On order and prohibition

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Abstract

The present article examines the claim in the literature that the negative first principle, i.e. the preference for the order negation-verb to verb-negation, is stronger in negative imperatives (or prohibitives) than in negative declaratives. To test this hypothesis, we develop – in contrast to earlier research – a systematic, three-way classification of languages, which is also operationalized as a ranking capturing the overall level of strength of the principle. This classification is applied to a genealogically and geographically balanced sample of 179 languages. In addition, we consider the role of several factors known to correlate with the position of negation – like its form, constituent order and areality. However, no cross-linguistic evidence is found for any difference in negation's position between negative imperatives and negative declaratives. We therefore conclude that the hypothesis should be rejected.

Keywords

1   Introduction

This article is directly concerned with "the natural tendency, … for the sake of clearness, to place the negative first, or at any rate as soon as possible, very often immediately before the particular word to be negatived (generally the verb)" (Jespersen 1917: 5), a tendency that Horn (1989: 311) calls the negative first principle or Neg First. Its overall validity is well-established (e.g. Dahl 2010: 23–26; Dryer 2013a) and is thus not at issue here.

What we wish to focus on is the more specific claim that Neg First plays an even more prominent role in imperatives/directives than in declaratives/assertives. Jespersen (1917: 5–6), for one, postulates that the principle "is still strong in the case of prohibitions, where it is important to make the hearer realize as soon as possible that it is not a permission that is imparted". He also seems to suggest that this functional pressure explains, for example, the German directive infinitive in (1a): its syntax, unlike the imperative's in (1b), requires *nicht* 'not' to precede rather than follow the verb (Jespersen alludes to similar phenomena in Danish and Latin as well).

(1)   German (Indo-European, Germanic; Jespersen 1917: 6)
    a.   ***nicht***   *hinaus-lehn-en*
         NEG   out-lean-INF
         'Don't lean out (the window)!'
    b.   *trink-Ø*   ***nicht***
         drink-IMP.SG   NEG
         'Don't drink!'

The comparison to declaratives is more explicit in Horn (1989: 450), who refers to a few Indo-European languages as well as Temne in (2): "While Neg First is operative in both declarative and imperative contexts, there is a particularly strong motivation for avoiding postverbal negation in directive speech acts (imperatives and their functional equivalents)." He argues that "the

postverbal negation in (2a) might result in temporary confusion” but a similar violation of Neg First in (2b) “would literally constitute a matter of life and death (*Kill him – oops – not!*)” (Horn 1989: 450).

(2) Temne (Niger-Congo, Mel; Horn 1989: 449)
a. *ɔ́bɔ́rkɔ̀*   *ɔ́*   *dí(-**hɛ**)*
woman.DEF   3.SBJ   eat.PRS(-NEG)
‘The woman is(n’t) eating.’
b. *(**te**)*   *dīf*   *kɔ́*
(NEG)   kill.IMP   3.OBJ
‘(Don’t) kill him!’

We seek to put this hypothesis to the test by examining whether, cross-linguistically, preverbal negation indeed occurs more often in imperatives than in declaratives. In words more in line with the special issue’s topic, the question could be paraphrased as: does the declarative exhibit more postverbal negation only than the imperative in the world’s languages?

A first attempt at an answer has already been made by Van Olmen (2010), who looks at a genealogically and geographically balanced sample of 179 languages and categorizes 167 of them as having either pre- or postverbal “basic clausal” negation and either pre- or postverbal imperative negation. The initial conclusion is that Neg First is at work in both contexts (as 96 languages possess preverbal basic clausal and imperative negation) but that no real difference exists between the two (as the eleven languages with preverbal imperative negation and post-verbal basic clausal negation are offset by twelve languages with the opposite situation) (Van Olmen 2010: 490). Yet, non-categorized sample languages like Kombai are said to tip the balance and to indicate that Neg First fares somewhat better in imperatives after all (Van Olmen 2010: 491–492): the preverbal part *fe=* of the double basic clausal negation in (3a) is optional while the single preverbal imperative negation *domo* in (3b) is not.

(3) Kombai (Trans-New Guinea, Awju-Dumut; De Vries 1993: 29–30)
a. *nu*   *ai*   *(**fe**=)fera=**do***
1SG   pig   (NEG=)see=NEG
‘I don’t see a pig.’
b. ***domo***   *ami-ni-i*
PROH   drink-TR-IMP.SG
‘Don’t drink!’

The analysis of such languages is not very systematic, however. Moreover, the study does not take into consideration any of the factors known to correlate with the position of negation and to potentially vary between imperatives and declaratives.

