal complements.

(31) *Itsamaitashitaka intsagate kobiri, mamori, sankenapoha.*

*i=tsamai-ashi-ak-a*                                      *i=N-tsaga-e*  
 3.M.SBJ=garden-APPL:PURP-PFV-REAL.A    3.M.SBJ=IRR-fish-IRR.I  
*kobiri*              *mamori*              *sankenapoha*  
 fish.species    fish.species    fish.species  
 ‘He made his garden (there) in order to fish for *kobiri*, *mamori*, and *sankenapoha*.’

The notional motivation for irrealis marking in the goal clauses of both purposive constructions can be understood as a reflection of the fact that the agent carried out the action in the main clause has a PROSPECTIVE STANCE towards the goal expressed in the subordinate clause. That is, while the agent is carrying out the action expressed in the main clause, the goal to which these actions are aimed lies in the unrealized future. As such, the subordinate purpose clause falls into the notional domain of irrealis, relative to the main clause.

Very few Nanti complement-taking verbs determine the RS of their complements, although a small class of verbs that exhibit PROSPECTIVE COMPLEMENTS do precisely this, such as *kog* ‘want’ and *pintsa* ‘decide on a course of action’. Complements of these verbs express a prospective stance towards the future events in their complements, and correspondingly take irrealis marking. As we



**Table 5:** Reality status suffixes and negation in the Kampan languages

	I-class	A-class	neg	I-class	A-class	neg
Ashéninka	-i	-a	te	-e	-ea	eiro
Asháninka	-i	-a	te	-e	-ia	eero
Kakinte	-i	-a	tee	-e	-empa	aato
Matsigenka	-i	-a	te(ra)	-e	-empa	ga(ra)
Nanti	-i	-a	te(ra)	-e	-empa	ha(ra)
Nomatsigenga	-i	-a	te	-e	-ema	kero

is a binary inflectional category in all the Kampan languages, and as is evident in Table 5 (which suppresses details of allomorphy in specific languages), there is considerable similarity among the languages in terms of RS morphology and the related forms of negation.

As far as can be determined from published sources, the semantics of realis and irrealis marking in these languages appears to be quite similar to that of Nanti, and they also all exhibit doubly irrealis constructions in the prototypical case of negated clauses with future temporal reference.

Terena, a language spoken in Brazil near the Paraguayan border, possesses an RS system that displays striking structural similarities to the Kampan ones. As in the Kampan languages, a realis/irrealis contrast is obligatorily marked on all Terena verbs. Although the available descriptions are somewhat sketchy, the notional organization of the Terena RS system appears to largely coincide with that of the Kampan languages. The one notable difference is that future temporal reference may take either realis or irrealis marking depending on the degree of certainty with which the speaker predicates the future event. The language also distinguishes two forms of negation that select for the notional RS of their complements: a realis negation *ako* and an irrealis negation *hyoko* (Ekdahl & Grimes 1964, Butler 1978).<sup>19</sup> Remarkably, the use of the irrealis negation triggers nominally “realis” marking on the verb, producing a doubly irrealis construction like that found in the Kampan languages.

(34) a. *pih-óp-o*

GO-REG-REAL

‘He went back (to where he came from).’

<sup>19</sup> Note that Ekdahl & Grimes (1964) characterize the inflectional contrast as between “actual” and “potential”, and refer to the two negations as the “negation of actual mood” and the “negation of potential mood” respectively.

- b. *píh-áp-a*  
 go-REG-IRR  
 ‘He will go back (to where he came from).’
- (35) a. *ako*      *píh-áp-a*  
 NEG.REAL go-REG-IRR  
 ‘He did not go back (to where he came from).’
- b. *hyoko*    *píh-óp-o*  
 NEG.IRR go-REG-REAL  
 ‘He will not go back (to where he came from).’

Recent classifications place both the Kampan languages and Terena in the Southern division of the Arawak family (Aikhenvald 1999, Campbell 1997), but no classifications posit a close relationship between the two languages (which accords with their separation of approximately 2,000 kms), suggesting either that an RS system similar to that found in Terena and Kampan languages was present at some early stage in the diversification of Southern Arawak, or that this type of RS system was a strong attractor for a historically prior inflectional system (see Michael 2014 for further discussion of this point).

## 5 Discussion and conclusion

With a description of the Nanti RS system in hand, we can now revisit how the Nanti facts impinge on the arguments of Bybee and colleagues, Cristofaro, and de Haan, against the typological validity of RS.

