On (Ir)reality and (Ir)realis modality

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April 3, 2020

Abstract

This draft tries to give some formalization of the notional category of (Ir)Realis on the basis of insights put forth in the litterature. This caracterization is not intended to capture all the usages of theses terms – since they have been used in contexts that are sometimes not uniform cross-linguistically. Rather, it aim at capturing the semantic core of theses notion so as to be inclusive enough to handle almost all the cases of (Ir)Realis marking. Please feel free to make any comment you want on this first draft. Any comment will be quite welcome.

1 Introduction

Among the categories related to modality are those qualified as Mood. Between them, the notions of Irrealis and Realis seem to be central. Tough, it is difficult to provide a definition which could fit well the range of environments licensing markers of theses categories both language internally and cross-linguistically. This short paper tries to give some formalization of the notional category of (Ir)Realis on the basis of insights put forth in the litterature. This caracterization is not intended to capture all the usages of theses terms – since they have been used in contexts that are sometimes not uniform cross-linguistically. Rather, it aim at capturing the semantic core of theses notion so as to be inclusive enough to handle almost all the cases of (Ir)Realis marking.

Section 2 present the proposal while section discuss some more issues concerning for example the behaviour of (Ir)realis markers accross languages. Section 4 sums up the discussion.

2 Towards a formal definition of (Ir)Realis

Generally, in trying to identify the category to which belongs a given morpheme, there are two strategies that may be used. The first is to consider the behaviour/distribution of this morpheme compared with a (proto-)typical distribution of the morphemes belonging to the targeted category. Concerning (Ir)realis markers, it seems that there isn't a universal set of environment licensing all cases of Irrealis marking on the one hand

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and Realis marking on the other hand. However, there are some contexts that usually license Realis or Irrealis marking in natural languages. Table 1 provides a summary of such contexts with languages where we find such categories.

Table 1: Summary of environments licensing (Ir)realis morphology

Contexts	Realis	Irrealis
Habitual		Badiaranke, Bargam, Bulgarian
Present indicative	Aust. lang., Nafsan, Wogeo, Daakie, Tukang Besi, Tsou	
Past	Aust. lang., Nafsan, Wogeo, Daakie, Bukiyip, Tukang Besi, Tsou, Iquito	Nafsan (modal contexts), Wogeo (modal contexts)
Future	Aust. lang., Nafsan, Wogeo, Tukang Besi (Imminent future)	Nafsan, Bukiyip, Tukang Besi (Remote future), Tsou, Iquito
Deontic contexts		Badiaranke
Wishes (bouletic)		Badiaranke
Conditional (indicative)		Tsou
Counterfactual	Nafsan, Wogeo	Badiaranke, Amele, Tsou, Nafsan, Wogeo
Imperatives/directives	Tukang Besi (speaker included), Amele (speaker included)	Amele, South Efate, Tsou
Negation	Aust. lang.	Bukiyip

Sources: Merlan (1981); Fleischman (1995); Cover (2010); Capell & Hinch (1970); Krajinovi\'{c} (2018); Krifka (2016); Mauri & Sans\'{o} (2016, and references there in)

Even if Table 1 gives an overview of the environments that license in general realis/irrealis morphology, distribution is not enough to identify which counts as realis and irrealis since an environment that license irrealis morphology in a language A may license realis morphology in a language B (see the example of directives).

The second strategy is to use "*working definition[s]*" (Matthewson, 2012, p. 13)[1]. But again, for (Ir)realis, there is no working cross-linguistic definition. Instead, the definition of Irrealis is language specific (see e.g. Bybee et al., 1994). Tough, I think that, environments in Table 1 allow a working definition of (Ir)realis category. This section tries to make such a concrete definition. I start from the classical definition.

The litterature on (Ir)realis agree in that these categories are related to reality/actuality status of the eventuality describe by the main verb (see e.g. Bybee et al., 1994; Bybee, 1998; Capell & Hinch, 1970; Elliot, 2000; Krifka, 2016; Krajinovi\'{c}, 2018, and references there in). This idea may be formalized as follows:

Definition 1 ((Ir)Realis category – 1)**.** The features [REAL] and [IRR] coding Realis and

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[1] see also Bybee et al. (1994, a.o.)

Irrealis modality respectively are defined as follows :

1. $\| \, [\textsc{real}] \, \| = \lambda P.\lambda w.P(w) \, \& \, w = w_0$

2. $\| \, [\textsc{irr}] \, \| = \lambda P.\lambda w.\neg(P(w) \, \& \, w = w_0)$

Definition 1 states that Realis markers are licensed iff the eventuality obtains in a world that is the actual world while Irrealis markers may apply whenever the eventuality doesn't obtain in the actual world (i.e. they are neutral concerning wether the eventuality does obtain or not in a given world different from the actual one) as shown by the truth table in Table 2.

Table 2: Truth tables for Realis (REAL) and Irrealis (IRR) according to Definition in (1)

$P(w)$	$w = w_0$	REAL	IRR
1	0	0	1
0	1	0	1
0	0	0	1
1	1	1	0

The truth table cover a range of facts that include negative contexts since they entail that the eventuality doesn't obtain in the actual world. So it covers the two recurrent components of Irrealis: "potential actualization"/"non-actualization" (Nikolaeva, 2016, p. 81) where "actualization" could be construed as being true in the actual world. Languages like Badiaranke which irrealis markers are not licensed in negative contexts (Cover, 2010) might be thought as encoding the subcategory of irrealis modality (like subjunctive), say *Fictional modality*.