One of these factors is constituent order. Miestamo (2005: 189) observes, for instance, that what is sometimes called “standard” negation (see Payne 1985) – a term that will be used in the rest of our article – tends to be preposed in VO languages and postposted in OV languages (see Dryer 2013b too). Constituent order can also differ in declaratives and imperatives (Aikhenvald 2010: 92–96, 115). In Zenzontepec Chatino, it “is typically discourse-based and fairly flexible ... [but] firmly fixed in imperatives as VS/VAO” (Campbell 2017: 124), like in (4).[1]

(4) Zenzontepec Chatino (Oto-Manguean, Zapotecan; Campbell 2017: 119)

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[1] The difference might be due to a tendency in the world’s languages, noted by Aikhenvald (2010: 93), to put the verb in clause-initial position in the imperative: “Since imperatives are about giving instructions to perform an action, and the action is encoded in the verb, the ‘verb-first’ principle in imperatives intuitively makes sense.”

> **ná**   *k-u-lā+tēʔé=wą*   *lyoʔo=wą*
> NEG   POT-CAUS-let.go+be.located=2PL   spouse=2PL
> 'Don't abandon your wives!'

Negation's position is liable to areal effects as well. Northern Sub-Saharan Africa, for example, is often considered a hotbed for postverbal negation (e.g. Güldemann 2008; Idiatov 2018). In the same vein, Janhunen (2018) argues that the combination of preverbal imperative negation and (at least partially) postverbal standard negation, as in (5), is a feature of the Transeurasian belt (including the Altaic, Japonic, Koreanic and Uralic language families).

(5)   Khalkha (Altaic, Mongolic; Beffa & Hamayon 1975: 110; Kuzmenkov 2001: 101)
   a.   *bi*   *üu-dag-**güy***
        1SG   drink-NMLZ.ITER-NEG
        'I don't drink it.'
   b.   ***bitegii***   *jav*
        PROH   go
        'Don't go!'

Another factor possibly playing a role is negation's form. Negative words (e.g. particles, verbs) occur overwhelmingly in preverbal position while negative affixes are still slightly more often suffixes than prefixes (Dryer 2013a). Khalkha, with its suffix in (5a) and preverbal particle in (5b), illustrates both tendencies nicely. The language also shows that imperative negation need not take the same form as standard negation. To our knowledge, though, there exists no survey, à la Dryer (2013c) for the latter type of negation, of the morphemes of the former. If the typical forms of imperative negation were substantially different from those of standard negation (e.g. they do seem to derive from lexical verbs, such as 'stop' and 'not want', remarkably frequently; van der Auwera 2006: 9–14; Aikhenvald 2010: 352–362; Devos & Van Olmen 2013: 30–34), it would not be surprising to find a disparity in pre- versus postverbal negation.

   Van Olmen (2010) pays no attention to the variety of interpretations of Neg First either. Jespersen's (1917: 5) tendency "to place the negative first" is sometimes seen as a preference for negation at the start of the sentence. There is, however, little evidence for this view beyond verb-initial languages (Dahl 2010: 24; Dryer 2013b). Neg First, at the clausal level, is thus best regarded as a tendency to position negation (immediately) before the verb. Still, no consensus appears to exist on whether this verb is the main verb or the finite verb. Van Olmen (2010) and Dryer (2013a) take the main verb to be the reference point of Neg First in their studies whereas Dahl (1979, 2010) maintains that the principle should be understood with reference to the finite verb or, in his words, element. The main verb and finite verb are, of course, often one and the same but not always, as Betoi in (6) makes clear.

(6)   Betoi (Betoi; Zamponi 2002: 228–230)
   a.   *r-iju-**ome***   *r-u-cd*
        1-die-NEG   1-be-IND
        'I don't die.'
   b.   *j-u(-jui-**ometu**)*
        2-be-2PL-PROH
        '(Don't you people) be!'

In standard negation, as in (6a), the main verb acquires the negation *-ome* and its regular tense-aspect-mood affixes move to a newly introduced postposed auxiliary 'be', which also duplicates its person marking. Negation here is postverbal vis-à-vis the main verb but preverbal vis-

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à-vis the finite verb. Imperative negation, by contrast, requires no additional verb and is always postverbal, as in (6b). In other words, it is important to bear in mind the two potential reference points of Neg First when assessing its impact.[2]

In what follows, we aim to achieve a more accurate evaluation of Neg First's influence in imperatives versus declaratives than Van Olmen (2010), by taking into account all the issues raised above. Section 2 will deal with our methodology. It will define the objects of study and describe our cross-linguistic sample (based on Miestamo's 2005 sample), the parameters of the analysis and our statistical methods. In Section 3, we will present and discuss the findings of our research. Section 4, finally, is the conclusion.

2   Methodology

2.1   Objects of study

The hypothesis under investigation in this article is about negative "declarative and imperative contexts" (Horn 1989: 450). The notion of negative declarative is usually taken to include sentences like (7a) as well as, inter alia, negative attributive and negative existential clauses such as (7b) and (7c). These last two examples constitute types of stative or non-verbal predication, which is known to involve specialized forms of negation in many of the world's languages (e.g. Eriksen 2005; Veselinova 2013) and will therefore not be considered here.

