

Negation and perfective vs. imperfective aspect

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1. Introduction

This paper addresses the claim made in the literature that, cross-linguistically, perfective aspect tends to be less compatible with negation than imperfective aspect. Schmid (1980: 39) formulates the claim as follows:

“if there are restrictions on the appearance of aspectual forms under negation, completive forms will be restricted.”

For her, counterevidence would be

“languages in which non-completive marking is restricted in the negative, while completive marking (...) is not so restricted” (ibid. 60-61).

Matthews (1990: 84) notes that “[i]n many languages, perfective aspect is incompatible with negation.”

In Koyraboro Senni, perfective and imperfective aspect are distinguished in both affirmatives (1a,c) and negatives (1b,d), but in Bagirmi (2) a distinction within the perfective aspect is lost.

(1) Koyraboro Senni (Nilo-Saharan, Songhay) (Heath 1999: 8-9, 57)¹

a.	n	ga	koy	b.	war	si	koy
	2SG.SUBJ	IMPF	go		2PL.SUBJ	NEG.IMPF	go
	‘You are going / will go.’				‘You are not going / will not go.’		
c.	ay	koy		d.	ya	na	koy
	1SG.SUBJ	go			1SG.SUBJ	NEG	go
	‘I went.’				‘I didn’t go.’		

¹ The genealogical affiliations of the languages follow the classification by Dryer (2005) in *The World Atlas of Language Structures* (Haspelmath et al. [eds] 2005). The abbreviations used in the glosses are listed in the end of the paper.

(2) Bagirmi (Nilo-Saharan, Bongo Bagirmi) (Stevenson 1969: 83, 91, 98, 105, 130)

- | | | | | | | | |
|----|------------------------|-----------|-----|----|------------------------|-----------|------|
| a. | ma | ki-'de | | b. | ma | ki-'de | li |
| | 1SG | IMPF-come | | | 1SG | IMPF-come | NEG |
| | 'I (shall) come.' | | | | 'I do/shall not come.' | | |
| c. | ma | m-'de | | d. | ma | m-'de | ga |
| | 1SG | 1SG-come | | | 1SG | 1SG-come | CMPL |
| | 'I came.' | | | | 'I have come.' | | |
| e. | ma | m-'de | li | | | | |
| | 1SG | 1SG-come | NEG | | | | |
| | 'I did/have not come.' | | | | | | |

In Bagirmi, imperfective aspect appears in both affirmatives and negatives (2a,b). Perfective aspect itself may also appear in both affirmatives and negatives (2c,e), but the completive marker that emphasizes the completedness of the action in perfective aspect (2d) is incompatible with negation. Bagirmi thus exemplifies the generalization proposed by Schmid (1980) and Matthews (1990).

In Bagirmi we are dealing with a grammatical restriction, i.e. the completive marker is ungrammatical in negatives. In some languages, however, the preference for imperfective aspect is only statistical. In Russian, although perfective aspect is not incompatible with negation (3), there is a clear preference to use imperfective aspect under negation.

(3) Russian (Indo-European, Slavic) (Matthews 1990: 85)

- | | | | | | | | |
|----|---------------------|---------|--|----|--------------------------------------|------------|---------|
| a. | pro-chital | stat'ju | | b. | ne | pro-chital | stat'ju |
| | PFV-read | paper | | | NEG | PFV-read | paper |
| | 'I read the paper.' | | | | * 'I didn't read the paper.' | | |
| | | | | | 'I didn't finish reading the paper.' | | |

Thus, while (3b) is not ungrammatical, it is clearly dispreferred in actual discourse; in fact, as Matthews (1990: 84, note 5) also points out, it gets a different, more specific reading under negation, and the meaning of (3a) is then negated using the imperfective.

If we take a closer look at the empirical bases of the claims made by Schmid (1980) and Matthews (1990), we can see that these claims are not based on very extensive selections of languages. Schmid has examined 25 languages in her study and noted (1980: 39-49) that there are grammatical restrictions on the use of perfective aspect under negation in Maori (Austronesian, Oceanic), Mandarin (Sino-Tibetan, Chinese), Upper Chehalis (Salishan, Tsamosan), and Khasi (Austro-Asiatic, Khasian), and that the use

of perfective aspect is dispreferred in Russian (Indo-European, Slavic). Matthews (1990: 84-85) gives Mandarin and Hungarian (Uralic, Ugric) as examples of languages where perfective aspect is incompatible with negation, and Russian as an example of a language where the use of perfective aspect is dispreferred in negatives. It is clear that more languages need to be examined if we wish to make any truly cross-linguistic claims about the compatibility of imperfective and perfective aspect with negation.