Definition 2 (Fictional modality). The feature [FIC] coding fictional modality is defined as follows : $\| \, [\textsc{fic}] \, \| = \lambda P.\lambda w.P(w) \, \& \, \neg w = w_0$.

To handle the case of habituals, one may make use of situation instead of world since situation include time parameter, the evaluation situation would be a part of the evaluation world as it appears in a given time. In this case, we see that habitual don't necessarily obtain in the evaluation situation.

Another question is whether actuality/reality status of eventualities that counts as realis is strictly speaking defined with regards to the actual world or some evaluation world that, by default, amounts to the actual world. One way of testing this hypothesis is to look at the behaviour of realis markers in embedded contexts. Considering the discussion in Krifka (2016), it seems that we should add a bouletic modal base:

> In embedded clauses, realis is used when the embedded clause is taken to be true by the speaker. (Krifka 2016: 568)

This is also confirmed by this quote from Chafe (1995, p. 364) [2] :

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[2] quoted from Bybee (1998). See also Nikolaeva (2016, p. 80): "The irrealis encodes a single core meaning, namely, the *construal by the speaker* of a situation as unreal [...] For Elliott, the common semantic core of irrealis is that 'irrealis events or states are *perceived* as being located in an alternative hypothetical or imagined world, but not the real world' (2000: 81)" (emphases are mine).

> The realis-irrealis dimension has a consistent functional basis in people's judgments concerning the degree to which their ideas accord with what they believe to be objective reality.

So the previous definition of realis modality can be recasted as follows :

Definition 3 ((Ir)Realis category – 2)**.** The features [REAL] and [IRR] coding Realis and Irrealis modality respectively are defined as follows :

1. $\| \text{[REAL]} \| = \lambda P.\lambda w.P(w) \,\&\, w \in B$ where B is the set of partial worlds (i.e. situations) that are part (proper or not) of the actual world according to the speaker's belief.

2. $\| \text{[IRR]} \| = \lambda P.\lambda w.\neg(P(w) \,\&\, w \in B)$

This definition capture the fact that realis doesn't capture merely actuality but actuality according to the speaker's belief.

This move in the definition, desirably predicts a wide range of variation accross languages[3] according to the "vision du monde" expressed by the language. This capture the notion of "what counts as real" as pointed out by Roberts (1990, quoted from Bybee et al. 1994) and thus the fact that a realis marker of a language A may appear in context where irrealis marker of a language B occurs.

3 Realis vs Irrealis marking

The definition stated above doesn't entail that the ±REAL is the only opposition that we may find in natural languages. The Nafsan case show that there may as well be a ±IRR opposition. That is, a (paradigm of) morpheme(s) specified +IRR that contrast with a (paradigm of) morpheme(s) specified −IRR.

Also, it may be the case that the Irrealis category in a given language encode a subcategory of IRR (e.g. Badiaranke, cf. Cover, 2010)[4] or be presuppositional (e.g. Daakie, cf. Krifka, 2016). In that case, one could model the irr feature as follows : $\| \text{[REAL]} \| = \lambda P.\lambda w : w \in B.P(w)$. In the case of negation, this would amount to say that P don't obtain in the actual world according to the speaker. In that case, $\neg P$ would obtain in the actual world. The treatment is also compatible with the view that Realis and Irrealis are refering modal categories (Elliot, 2000; Krajinovi\'{c}, 2018). Indeed, assuming this imply that we could give them a pronominal analysis on a par with tenses (Partee, 1973; Kratzer, 1998).

Definition 4 (Pronominal/refering (Ir)Realis categories)**.** The features [REAL] and [IRR] coding Realis and Irrealis modality respectively are defined as follows :

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[3]and even within the same language. For example, the next two sentences are good in French but convey slightly different meanings

(i) Je ne crois pas qu'il est parti.

(ii) Je ne crois pas qu'il soit parti.

In uttering (i), the speaker is more certain about the fact that he has not gone than in uttering (ii).

[4]In that case too, it seems that a ±IRR opposition is desirable.

1. $\| \ [\text{REAL}] \ \| = \lambda w \ : \ w \in B.\,w$ where B is the set of partial worlds (i.e. situations) that are part (proper or not) of the actual world according to the speaker's belief.

2. $\| \ [\text{IRR}] \ \| = \lambda w \ : \ \neg w \in B.\,w$

4   Conclusion

Beyond the multiple usages of the terms "Realis" and "Irrealis" as well as the intriguing distribution of markers said to be encode these categories and the resulting difficulty to find a working cross-linguistic definition to this modality. It seems keeping the basic insight that Realis is related to reality/actuality and relativizing to the speaker would do the job. In this perpective, (Ir)Realis is a speaker oriented modal category. I don't think any definition would be able to capture all the usage of the terms realis and irrealis. But, I think, relativizing reality/actuality to a bouletic modal base is inclusive enough to capture almost all the usage of Irrealis modality. The definition proposed here is intended to be a reasonable definition (capturing/formalizing the conceptual notion as sketched in the litterature) covering a reasonable array of facts concerning (Ir)realis modality.

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