(7)   a.   *She is **not** reading the newspaper.*
       b.   *He is **not** intelligent.*
       c.   *There are **no** ghosts.*

Sentences like (7b) and (7c) do not possess grammatical imperative counterparts in numerous languages anyway, because of the clash between stative predication and the imperative's characteristic agentivity (Aikhenvald 2010: 150–153; Jary & Kissine 2014: 89).

Our focus will be on the "standard" type of negation in (7a). Miestamo (2005: 42) defines it as the construction(s) that a language employs to turn the truth value of a verbal declarative main clause's proposition p into (the closest possible equivalent of) $\neg p$. In (7a), the construction is just a matter of inserting the negation *not* but, as Miestamo (2005) argues at great length, standard negation can entail a wide range of other changes cross-linguistically. In (8a), compared to (8b), for instance, the auxiliary *ha* has been added, to carry the negation and politeness marking, and the main verb *po* 'see' has become non-finite through the "suspective" suffix *-ci* (Miestamo 2005: 80–81).

(8)   Korean (Koreanic; Chang 1996: 77, 101)
       a.   *yong-i   tv-lul   po-ci   **an**-ha-yo*
             Yong-SBJ   TV-OBJ   see-SUSP   NEG-AUX-POL
             'Yong doesn't watch TV.'
       b.   *yong-un   mayil   tv-lul   po-n-ta*
             Yong-TOP   every.day   TV-OBJ   see-PRS-DECL

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[2] In Miestamo's (2005: 184–186) view, the reference point "can be the finite verb, the whole clause, the predicate, or whatever element the position of the negative marker is determined in relation to in the construction in question." Little is said, though, about how such a construction- and hence also language-specific interpretation of Neg First is applied to his typological data. Why, for instance, would Neg First relate to the predicate in one language and not in another or when would it relate to the finite element and when to the entire sentence? These questions are hard, if not impossible, to answer and we will therefore not adopt Miestamo's (2005) approach to Neg First's reference point.

'Yong watches TV every day.'
c. *yong-un   tv-lul   **an**   pwa-yo*
    Yong-TOP   TV-OBJ   NEG   see-POL
    'Yong doesn't watch TV.'

Moreover, it is clear from (8c) that a language can have more than one standard negation construction. In Korean, the "two forms of negation are [said to be] interchangeable" (Chang 1996: 101). In many other languages, multiple standard negation constructions would be used under different, typically mutually exclusive linguistic conditions (e.g. one for future tense contexts and another for non-future ones; Miestamo 2005: 53, 130).

The notion of negative imperative is often not properly defined in the typological literature (e.g. Aikhenvald 2010: 165; van der Auwera & Lejeune 2013). One way to characterize it would be as the "opposite" of van der Auwera et al.'s (2013) concept of imperative, i.e. as the construction(s) used by a language to call on the addressee(s) *not* to realize some state of affairs. In less negative terms, it could be described as the construction(s) that a language employs to get the addressee(s) to refrain from or stop doing something (see Van Olmen & van der Auwera 2016: 373). In Apalaí, (9a) fits these specifications. It is the compositional combination of the standard negation in (9b) and (9c), where the main verb gains *-pyra* 'not' and loses most of its ordinary marking to a new auxiliary, with the imperative in (9d). Construction (9e) meets the description too, though, showing that languages can possess multiple negative imperatives.

(9) Apalaí (Cariban; Koehn & Koehn 1986: 61–62, 64)
a. *yto-**pyra**   eh-to-ko!*
    go-NEG   be-PL-IMP
    'Don't you people go!
b. *isapokaro   Ø-ene-no*
    jakuruaru.lizard   1>3-see-IMM.PST
    'I saw a jakuruaru lizard.'
c. *isapokaro   on-ene-**pyra**   a-ken*
    jakuruaru.lizard   3-see-NEG   1-be.IMM.PST
    'I didn't see a jakuruaru lizard.'
d. *i-kaparu   nymyry   apoi-ko*
    3-war.club.POSS genuine   grab-IMP
    'Grab his war club!'
e. *tupito   epery   **os**-enah-no*
    field   fruit   PROH-eat-IMM.PST
    'Don't eat the fruit of the field!'

Example (9e) also epitomizes the negative imperative's cross-linguistic preference for another verb and/or negation form than the imperative/negative declarative (van der Auwera 2006; Aikhenvald 2010: 165–177). *Os-* 'not!' is a negation dedicated to the expression of negative imperatives and needs a verb in the immediate past. It is because of such differences to the imperative and the negative declarative that the term of prohibitive is sometimes preferred to those of negative imperative and imperative negation. We, however, will stick to the latter labels for the construction and the phenomenon and reserve the former for specialized markers like *os-* in Apalaí.