Before widening our database, let us have a brief look at the explanations proposed for the alleged incompatibility of perfectives and negation. According to Schmid (1980: 198-199),

“[t]he negative itself [...] possesses inherent aspect: not being true essentially being viewed as an on-going state or generally the case. There is thus a resistance to the co-occurrence of the negative with aspectual forms which delimit events.”

Matthews (1990: 86) takes negative perfectives to be bad because “states, unlike events, can readily be negated”. Both authors thus resort to the compatibility of states rather than events with negation which is stative. Some grammars of individual languages also offer explanations to the incompatibility of a perfective/completive aspect category with negation. Thus, in his grammar of Paamese (Austronesian: Oceanic) Crowley (1982: 226) suggests:

“Note that the negative form of the verb is semantically incompatible with the modifier *tai*, as this indicates completive action, whereas negation indicates that the action is not yet completed.”

In a similar vein, Hagman (1977: 90) notes on Khoekhoe (Khoisan: Central Khoisan):

“The frequent use of this [non-punctual] aspect with negation may be explained by the fact that the non-occurrence of an event is not as definable in time as its occurrence.”

2. Testing the generalization

The compatibility of imperfective and perfective aspect with negation has been examined by Miestamo (2003, 2005) on the basis of a sample of 297 languages. His typological study of negation focuses on the structural differences that negatives show vis-à-vis affirmatives. A basic distinction is made between symmetric and asymmetric negation. In symmetric negation, negatives do not differ structurally from affirmatives except for the presence

of the negative marker(s), whereas in asymmetric negation, there are structural differences, i.e. asymmetry, between affirmatives and negatives in addition to the presence of the negative marker(s). There is no need to go into detail about the different ways in which symmetry and asymmetry can be manifested in negative structures. It is sufficient to note that it is not at all uncommon that the (verbal) paradigms used in negatives differ from those used in affirmatives; such situations are referred to as paradigmatic asymmetry. In most cases of paradigmatic asymmetry, fewer grammatical distinctions are available in the negative than in the affirmative. Thus, the phenomenon examined in this paper, loss of aspectual distinctions made in the affirmative under negation, is a manifestation of paradigmatic asymmetry.

Miestamo's (2005) variety sample contained 297 languages. This sample was not heavily biased, but to make statistical observations more reliable, a genealogically and areally balanced subsample of 179 languages was used for the calculations. To test the generalization concerning the compatibility of perfective and imperfective aspect with negation (ibid. 180-181), the language-particular aspectual categories were divided into two groups: the imperfective-type categories (incomplete, continuous, durative, imperfective, progressive) and the perfective-type ones (complete, perfective, perfect, punctual, resultative). Among the 179 sample languages, there were 49 in which the direct effect of asymmetry was the loss of some grammatical distinction(s) under negation (counting all subtypes of asymmetric negation). In 15 of these languages a category from either the imperfective or the perfective group was affected without the corresponding category from the opposite category being affected. Bagirmi (2) has already shown us an example of the situation where a perfective-type category is lost under negation. The opposite situation occurs in Ebira (4), where both the affirmative and negative paradigms can make the TAM distinctions between simple past (4a-b), perfective (4c-d), future (4e-f), and habitual (4g-h). In the present continuous (4i), however, the affirmative form does not have a negative counterpart, and this tense-aspect category is simply not available in the negative. (Note that in some of these examples, TAM is expressed by the TAM-person portmanteau marker only and in others there is an additional TAM marker contributing to the expression of TAM; only the latter are glossed using the specific label of the TAM category in question.)

(4) Ebira (Niger-Congo, Nupoid) (Adiva 1989: 77, 80, 81, 82, 83, 90, 91, 94)

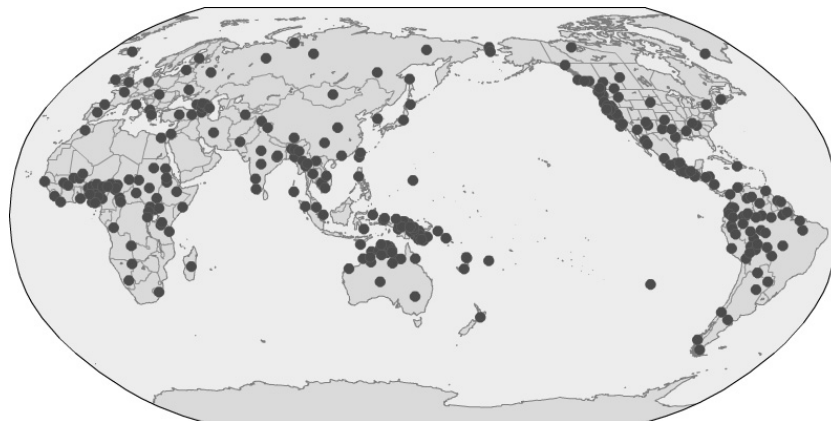
a.	mê	hú	b.	mé	yí	hú
	1SG.TAM	drink		1SG.TAM	NEG	drink
	'I drank.'			'I didn't drink.'		