As discussed in Section 1.3, Bybee and colleagues’ arguments were significantly influenced by the fact that putative examples of RS systems described in the literature diverged in various ways from expectations regarding an ideal or prototypical RS system. This led them to conclude that the notions of “realis” and “irrealis” were at best “vague indicators” of a set of grammaticalization tendencies in the modal domain, but that these categories had no communicative or psychological reality for speakers, and as such, were poor candidates for typologically-valid grammatical categories. My goal in Section 3 was to show that the Nanti RS system is a near-ideal (i.e., canonical) RS system, and that there is both language-internal and comparative evidence to suggest that notions of “realis” and “irrealis” play crucial roles in understanding the behavior of this inflectional system. RS is expressed in Nanti as a binary inflectional contrast that is marked on all but a few irregular verbs, and as demonstrated in Section 3.1, the

marking of realis and irrealis in simple sentences follows from the standard notional definitions of these category values, cross-cutting the semantic parameters of temporal reference, negation, and modality. The notional coherence of RS in Nanti is maintained in clause-linking constructions, and the realis/irrealis contrast is even maintained in passive constructions, in which regular RS morphology is replaced by portmanteaux morphemes that both reduce the valency of the verb and express RS.

The Nanti facts also provide a counterexample to Bybee's contention that RS markers cannot be said to encode realis/irrealis distinctions as such, but that these markers instead inevitably participate in constructions that render them more semantically specific than is suggested by the labels "realis" and "irrealis". Recall that this critique does double work for Bybee in that it serves, first, to eliminate particular putative RS systems as examples of canonical or near-canonical RS systems (since they exhibit forms of further semantic specification), and second, that it is coupled to a *reductio ad absurdum* argument against the very plausibility of RS systems, based on the observation that without further semantic specification, RS constructions would be highly ambiguous and thus too semantically general to be communicatively useful or psychologically real. However, Nanti bare RS constructions contain no additional morphology that further semantically specify the construction, and are indeed ambiguous in precisely the manner that Bybee predicts. For these constructions it is pragmatics, not grammar, that yields the more specific temporal or modal interpretations, indicating that Nanti RS markers are as semantically broad as their labels suggest, and demonstrating that for the speakers of this language, at least, the notions "realis" and "irrealis" are communicatively useful.

We now consider the Nanti facts in light of Cristofaro (2012), which takes up in greater empirical and analytical detail one of Bybee's principal arguments against RS as a grammatical category, namely that the putative realis/irrealis distinction is simply a vague label of convenience for certain forms of multifunctionality associated with particular morphemes in particular languages. For Cristofaro, the key issues are, first, whether a notional distinction between realized and unrealized events played any role in the grammaticalization of putative realis and irrealis markers, and second, whether speakers refer to general notions of realized and unrealized events when using RS markers. Cristofaro argues that in most cases there is compelling evidence that neither of these criteria is satisfied by putative RS systems.

Cristofaro's argument against the idea that general notions of realized and unrealized events played a role in the grammaticalization of RS markers turns on the fact that the multifunctionality exhibited by putative RS systems generally

does not span the full range of unrealized eventualities (Cristofaro 2012: 138). She notes that crosslinguistically there are two major patterns of multifunctionality involved in unrealized situations: (i) those that group together not-yet-realized situations (futures, conditions, wishes, directives, etc.) and (ii) those that group together situations that failed to be realized in the past (negation, counterfactuals, unfulfilled obligations, etc.), and that languages tend to have markers for one pattern or the other (or different ones for each). Cristofaro (2012: 140) observes that

[t]he very existence of these patterns suggests that they do not originate from some general notion of unrealized state of affairs. If this were the case, one would expect that just any type of unrealized states of affairs could be included in a single multifunctionality pattern. The fact that individual multifunctionality patterns are typically restricted to specific types of unrealized states of affairs suggests that these patterns originate from properties of these states of affairs other than their being unrealized [...]

The Nanti RS system is significant in this light because it precisely does span both of the multifunctionality patterns Cristofaro has identified, suggesting that a more general notion of unrealized situations is at play. The doubly irrealis construction, described in Section 3.2, furthermore provides evidence against the possible objection that the apparent notional coherence manifested by Nanti RS marking across the range of constructions is merely multifunctionality. Since all notionally irrealis clauses behave the same way when negated – that is, they trigger a doubly irrealis construction – there is language-internal evidence that all irrealis constructions share a property that leads them to exhibit the same behavior under negation. Since doubly irrealis constructions involve situations characterized by two semantic parameter values, each of which trigger irrealis marking on their own, it is reasonable to suppose that the shared property or characteristic of the clauses undergoing negation in these cases is in fact notional irrealisness.

Another phenomenon that Cristofaro (2012: 140) points to as evidence that particular RS systems do not rely on a unitary notion of realized vs. unrealized events are cases in which the same “irrealis” marker is used in negated and affirmative clauses for particular unrealized event types, but where different “irrealis” markers are used across different unrealized event types, as in Cuiba (Guahiban; Venezuela) and Nivkh (isolate; Russia) (Miestamo 2005: 104, 271, cited in Cristofaro 2012: 140). These are cases where situation types retain traces of the more specific notional basis of the putative “irrealis” category. Nanti also eludes this potential objection against the notional unity of RS in the language, since there is no split across the types of unrealized situations in the language (or realized ones, for that matter).