A few additional comments are in order. For one thing, adopting part of Jary & Kissine's (2016: 132) comparative concept of the imperative, we will only look at constructions "suitable for the performance of the full range of [negative] directive speech acts". The "preventive" in (10), for instance, will not be taken into account because, unlike (5b), it can serve solely as a

warning about not doing something.

> (10) Khalkha (Altaic, Mongolic; Kuzmenkov 2001: 101)
> *jaw-uudzaj*
> go-PREV
> 'Beware not to go!'

Similarly, 'stop' may be a common source for prohibitives in the world's languages but English *stop singing!*, with its exclusively cessative meaning, does not count as a negative imperative.

"Non-canonical" negative imperatives, which are directed to a first or third person (Aikhenvald 2010: 17), will be excluded too. Our motivation is three-fold: (i) it is unclear whether Horn (1989) actually takes the negative imperative to also refer to constructions with meanings like 'let's not ...!'; (ii) the pressure to put the negation first (cf. *kill him – oops – not!*) may not even be especially strong in first and third person imperatives, which tend to function – at least in English – as self-deliberations, mere proposals for joint action and wishes (De Clerck 2006: 212–273); (iii) negation can occupy different positions in canonical and non-canonical negative imperatives, as German *nicht* in (1b) and (11) shows, coming after the main verb in the second person singular but before the main verb in the first person plural.[3]

> (11) German (Indo-European, Germanic)
> *lass-Ø*   *uns*   ***nicht***   *trink-en*
> let-IMP.SG   1PL.ACC   NEG   drink-INF
> 'Let's not drink!'

In theory, we could obviously follow Jary & Kissine's (2016: 132) view of the imperative and still accept non-canonical cases that are "morphologically and syntactically homogeneous with the second person", like in Evenki in (12).

> (12) Evenki (Altaic, Tungusic; Nedjalkov 1997: 20)
> a.   *tale*   ***e****-kel*   *girku-ra*
>   there   NEG.AUX-IMP.2SG   go-PART
>   'Don't go there!'
> b.   *tar*   *beje*   ***e****-gin*   *eme-re*
>   DIST.DEM   man   NEG.AUX-IMP.3SG   come-PART
>   'Let that man not come!'

Both the canonical negative imperative in (12a) and the non-canonical one in (12b) consist of a main verb with a partitive suffix and a preceding negative auxiliary with an imperative suffix. In practice, it is easier just to ignore non-canonical negative imperatives altogether, though.

Another aspect of Jary & Kissine's (2016: 132) comparative concept that we cannot implement in full is the limitation to constructions "whose only prototypical function is to provide the addressee(s) with a reason [not] to act". This criterion is intended to bar, for example, *you will not sing!* from consideration. The fact that the construction can be used to get someone to refrain from or stop singing does not mean that it is a negative imperative: its principal function is to make a negative assertion about the future. For a language like English, which possesses a specialized negative imperative construction in *don't sing!*, such a restriction looks sensible and will be enforced. Yet, in Arapesh, for instance, the most basic way of giving an addressee

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[3] We agree with one of the reviewers, though, that, for future research and in view of German in (1b) and (11), it would be interesting to compare the positions of the negators (vis-à-vis the main or finite verb) in canonical and non-canonical negative imperatives from a cross-linguistic perspective.

a reason not to act is to employ the future standard negation in (13a) with directive intent. Note that its preverbal marker *kobwi* differs from the circumverbal marking *wo ... e* attested in non-future standard negation contexts like (13b).

(13) Arapesh (Torricelli, Kombio-Arapesh; Conrad & Wogiga 1991: 83, 187)
    a.   ***kobwi***   *ny-u-lhwas*
         FUT.NEG   2SG-IRR-run.away.afraid
         'You will not be afraid and run away.' or 'Don't be afraid and run away!'
    b.   ***wo*** *n-ú-nak*   ***e***
         NEG 3SG-IRR-go   NEG
         'He didn't go.'

For a language like Arapesh, Jary & Kissine's (2016) constraint is somewhat infelicitous. Leaving it out here would do injustice to the numerous languages with no "proper" negative imperative (e.g. Aikhenvald 2010: 170). The omission of Arapesh would also go against the rather broad character of Horn's (1989: 450) claim, which is about "a particularly strong motivation for avoiding postverbal negation in ... imperatives *and* [our stress] their functional equivalents". We will therefore consider each construction that is the primary way of getting someone not to do something in a language – regardless of whether it is dedicated or not, like (12a) and (13a) respectively (see Schalley 2008: 24–35 on (in)direct primary imperative strategies too).