<p>c. má ráa rí ó</p> <p>1SG.TAM PFV eat it</p> <p>‘I have eaten it.’</p>	<p>d. mɛ̀ɛ yí rí</p> <p>1SG.TAM NEG eat</p> <p>‘I haven't eaten.’</p>
<p>e. mí vê hú</p> <p>1SG.TAM FUT drink</p> <p>‘I will drink.’</p>	<p>f. mé yí vê hú</p> <p>1SG.TAM NEG FUT drink</p> <p>‘I will not drink.’</p>
<p>g. mii hú</p> <p>1SG.TAM drink</p> <p>‘I habitually drink.’</p>	<p>h. mé me hú t́b́ya</p> <p>1SG.TAM NEG drink beer</p> <p>‘I do not habitually drink beer.’</p>
<p>i. mɛ̀ɛ hú</p> <p>1SG.TAM drink</p> <p>‘I am drinking.’</p>	

The present continuous belongs to the group of imperfective-type categories. Restricting the occurrence of an imperfective-type category under negation without restricting the occurrence of a perfective type category, Epira provides a clear counterexample to Schmid's and Matthews' claims cited above. Looking at the big picture provided by the sample languages, we can see that their claims do not hold even as tendencies. There are 7 languages where the occurrence of a perfective-type category is excluded under negation without an imperfective-type category being excluded, and 7 languages where it is an imperfective-type category that is lost under negation.²

The picture remains the same if we include all 297 languages of the slightly less well balanced variety sample. The sample languages are shown on Map 1.

² In Miestamo (2005: 180-181) there are 8 languages where an imperfective-type category is blocked under negation. Here we have removed Yoruba from that group since, like the Russian perfective, the Yoruba continuous is not formally blocked, there is only a semantic shift in the meaning of the category.

Map 1. Languages in the 297-language variety sample ³

In this sample, there are 14 languages where a perfective-type category is lost under negation and 14 languages where an imperfective-type category is excluded. The following listings show the affected categories in each language, and the maps show where the languages are located. There is no space here to discuss the details of each language (for detailed analyses see Miestamo (2005) and the original sources listed therein).

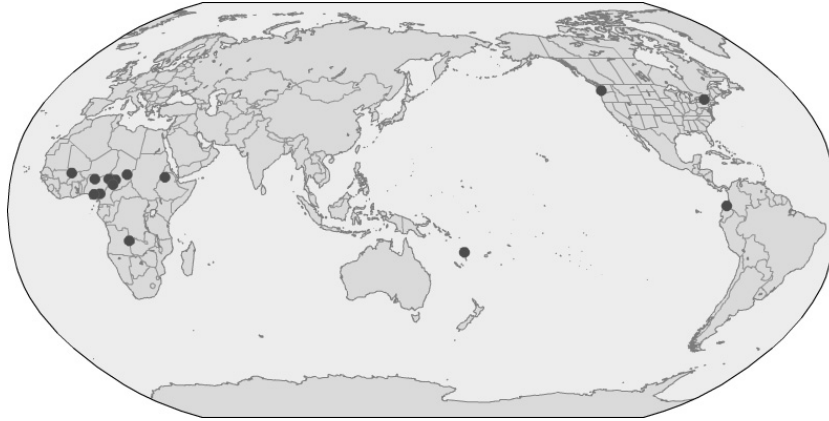
Perfective-type categories/distinctions lost under negation:

- Awa Pit (Barbacoan): perfective participle (as main clause predicate)
- Bafut (Niger-Congo, Bantoid): immediate past (which has completive meaning)
- Bagirmi (Nilo-Saharan, Bongo Bagirmi): completive
- Upper Chehalis (Salishan, Tsamosan): distinctions within the completive
- Dogon (Niger-Congo, Dogon): distinctions within the resultative
- Hausa (Afro-Asiatic, West Chadic): preterite vs. completive
- Igbo (Niger-Congo, Igboid): completive
- Kanuri (Nilo-Saharan, Saharan): distinctions within the completive
- Kemant (Afro-Asiatic, Central Cushitic): perfect vs. perfective
- Kera (Afro-Asiatic, East Chadic): perfect
- Luvale (Niger-Congo, Bantoid): perfect

³ The maps have been generated using the Interactive Reference Tool of *The World Atlas of Language Structures* (Haspelmath et al. [eds] 2005), developed by Hans-Jörg Bibiko.