The two arguments against the notional unity of RS categories just examined reflect Cristofaro's (2012) more general point that grammatical systems that appear to be based on a distinction between realized and unrealized states of affairs should be examined for evidence that more specific meanings were at play in the diachronic development of the systems in question, and in the synchronic use of the system by speakers. It is worth noting, however, that Cristofaro (2012: 143) allows that a general notion of unrealized situations probably did play a role in the grammaticalization of some multifunctionality patterns, citing the case of Ancient Greek, where the optative, used in Homeric Greek in main clauses expressing possibilities and wishes, in purpose clauses, and in counterfactual conditions, came to be used in complement clauses in which the speaker is not committed to the truth of the complement. Cristofaro notes there is no obvious connection between the earlier main clause uses of the optative and its later subordinate clause uses other than the situations are "not presented as positively realized", suggesting that a notion of unrealized situations played a role in this grammaticalization process. However, she goes on to caution that even if there is evidence that the notion of unrealized situations played a role in development of (further) multifunctionality "this does not mean that this notion plays any role in a speaker's mental representation of the corresponding forms at the synchronic level" (Cristofaro 2012: 144).

This latter issue is, in the view of this author, ultimately the crux of the issue. It is possible, as Cristofaro's argument suggests, that speakers of Nanti simply have construction-specific understandings of how "realis" and "irrealis" marking is related to narrower semantic parameters in each of the construction types in which the putative realis/irrealis distinction surfaces, and that the uniform inflectional marking across these construction types is not based on any notional generalization across the varied instances of the the realis and irrealis morphemes. And although we cannot rule out this possibility (and it is not clear in any case that linguists are well-equipped to evaluate this question of psychological reality), I argue that the notional coherence across realis- and irrealis-marked constructions, and the pervasiveness of realis and irrealis marking in Nanti grammar, are difficult to account for without recourse to the idea that the RS system is underpinned by general notions of realized and unrealized events.

Diachronic evidence regarding RS systems in Southern Arawak also appears to support this position. As discussed in Section 4, similar RS systems are found in all other Kampan languages, and strikingly, in Terena, a language very distantly related to the Kampan languages, which exhibits an RS system with a doubly irrealis construction that is structurally almost identical to the Nanti one. The fact that two distantly related branches of Southern Arawak exhibit such similar systems suggests that they are of substantial antiquity in this division of the

family.<sup>20</sup> If “reality status” is simply a label of convenience for certain types of multifunctionality, this diachronic stability is somewhat difficult to explain, but becomes much more easily explicable if we take the general notions of *realis* and *irrealis* to have played a role in the development and maintenance of these systems.

We finally take up de Haan’s (2012) rejection of RS as a typologically valid grammatical category. Following the spirit of Mithun’s (1995) and Givón’s (1994) suggestion that RS systems be studied in terms of category prototypes, de Haan investigates the possibility of identifying core meanings shared crosslinguistically by RS systems, but argues on the basis of considerable crosslinguistic data that there are no such core meanings to be found. De Haan’s findings raise two important issues in my view: first, whether greater notional coherence among legitimate RS systems is in fact being obscured by lumping together systems of quite different types; and second, whether a canonical typological approach may be a productive means to both acknowledge canonical RS systems, like that of Nanti, and clarify the variation among RS systems.

With respect to the first point, it is not clear that all the systems that have been characterized as exhibiting a *realis/irrealis* contrast in fact belong to the same type of system for which Nanti serves as a canonical example. In particular, there is evidence that the basic semantic distinction underlying some so-called RS systems is not “realized vs. unrealized” but “temporally definite vs. temporally indefinite”, especially those languages for which habitual situations trigger so-called “*irrealis* marking” (de Haan 2012: 211–212, Palmer 2001).<sup>21</sup> Although de Haan (2012: 128) considers the existence of such systems to be problematic for defining a core meaning for RS categories, an alternative is to consider the two types of systems to reflect wholly different typologically valid grammatical categories – RS vs. temporal definiteness – which tend to pattern in similar ways for many situations, despite the definition of the underlying categories being quite distinct.<sup>22</sup> These observations raise the possibility that some of the notional incoherence of putative RS systems may stem from an overly broad application of the

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**20** Swintha Danielsen (personal communication) indicates that Paunaka has a similar RS system, as did colonial era Baure, providing further evidence for the antiquity of this type of RS system in Southern Arawak.

**21** Work by the author on Matsigenka, the language most closely related to Nanti, suggests that the two obligatory verbal inflectional categories for this language are RS and temporal definiteness, raising the possibility that the two categories can co-exist in a single language.