2.2 Sample

This article will essentially analyze the same set of languages as Van Olmen (2010) but in more detail. The original sample was itself based on Miestamo's (2005: 241–252) "restricted sample". By adopting it, Van Olmen (2010) was able to build on the large amount of cross-linguistic information about standard negation gathered by Miestamo (2005) and needed for the comparison with imperative negation. Another plus was that this restricted sample of 179 languages avoids genealogical, geographical and bibliographical bias as much as possible and allows one to derive quantitative results (Miestamo 2005: 36).

    To counter the first type of bias, Miestamo (2005) tried to collect standard negation data for one language per genus, a level of genealogical categorization which represents fairly uncontroversial groups of related languages with a 3500-to-4000-year time-depth (e.g. Germanic, Romance, Sinitic) and which is comparable across the globe (Dryer 1989: 267). Information was found for 240 genera (cf. Dryer's 2013d list of circa 540 genera in total). They were not equally distributed over the world, though, as a result of the simple fact that some regions are better documented linguistically than others. To address this geographical and bibliographical bias, Miestamo (2005: 36) looked at Dryer's (1989) six macro-areas – i.e. Africa, Australia and New Guinea, Eurasia, North America, South America and South East Asia and Oceania – and calculated, for each, the proportion of its overall number of genera covered by his 240-language sample. The lowest percentage was 43.2%, for Australia and New Guinea. The coverage of all other macro-areas was then brought down to this proportion, for a restricted but more balanced sample of 178 languages. The reduction prioritized non-adjacent languages from different families to the extent possible. Finally, Miestamo (2005: 37) added Haitian Creole French "to make sure that at least one creole is included in the sample" (see Miestamo et al. 2016: 247–260 for details on the genus and macro-area sampling method).

    The restricted sample has undergone a few changes, however. Van Olmen (2010) already replaced twenty-one languages because their grammatical descriptions could not be accessed or did not contain the necessary data on imperative negation. Most languages were substituted by a language from the same genus. Jru' or Loven, for example, filled in for its Bahnaric

relative Sapuan. Occasionally, the lack of information for a genus made a more distant alternative inevitable. The Northern Cushitic language Beja, for instance, was replaced by the Omotic language Maale, which belongs to the same Afro-Asiatic family. Note also that the non-adjacency requirement was respected in every case. For the present study, three more languages have been swapped, due to changes in their genus classification. Tauya is a case in point. It was originally considered a Trans-New Guinea language of the Adelbert genus (Miestamo 2005: 247) but is now categorized as part of the Madang branch of this family (Dryer 2013d). This genus is already represented in the sample by Amele and Tauya has therefore been removed. Mian, a Trans-New Guinea language from the Ok genus, has taken its place. The final sample that we will examine here is given in Table 1 (the languages in italics are replacements for languages in Miestamo's 2005 original restricted sample).