- Maba (Nilo-Saharan, Maban): perfect
 Oneida (Iroquoian, Northern Iroquoian): punctual
 Paamese (Austronesian, Oceanic): completive

Map 2. The languages where perfective-type categories are restricted

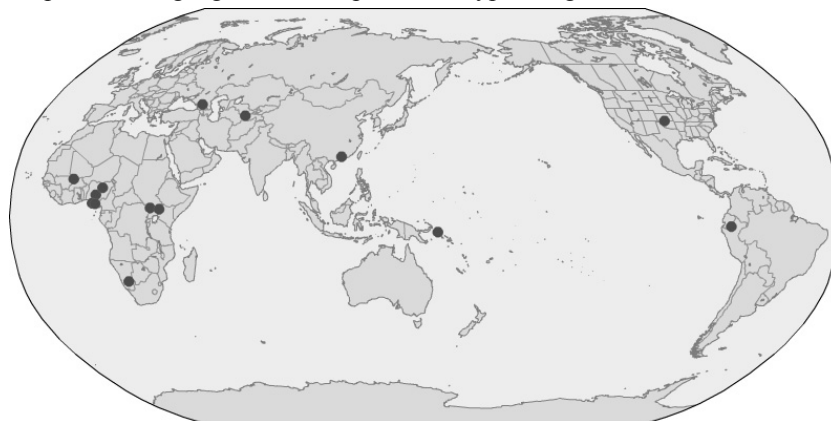


Imperfective-type categories/distinctions lost under negation:

- Candoshi (Candoshi): durative
 Cantonese (Sino-Tibetan, Chinese): progressive
 Dogon (Niger-Congo, Dogon): distinctions within the durative ⁴
 Ebirá (Niger-Congo, Nupoid): present continuous
 Kolokuma Ijo (Niger-Congo, Ijoid): present vs. present continuous
 Kabardian (Northwest Caucasian): progressive
 Khoekhoe (Khoisan, Central Khoisan): imperfective
 Kiowa (Kiowa-Tanoan): imperfective
 Lugbara (Nilo-Saharan, Moru-Ma'di): imperfective
 Miya (Afro-Asiatic, West Chadic): distinctions within the imperfective
 Nasioi (East Bougainville): present temporal vs. present progressive
 Ogbroñuagum (Niger-Congo, Cross-River): progressive
 So (Nilo-Saharan, Kuliak): progressive
 Uzbek (Altaic, Turkic): present progressive

⁴ The reader will notice that Dogon appears in both lists. This is because the restrictions within the resultative and those within the durative are independent of each other. They are thus cases, in the relevant sense, where a perfective-type category on the one hand and an imperfective type category on the other is restricted in the negative without the opposite type of category being restricted.

Map 3. The languages where imperfective-type categories are restricted



We would like to stress that these are language-particular categories and the limits of categories that bear the same name in two different languages are never exactly the same. As a general rule, the terms have been taken as such from the original sources from which the data have been extracted. Different authors may use different terms for similar categories and they may also use one and the same term for slightly different meanings. Despite these caveats, we are confident that the two groupings of aspect categories are motivated and adequate to represent perfective- and imperfective-type aspectual categories. Some readers may wonder about the status of the perfect. We will not enter into a discussion about its nature as aspect vs. tense here. What matters here is that it is a category that refers to completed events and in that sense it is more like the perfective than the imperfective, and furthermore, it is explicitly mentioned by Schmid as one of the completive-type categories that tend to be restricted under negation.

The maps clearly show that the restriction on aspectual categories under negation is very much concentrated into Africa, and within Africa into an area centering on Nigeria. However, as Miestamo (2005) has pointed out, this is in no way specific to aspect, but tense-aspect-mood and other grammatical categories are generally prone to be affected under negation in African languages. There is no areal difference between perfective- and imperfective-type aspectual categories themselves, either.

The data presented in this section clearly show that the hypothesis proposed by Schmid and Matthews is disconfirmed when the question is approached using a large typological sample.

3. Discussion

In the remainder of this paper we will engage in a more detailed discussion of the explanations that Schmid and Matthews had proposed for the alleged tendency to restrict the occurrence of perfective aspect under negation. We will also investigate to what extent formal markedness can be invoked as an explanation for the loss of distinctions under negation.