**22** A similar phenomenon of partially convergent patterning arises with evidentiality and epistemic modality. These two categories are notionally distinct, but nevertheless tend to align in many situations, insofar that situations for which indirect evidential categories are appropriate also tend to be those for which weak epistemic modality (i.e., relative uncertainty) is appropriate.

term, both to systems of different types (like temporal definiteness) and to systems exhibiting modal multifunctionality that are best analyzed as such, and not as RS systems.

It is in this respect that a canonical typological approach may prove a productive strategy for clarifying the analytical and empirical issues surrounding RS. As Corbett (2005) observes, canonical typology can help us avoid inadvertently treating distinct phenomena as the same, since this approach leads us to examine how attested systems can vary in a space projected by the canonical instances of a given phenomenon. This suggests that it may be profitable to pursue a canonical typological examination of RS, in which the Nanti RS system can serve as a canonical or near-canonical instance of the phenomenon. It is worth noting that in such an approach we would not necessarily expect to find a core meaning of the sort that de Haan sought, since non-canonical instances of a phenomenon can differ in diverse ways from canonical instances. Although such a task is far beyond the scope of the present article, it points to a way to reconcile de Haan's inability to identify crosslinguistic core meanings underpinning (putative) RS systems with the fact that Nanti provides an example of an apparently canonical RS system.

In this discussion I have sought to show that the Nanti RS system appears to successfully meet the major empirical challenges raised by linguists skeptical of the typological validity of RS. RS in Nanti is an obligatory verbal inflection that marks a binary distinction between realized and unrealized events, exhibiting significant conformity with the notional realized/unrealized distinction, across a wide variety of construction types. The Nanti RS system also does not show obvious signs of having grammaticalized on the basis of meanings more specific than "realized" and "unrealized", and comparative evidence from other Arawak languages suggests that reality systems like the Nanti one have been quite diachronically stable in Southern Arawak. Similarly, the study of the Nanti system revealed a major type of RS construction not yet discussed in the literature – the doubly irrealis construction – suggesting that detailed descriptive studies of specific RS systems will yield significant new findings about the possible types of organization of such systems.

Showing that the Nanti RS system exhibits the properties and behaviors that we would expect of a prototypical or canonical RS system does not, of course, conclusively refute the arguments of linguists who have raised doubts about the typological validity of RS as a grammatical category. Even if it is generally accepted that the Kampan RS systems (and possibly those of other Southern Arawak languages) conform closely to our expectations of an ideal RS system, it must be conceded that transparent and well-behaved realis/irrealis contrasts of this type remain rare in comparison with better-known inflectional contrasts, such as the

perfective/imperfective contrast. Whether this rarity proves consequential is unclear at this point, however, since, as Corbett has observed (see above), canonical instances of a given phenomenon may be rare or non-existent. It seems clear, however, that the Nanti RS system provides a useful reference point for a canonical typological approach aimed at exploring the typological space that systems like the Nanti one occupy.

**Acknowledgements:** I am grateful to the residents of the Nanti community of Montetoni for their good will and their patience in teaching me about their language and their lives. I owe special thanks to Migero, Bikotoro, and Tekori, for the additional interest they took in me and my work. Christine Beier has been my research partner in the Nanti communities since the beginning, and in innumerable conversations has contributed much to my understanding of the Nanti language. The fieldwork on which this article is based was in part supported by an NSF DDRI grant and a Fulbright-Hays DDRA fellowship, and was carried out in affiliation with the Centro para Investigación de Lingüística Aplicada (CILA) at the Universidad Nacional Mayor de San Marcos.

**Abbreviations:** 1/2/3 = 1st/2nd/3rd person; A = A-class verb; ABL = ablative; APPL:PURP = purposive applicative; CAUS = causative; CL = classifier; CNTF = counterfactual; COMP = complementizer; COND = conditional; DEONT = deontic; DIRR.I = doubly irrealis, I-class verb; FOC = focus; FRUS = frustrative; HAB = habitual; I = I-class verb; INAN = inanimate; INCL = inclusive; IPFV = imperfective; IRR = irrealis; IRR.A = irrealis, A-class verb; IRR.I = irrealis, I-class verb; LOC = locative; M = masculine; MALREP = malefactive repetitive; NEG.IRR = irrealis negation; NEG.REAL = realis negation; NONM = non-masculine; OBJ = object; PASS.IRR = irrealis passive; PASS.REAL = realis passive; PFV = perfective; PL = plural; POSS = possessor; PRO = pronoun; PURP = purposive; REAL = realis; REAL.A = realis, A-class verb; REAL.I = realis, I-class verb; REG = regressive; SBJ = subject; SUB = subordinator; TEMP = temporal.

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