Table 1. Sample

Macro-area (Nº languages)	Languages (Genus)
Africa (29)	Bagirmi (Bongo-Bagirmi), Degema (Edoid), Diola-Fogny (Northern Atlantic), Dogon (Dogon), Dongolese (Nubian), Ebira (Nupoid), Egyptian Arabic (Semitic), Gbeya (Gbaya-Manza-Ngbaka), Igbo (Igboid), Ijo (Ijoid), Iraqw (Southern Cushitic), Juǀ'hoan (Ju-Kung), Kanuri (Western Saharan), Koyraboro Senni (Songhay), Kresh (Kresh), Kunama (Kunama), Lugbara (Moru-Ma'di), *Maale (North Omotic)*, Maasai (Nilotic), Maba (Maban), Masa (Masa), Murle (Surmic), *Nama (Central Khoisan)*, Ngiti (Lendu), So (Kuliak), Somali (Lowland East Cushitic), Supyire (Gur), Tera (Biu-Mandara), Yoruba (Defoid)
Australia & New Guinea (38)	Alamblak (Sepik Hill), Amele (Madang), Arapesh (Kombio-Arapesh), Asmat (Asmat-Kamoro), *Awara (Finisterre-Huon)*, Burarra (Burarran), Daga (Dagan), Garrwa (Garrwan), Gooniyandi (Banuban), Hamtai (Angan), Imonda (Border), Inanwatan (South Bird's Head), Kaki Ae (Tate), Kewa (Engan), Koiari (Koiarian), *Kombai (Awju-Dumut)*, Laragia (Laragia), Lavukaleve (Lavukaleve), Lower Grand Valley Dani (Dani), Maranungku (Wagaydy), Maung (Iwaidjan), Maybrat (North-Central Bird's Head), *Mian (Ok)*, Nasioi (East Bougainville), Ngiyambaa (Southeastern Pama-Nyungan), Nyulnyul (Nyulnyulan), Sentani (Sentani), *Skou (Western Skou)*, Suena (Binanderean), Tiwi (Tiwian), Una (Mek), *Ungarinjin (Worrorran)*, Wambaya (Wambayan), Wardaman (Yangmanic), Warembori (South Halmahera – West New Guinea), Warndarang (Warndarang), Yareba (Yareban), Yimas (Lower Sepik)
Creoles & Pidgins (1)	Haitian Creole French
Eurasia (15)	Albanian (Albanian), Armenian (Armenian), Basque (Basque), Brahui (Northern Dravidian), Evenki (Tungusic), Finnish (Finnic), Godoberi (Avar-Andic-Tsezic), Hindi (Indic), Icelandic (Germanic), Japanese (Japonic), Khalkha (Mongolic), Korean (Koreanic), Lezgian (Lezgic), Mansi (Ugric), Nivkh (Nivkh)
North America (36)	*Barbareño Chumash (Chumash)*, Bella Coola (Bella Coola), Chalcatongo Mixtec (Mixtecan), *Comanche (Numic)*, Copainalá Zoque (Mixe-Zoque), *Greenlandic (Eskimo)*, Haida (Haida), Huave (Huavean), *Huehuetla Tepehua (Totonacan)*, Karok (Karok), *Kiowa (Kiowa-Tanoan)*, Klamath (Klamath-Modoc), Koasati (Muskogean), Kutenai (Kutenai), Lealao Chinantec (Chinantecan), Makah (Sourthern Wakashan), Mam (Mayan), Maricopa (Yuman), Mezquital Otomí (Otomian), Nez Perce (Sahaptian), Oneida (Northern Iroquoian), Pima Bajo (Tepiman), Plains Cree (Algonquian), Purépecha (Tarascan), Quileute (Chimakuan), San Juan Aztingo Popoloca (Popolocan), *Seri (Seri)*, Shuswap (Interior Salish), Slave (Athapaskan), Southeastern Pomo (Pomoan), Tetelcingo Nahuatl (Aztecan), *Tonkawa (Tonkawa)*, *Wappo (Wappo)*, *Wintu (Wintuan)*, Wiyot (Wiyot), Yuchi (Yuchi)
South America (39)	Andoque (Andoque), Apalaí (Cariban), Araona (Tacanan), *Awa Pit (Barbacoan)*, Baré (Inland Northern Arawakan), *Betoi (Betoi)*, Bororo (Bororoan), Canamarí (Katukinan), Candoshi (Candoshi), Canela-Krahõ (Ge-

	Kaingang), Chipaya (Uru-Chipaya), Cuiba (Guahiban), Epena Pedee (Choco), Gününa Küne (Puelche), Ika (Arhuacic), Imbabura Quechua (Quechuan), Jaqaru (Aymaran), Kwazá (Kwaza), Mapudungun (Araucanian), *Mekens (Tupari)*, Mosetén (Mosetenan), *Movima (Movima)*, Nadëb (Nadahup), Páez (Paezan), Paumarí (Arauan), Pech (Paya), *Pilagá (South Guaicuruan)*, Pirahã (Mura), Rama (Rama), Sanuma (Yanomam), Shipibo-Conibo (Panoan), Trumai (Trumai), Tuyuca (Tucanoan), Waorani (Waorani), Warao (Warao), Wari' (Chapacura-Wanham), Wayampi (Tupi-Guaraní), Yagua (Peba-Yaguan), Yaruro (Yaruro)
South East Asia & Oceania (21)	Cantonese (Sinitic), Chamorro (Chamorro), Eastern Kayah Li (Karen), Enggano (Enggano), *Jru' (Bahnaric)*, *Kambera (Central Malayo-Polynesian)*, Karo Batak (Northwest Sumatra-Barrier Islands), Khasi (Khasian), Khmer (Khmer), Khmu' (Palaung-Khmuic), *Maori (Oceanic)*, Meithei (Kuki-Chin), Nicobarese (Nicobar), Paiwan (Paiwan), Seediq (Atayalic), Tagalog (Greater Central Philippine), Thai (Kam-Tai), Tibetan (Bodic), Tukang Besi (Celebic), Vietnamese (Viet-Muong), Yao'on Lolo (Burmese-Lolo)

2.3   Analytical framework

To capture the varying impact of Neg First, we will classify the standard and imperative negations of each sample language into one of three types. In Type 1, the negation is attested solely after the reference point. Standard negation in Trumai and imperative negation in Awa Pit are cases in point: the particle *tak* in (14) always follows the main verb and the prohibitive affixes *-mun* and *-man* in (15) attach to the end of the main verb.

(14)   Trumai (Trumai; Guirardello 1999: 97)
   hai-ts   *ka_in*   *pap*   **tak**   *hat'ke*
   1-ERG   FOC/TNS   pay   NEG   in.future
   'I will not pay it.'