According to Miestamo (2005), the formal structural asymmetry between affirmatives and negatives is motivated by functional asymmetry between affirmation and negation. The model of explanation draws on the concepts of language-internal and language-external analogy (cf. Itkonen 2005). Symmetric negation is based on language-internal analogy: the structure of the negative copies the structure of the affirmative. It is motivated by pressure for cohesion in the system. Asymmetric negation is based on language-external analogy: the structure of the negative copies (grammaticalizes) (aspects of) the asymmetry found on the functional level (semantics, pragmatics). The different subtypes of asymmetric negation are motivated by different aspects of the functional asymmetry. We will not go into the details of the model here. We will only take up aspects that are relevant for the present discussion.

Cast in terms of this model, the explanation proposed by Schmid and Matthews would appear as follows: there is formal structural asymmetry between affirmatives and negatives in that negatives often show incompatibility with perfective aspect. There is asymmetry between affirmation and negation on the functional level in that negation is essentially stative whereas affirmation is not. This functional-level asymmetry affects, by language-external analogy, the aspectual choices available in the structure of some languages, making those aspectual categories that are incompatible with the stative nature of negation unavailable in negatives. As we have seen above, the empirical generalization does not hold, and there is therefore no need to propose such an explanation.

We do, however, agree with Schmid's and Matthews' general idea that negation is stative. What we understand with the stativity of negation is the following. Consider the examples in (5).

(5) English (Indo-European, Germanic) (constructed examples)

- | | |
|-------------------------------|------------------------------------|
| a. Chris knows the song. | b. Chris does not know the song. |
| c. Chris drank the coffee. | d. Chris did not drink the coffee. |
| e. Chris didn't stop singing. | |
| f. Chris didn't stay. | |

The situations reported by negative statements are prototypically stative, i.e. they report situations with no change in the universe (5b,d), but affirmatives readily describe both stative (5a) and dynamic (5c) situations. Some types of verbs pose problems for the stativity account; as we can see in (5e,f), verbs meaning ‘stop’ or ‘stay’, when negated, do actually report situations that involve change in the state of the universe. These are, however, special cases and do not affect the overall picture. The great majority of verbs behave like ‘drink’, and it is the prototypical and frequent cases that matter to how grammar is shaped.

If there is no cross-linguistic tendency for perfective aspect to be incompatible with negation, we may ask if there is any way in which the stativity of negation shows in the structure of languages. In one of the subtypes of asymmetric negation identified in Miestamo (2005) (Subtype A/Fin), the negative differs from the affirmative in that the lexical verb loses its finiteness and often a copula/auxiliary is added as the finite element of the negative. In the standard negation construction in Apalaí (6), the negative marker attaches to the lexical verb which loses its finiteness and the copula now carries the finite verbal categories (subject) person and tense.

(6) Apalaí (Cariban) (Koehn and Koehn 1986: 64)

- a. isapokara [Ø]-ene-no
 jakuruaru.lizard [1>3]-see-IMPST
 ‘I saw a jakuruaru lizard.’
- b. isapokara on-ene-pyra a-ken
 jakuruaru.lizard 3-see-NEG 1-be.IMPST
 ‘I did not see a jakuruaru lizard.’

The loss of finiteness of the lexical verb and the appearance of the copula turn the negative into a stative structure. These constructions of the type ‘there is non-V-ing’ or ‘there isn’t V-ing’ are clearly accounted for by the stativity of negation. In other words, the functional-level asymmetry – the stativity of negation – is reflected, by language-external analogy, in that in some languages negative constructions are overtly stative. Van der Auwera (2006) has suggested that the stativity of negation may also be relevant in explaining why a majority of languages has a special negation strategy for imperatives.

Given that the stativity of negation has been proposed as a motivation for the (non-existent) dispreference for perfective aspect in negatives, it is interesting to discuss the relationship between stativity and perfective vs. imperfective aspect. Could there be a clash between the stativity of negation and perfective-type meanings? First of all, we claim that there is no semantic clash. After all, negation has scope over aspect – it is denied that something

is complete(d) and in so doing we express a state. This is where Matthews (1990: 86) goes wrong:

“That is, it is an acceptable predication that ‘there is a state of affairs such that x is not running’ but not that ‘there was an event such that x did not run’”.

This should rather be formulated as:

There is no state of affairs in which x was running and, similarly, there is no state of affairs in which x ran.

Thus, in the majority of the relevant sample languages, the combination of negation and perfective-type aspect is fine.

Second, imperfectives are not inherently stative, either. Consider a typical imperfective use of a dynamic predicate, expressed in the progressive aspect in English (5c'-d')

- (5) English (Indo-European, Germanic) (constructed examples)
- c'. Chris was drinking the coffee.
 - d'. Chris was not drinking the coffee.

The imperfective in (5c') is no more stative than the perfective in (5c). As to the negative counterparts of these examples, both describe stative states of affairs (5d,d'). It may be countered that since the English progressive is a specifically progressive category, it is not an imperfective in the sense meant by Schmid and Matthews. But then, what is? In languages that have more general imperfective categories, one of their central uses is to refer to ongoing, dynamic states of affairs, i.e. progressive ones, when used with dynamic verbs. Consider the French equivalents of (5c'-d') in (7).

- (7) French (Indo-European, Romance) (constructed examples)
- a. Chris buvait le café.
 - b. Chris ne buvait pas le café.

It would be quite hard to give a stative reading to (7a) (except perhaps in a habitual sense). In fact, aspectual categories that give stative readings to dynamic verbs are not common in the world's languages, and certainly this is not the primary function of what is usually known as imperfective aspect (we are actually not aware of any categories in the world's languages whose primary function it would be). Thus, not only are there no grounds for perfective-type aspect to be less compatible with negation, but there are no grounds for imperfective aspect to be more compatible with negation either.

So far we have shown that there is no cross-linguistic preference for either perfective- or imperfective-type categories to be restricted under negation, and that there is no functional reason to expect such a preference, either. Nevertheless, there are many languages in the data where the occurrence of aspectual categories is restricted in negatives. We will now turn to the motivations of such restrictions in general. Miestamo (2005) proposes that the prototypical discourse context of negatives provides such a motivation. Negatives typically occur in contexts where the corresponding affirmative is supposed or at least somehow present. When two people meet in the street, the example in (8) is odd if uttered out of the blue, without the pregnancy of the speaker's wife being supposed – being somehow in the air.

(8) English (Indo-European, Germanic) (Givón 1978: 80)

Oh, my wife is not pregnant.

On the other hand, if the pregnancy of the speaker's wife has been discussed before or if there is any other reason for the speaker to believe that the hearer might believe that the speaker's wife is pregnant, the example is completely felicitous. The prototypical discourse context of negatives is one in which the corresponding affirmative is supposed in this way. This can be given as a general motivation for restrictions on the occurrence of grammatical categories in the negative: with the corresponding affirmative present in the context, all properties (tense, aspect, person, etc.) of the negated situation/event need not be as specifically marked. This pragmatic preference (a functional-level asymmetry between affirmation and negation) has been conventionalized as a grammatical restriction in languages that restrict the occurrence of some grammatical categories in the negative. It should perhaps be emphasized that this general explanation applies to the restriction on the completive in Bagirmi (2) (or any other one of the perfective-type categories lost in the 14 languages cited above) just as it does to the restriction on present continuous in Epira (4) (or any other one of the imperfective-type categories lost in the 14 languages cited above). It is a general motivation for restrictions on the occurrence of grammatical categories in negatives – including aspectual categories but not specific to them. It does not say anything about why a given language has chosen to restrict such and such category; for this, we need to find other, most often language-particular, explanations.

Next, we would like to briefly address the behaviour of the categories bearing the general labels imperfective, perfective and perfect in the data given above. The data show that when restrictions occur, we do indeed find perfects (Kemant, Kera, Luvale, Maba) and imperfectives (Khoekhoe, Kiowa, Lugbara) being excluded in the negative, but not perfectives. Interestingly, this is precisely the opposite of what Schmid and Matthews

have claimed. Admittedly, there are only a few languages where any of these categories are involved in the restrictions, but we may nevertheless try to see what is behind these data. Our first suggestion has to do with neutralization. The perfective is often considered to be a holistic category, expressing “the event as such”, and the neutralization account would then predict that if any category survives under negation, it is the one that expresses the event as such. Paradoxically, this suggestion might even hold for the Russian case, where the imperfective is used for stating a past fact as such (see e.g. Dahl 1985: 74-76). Thus the semantically simplest form, in some sense, would be the one to survive, i.e. the one in favour of which the neutralization would occur.

In many understandings of markedness theory, the form that is semantically the simplest should coincide with the formally simplest form. Formal simplicity alone, without any semantic considerations, could in many cases be an important factor in determining which category is to survive. In Kiowa (9), for example, the form that survives is the formally simpler one.

(9) Kiowa (Kiowa-Tanoan) (Watkins 1984: 158)

	PFV	IMPF
BASIC	bó'	bó'-n-m̀
IMPERATIVE	bó'	bó'-n-î'
FUTURE	bó'-t́	bó'-n-î'-t̀
HEARSAY	bó'-hêl	bó'-n-ê'
NEGATIVE	bó'-m̀	–

As we can see in (9), imperfective and perfective aspect may be distinguished in all TAM contexts but not in the negative. In the negative only perfective aspect is possible. Perfective aspect is the formally simpler, unmarked form in Kiowa, the imperfective being marked with a suffix.