(15)   Awa Pit (Barbacoan; Curnow 1997: 247)
   a.   *na-wa=na*   *pyaŋta-**mun***
         1SG-ACC=TOP   kill-PROH.SG
         'Don't kill me!'
   b.   *na-wa*   *pyan-**man***
         1SG-ACC   hit-PROH.PL
         'Don't you people hit me!'

Type 3, by contrast, has the negation occurring before the reference point – as well as, possibly, after it. In Haitian Creole standard negation, for instance, the particle *pa* can only appear ahead of the main verb, as in (16). Imperative negation in Amele, as in (17), will also be regarded as Type 3 here.

(16)   Haitian Creole (Creoles and Pidgins; Hall 1953: 33)
   li   **pa**   *rété*
   3SG.M   NEG   stop
   'He didn't stop.'

(17)   Amele (Trans-New Guinea, Madang; Roberts 2016: 103)
   wa=na   **cain**   *n-ag-**aun***
   water=in   PROH   go.down-2SG-FUT.NEG
   'Don't go down into the river!'

One part of the double negation, i.e. the negative future suffix *-aun*, follows the main verb but the other part, i.e. the particle *cain*, always precedes it.[4] In our view, the situation in Amele is therefore as indicative of Neg First as that in Haitian Creole.

In the in-between Type 2, the negation may but need not come before the reference point. One such state of affairs is found in Inanwatan, where standard negation is expressed by the compulsory suffix *-aigo* on the main verb and the optional particle *náwo* preceding it, like in (18). Another situation that fits the description occurs in Nivkh. As (19) shows, this language conveys imperative negation through either the standard negation marker *-gavr* following the main verb or the prohibitive particle *ta'* appearing ahead of it.[5] It is not clear which of the two strategies is the regular one.

(18) Inanwatan (Marind, South Bird's Head; De Vries 2004: 40)
     (náwo)   *né-se-s-**aigo***
     NEG   1SG-walk-FUT-NEG
     'I am not going to walk.'

(19) Nivkh (Nivkh; Gruzdeva 2001: 62, 68)
    a.   *ra-**gavr**-ja*
        drink-NEG-IMP.SG
        'Don't drink!'
    b.   ***t'a***   *ra-ja*
        PROH   drink-IMP.SG
        'Don't drink!'

Grammars do occasionally provide information on the degree of optionality or the frequencies of competing strategies. Koiari, for example, can mark imperative negation by means of a prohibitive particle before plus a prohibitive affix after the main verb. The particle is typically left out, though (Dutton 1996: 56). In the same vein, standard negation in Yagua can take the form of an enclitic on the main verb but the alternative strategy of a particle preceding the main verb is much more common (Payne & Payne 1990: 314, 318). This state of affairs could be analyzed as an intermediate Type 2.5, just like imperative negation in Koiari could be Type 1.5. We will, however, not include the extra types, as their absolute numbers would be very low.

The above introduction to our classification has consistently used the main verb – i.e. the verbal element conveying the core meaning of a clause's predicate – as the reference point in (14) to (19). Yet, in view of the debate about what Neg First actually relates to (see Section 1), we will also categorize, into one of the three types, the place of every sample language's standard and imperative negations vis-à-vis the finite verb. With Miestamo (2005: 74), we consider finite verbs to be those elements that, syntactically, "can act as the only predicate of independent clauses" and, morphologically and unlike dependent verbs, show no signs of "deverbalization (reduced marking of verbal categories …) and/or nominalization (acquisition of nominal categories …)". The finite verb is obviously often the same element as the main verb, as (18) and (19) make clear. Still, in Asmat standard negation in (20), for instance, it is not the main verb *por* 'see' (which, for some reason, has an intentional prefix) but the auxiliary *em* 'do' that

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[4] We will, in other words, make no explicit distinction between single and multiple negation in this study. As soon as one of two or three markers in a language precedes the reference point, the negation will be categorized as Type 3 – or Type 2 if the preposed marker is optional, like in (18).

[5] Multiple negation constructions in the same language (see Section 2.1) will thus not be analyzed separately here. Rather, our classification aims to offer an overall assessment of Neg First in the domains of standard negation and imperative negation in a language.

carries the tense and agreement marking and is finite.

(20) Asmat (Trans-New Guinea, Asmat-Kamaro; Voorhoeve 1965: 127)
  mó-por   ***pák***   *em-óf*
  INT-see   NEG   do-MED.PST.1SG.3SG
  'I didn't see it.'

In terms of our classification, standard negation in this language can thus be described as Type 1 when the main verb is taken as the reference point and as Type 3 when the reference point is the finite verb.

Identifying the finite verb is not always straightforward, though. As Miestamo (2005: 74) indicates, "the exact morphosyntactic characteristics of finiteness are specific to individual languages". Moreover, cross-linguistically, inflectional verb morphology for, say, agreement and tense-aspect-mood tends to be quite limited in imperatives in particular (Nikolaeva 2007: 139; Aikhenvald 2010: 89). Consider Khalkha in (21), a partial repetition of (5).