To test to what extent it is the formally unmarked form that survives, we classified all cases of categorial restrictions found in the sample into four types. In the 297-language sample, there are 79 languages where one or more grammatical categories are excluded in the negative. 69 of these languages are relevant to the present discussion in that they belong to a subtype of asymmetric negation (Subtype A/Cat) that does not have an immediate functional (semantic or pragmatic) explanation for the choice of the excluded category. The number of languages showing instances of each type is given below (note that one and the same language can show instances of different types).

- Type 1: Positive: V-a vs. V-b,⁵ Negative: irrelevant.
- Description: There is no (clear) formal markedness difference between the categories involved. In the schematic representation both categories are overtly marked.
 - Example: In Nasioi, the distinction between present temporal and present progressive is lost in the negative. Both categories are overtly marked by their dedicated suffixes in the affirmative. The way they are negated is irrelevant in this context.
 - 41 languages.
- Type 2: Positive: V vs. V-b, Negative: V-x-NEG.
- Description: There is a formal markedness difference between the categories. None of them survives in the negative formally, i.e. the negation strategy as such is not formally based on any of the categories in the affirmative. In the schematic representation, one of the categories is unmarked and the other one marked, but negative marking applies to a form different from both of these.
 - Example: In Meithei, the distinction between certain and potential future is lost, and there is a formal markedness difference between them, certain future being marked by the suffixation of the copula to the verb and potential future by the suffixation of the potential marker and the copula to the verb. Negative future is based on neither one of these, but it is marked by the non-potential marker suffixed to the verb without the copula. (This example is not from aspectual marking since the only cases found in the data involve the marking of TAM categories other than aspect.)
 - 2 languages.
- Type 3: Positive: V vs. V-b; Negative: V-NEG.
- Description: There is a markedness difference between the categories. A formally marked form is blocked in the negative and the form that survives is an unmarked one. In the schematic representation, one of the categories is unmarked and the other one marked, and negative marking is added to the form of the unmarked category.
 - Example: In Kiowa (see ex. 9), the distinction between imperfective and perfective is lost in the negative. The imperfective is overtly marked and the perfective is unmarked. Negative marking is attached to the unmarked perfective form.

⁵ The markings of the categories are represented by suffixes in these schemes, but naturally, depending on language, they may be realized by other means such as prefixes or particles as well.

- 30 languages.

Type 4: Positive: V vs. V-b; Negative: V-b-NEG.

- There is a markedness difference between the categories. A formally unmarked form is blocked and the form that survives is a marked one. In the schematic representation, one of the categories is unmarked and the other one marked, and negative marking is added to the form of the overtly marked category.
- Example: In Bella Coola (see ex. 11 below), the distinction between old and new information is lost in negatives. Old information is overtly marked and new information is unmarked. Negative marking cooccurs with the marked old-information form. (This example is not from aspectual marking since the only cases found in the data involve the marking of TAM categories other than aspect.)
- 7 languages.

Types 1 and 2 are irrelevant in this context. In Type 1 there is no markedness difference, so we cannot infer anything about the role of markedness (and how negation is formed is then not relevant at all). In Type 2, we cannot infer anything about the role of markedness either, since negation is not based on any of the forms available in the positive. Types 3 and 4 are interesting, and indeed, in accordance with the prediction, it is much more common that the unmarked category survives in the negative. It should however be noted that Type 4, which goes against the prediction, is not inexistant – we will come back to this type below.⁶

We can make a further division within Type 3. On the one hand, there are cases in which there are no markers of any other category occurring in the same position with the excluded category such that they could occur in negatives. We call this Type 3a. Schematically it can be given as: positive: V vs. V-b; negative: V-NEG. The Kiowa example (9) above shows an instance of this type – there is no third (aspectual) category surviving in the negative the marker of which would occur in the same position with the imperfective marker. On the other hand, there are cases in which, although the excluded category is marked vis-à-vis one or more categories that survive in the negative, there are other similarly marked categories that survive. We call

⁶ It should also be remembered that there are more than 200 languages in the sample where this kind of paradigmatic asymmetry is not found, i.e. the occurrence of grammatical categories in the negative is not restricted in this way, and in these languages there are both cases where a markedness difference is found between the categories that are distinguished in the paradigm and cases where no markedness difference is found.

this Type 3b. Schematically it can be given as: positive: V vs. V-b vs. V-c; negative: V-NEG vs. V-c-NEG. An example can be found in Paamese (10).

(10) Paamese (Austronesian, Oceanic) (Crowley 1982: 145, 226)

- | | | | | |
|----|--------------------|------------------------------|------|-----------------------|
| a. | long-e | | b. | ro-longe-tei |
| | 3SG.R.hear-3SG.OBJ | | | NEG-3SG.R.hear-PART |
| | 'He heard him.' | | | 'He didn't hear him.' |
| c. | *inau | na-ro-muumo-tei tai | | |
| | 1SG | 1SG.R-NEG-work-PART | CMPL | |
| | | 'I have not worked.' | | |
| d. | inau | na-ro-munuu-tei velah | | |
| | 1SG | 1SG.R-NEG-dive-PART | PROG | |
| | | 'I haven't been diving yet.' | | |

As we can see in (10c), the completive *tai* is incompatible with negation, but there is another aspectual morpheme occurring in the same position, the progressive *velah*, that may occur in negatives (10d). Cases of Type 3a are more easily explained by formal markedness, but for Type 3b we still need an explanation for why one marker is blocked while another formally parallel one survives. Thus, in Paamese we still need an explanation for why the completive is blocked but the progressive survives. Of the 30 languages of Type 3, 16 belong to type 3a and 14 to Type 3b. This means that roughly one fourth of the 69 languages showing paradigmatic restrictions in negatives belongs to the type that is the most compatible with explanation in terms of formal markedness.

Returning now to aspect, the formally unmarked category may belong to the perfective type like in Kiowa or to the imperfective type like in Russian (where simple verbs are generally imperfective in the past). Of the 14 languages where a perfective-type category is blocked, six belong to Type 3a, three to Type 3b, and five to Type 1. Of the 14 languages where an imperfective-type category is excluded in negatives, three belong to Type 3a, four to Type 3b, and six to Type 1; in one case it remains unclear which type we are dealing with. The number of Type 3a cases is somewhat higher in the group where perfective-type categories are excluded in negatives, suggesting that formal markedness might be more usable in explaining these cases. However, this difference is hardly big enough to warrant the conclusion that there is a real difference between these groups in terms of the role of formal markedness. It should also be noted that this small difference goes against the hypothesis proposed by Schmid and Matthews – according to their hypothesis the cases where a perfective-type category is blocked should be the ones that are semantically motivated.

Finally, although no cases involving loss of perfective- or imperfective-type aspectual categories were found in Type 4, we will say a few words about these potential counterexamples to the survival of the unmarked category. In Bella Coola, affirmatives can make a difference between new and old information with third person subject marking (11a,b), but negatives only allow the old information marker (11c).

(11) Bella Coola (Salishan, Bella Coola) (Nater 1984: 36)

- | | | | |
|----|---|----|--|
| a. | ksnɨmak-Ø
work-3SG.NEW
'(S)he is working.' | b. | ksnɨmak-s
work-3SG.OLD
'(S)he is working.' |
| c. | ʔaxw ksnɨmak-s
NEG work-3SG.OLD
'(S)he is not working.' | | |

This is an instance of Type 4, where the more marked category survives in the negative, and thus a counterexample to the prediction that the least marked category should survive. However, there is a clear semantic motivation for the choice of the surviving category. As we have seen above, negatives typically occur in contexts where the corresponding affirmative is somehow present, and thus typically do not bring new information to the discourse. In a language where a grammatical distinction between old and new information is available in the affirmative but lost in the negative, it is natural that it is the old information category that survives. In five out of the seven instances of Type 4, we have been able to identify a possible, language-particular, functional (semantic or pragmatic) explanation for the survival of the more marked category, i.e. the categories that survive (e.g. old information, partitive, contrastive) are functionally more compatible with negation than the ones that do not survive.

4. Conclusion

In this paper we have critically examined the alleged generalization that perfective aspect would be less compatible with negation in the world's languages than imperfective aspect. When the question is approached using an extensive language sample, it turns out that the generalization is not valid cross-linguistically. We have also discussed the explanation proposed for the alleged generalization, viz. the stativity of negation, and concluded that perfective and imperfective aspect do not differ in terms of stativity in such a way that this should be reflected in their compatibility with negation. We

have discussed the discourse context of negatives as a general motivation for the disappearance of grammatical distinctions in the negative, noting that imperfective and perfective aspect do not differ from each other in these terms. Finally, we have examined the role of formal markedness in neutralizing grammatical distinctions, and found out that part of the cases in the language sample may be accounted for by formal markedness; but again, no significant difference is found between perfective and imperfective aspect.

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Abbreviations used in the glosses

1	first person
2	second person
3	third person
CMPL	completive
FUT	future
IMPF	imperfective
IMPST	immediate past
NEG	negative, negation
NEW	new information
OBJ	object
OLD	old information
PART	partitive
PFV	perfective
PL	plural
PROG	progressive
R	realis

SG	singular
SUBJ	subject
TAM	tense-aspect-mood

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