(21) Khalkha (Altaic, Mongolic; Beffa & Hamayon 1975: 62; Kuzmenkov 2001: 98, 101)
  a.   *bi*   *ir-ne*
        1SG   come-NPST
        'I will come.'
  b.   ***bitegii***   *jav*
        PROH   go
        'Don't go!'
  c.   *jav*
        go
        'Go!'

Compared to the verb in the declarative (21a), which is marked for tense and combines with an independent pronoun, the verb in the negative imperative (21b) looks non-finite. In fact, *jav* is simply the stem of 'go'. Despite this relative lack of inflectional morphology, we will regard it as the finite (as well as the main) verb because, syntactically, it functions as the only predicate of the independent imperative clauses in (21b) and (21c).

Our data contain two types of situation that our classification cannot handle. First, a few languages do not feature any exponent of negation in their primary construction for expressing a negative directive. Ungarinjin, for example, employs second person irrealis forms like (22a) to get people not to do something. It may be tempting to view w_2a_2 as marking the negation but the positive declarative in (22b) shows that its meaning is indeed irrealis. As this language has no imperative negation whose position we can categorize, it will be ignored (its standard negation will not, however).[6]

(22) Ungarinjin (Worrorran; Rumsey 1982: 22, 101)
  a.   *njuna₂-w₂a₂-ŋulu-yiri*
        2PL>3SG.F.-IRR-give-CONT
        'Don't you people give to her!'
  b.   *bar-w₂a₂-w₂u*
        1PL.INCL>3PL-IRR-hit

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[6] We acknowledge, however, that some linguists, like one of the reviewers, would analyze the irrealis marker as an exponent of negation in the specific context of (22a) only.

'We might act upon them.'

Second, there are several languages, such as Evenki in (12a), where standard and/or imperative negation is conveyed by an inherently negative auxiliary. Such constructions can be classified for their negation's position vis-à-vis the main verb (Type 3 in the case of Evenki) but not for its place vis-à-vis the finite verb: the negative auxiliary *is* the finite verb and cannot precede or follow itself. Languages with this phenomenon will, of course, not be taken into account when negation's relation to the finite verb is examined.

As the position of negation correlates with its form (see Section 1), we will also determine the type of negative morpheme that every sample language uses in its standard and imperative negation. The analysis will draw on Dahl's (1979) and Dryer's (2013c) typologies. However, in the case of multiple negation, which is treated as a separate category in the earlier work, our focus will be on the first negative morpheme in the clause. This element is likely to come before the main and/or finite verb and is thus of primary interest here. For Daga imperative negation in (23), for instance, it is the particle *ya*, not the suffix *-a*, that will go into our analysis. *Ya* is, after all, the form responsible for the classification of (23) as Type 3.

(23) Daga (Dagan; Murane 1974: 56)
 ya *war-**a***
 NEG get-PROH.2SG
 'Don't get it!'

Also unlike Dryer (2013c), we will not recognize a distinct type for "variation between negative word and affix". If a language has more than one negation construction and the constructions differ in the place of their first negative morphemes vis-à-vis the reference point, we will look at the one that licenses the Type 2 categorization. For imperative negation in Yimas, this principle means that we will be concerned with the prefix in (24a) rather than the postverbal particle in (24b).

(24) Yimas (Sepik-Ramu, Lower Sepik; Foley 1991: 251, 276)
 a. ***apu**-tmi-nc-mpwi*   *ma-mpwi*
  PROH-talk-PRS-talk   other-talk
  'Don't talk anymore!'
 b. *ma-mpwi* *tmi-k*   **pack**
  other-talk talk-IRR   PROH
  'Don't talk anymore!'

Languages can also possess two or more negation constructions that are similar with respect to the position of their first negative morphemes. For such cases, we will consider the form of the "most prototypical" construction (e.g. the most frequent one, the most widely distributed one). In Chinantec, for example, any "verb may be [standardly] negated by the prefix *ʔa^L-* (negative) or the [preverbal] negative word *ʔa^Lʔe^M* ... but the latter is more common" (Rupp 1989: 11) and will therefore be included in our analysis. In Maba, standard negation is marked by a negative perfect suffix, a negative future suffix or a postverbal particle serving as an alternative for the negative future (Miestamo 2005: 313). We will ignore this last form because of its more limited distribution in terms of tense.

Besides particles and affixes, of which many examples have already been given, we will

distinguish verbs, clitics, nouns, tones and vague forms.[7] Finnish can illustrate the use of verbs: *äl* in (25a) is an auxiliary specialized for imperative negation and combines with the suffixes found on the main verb in the positive imperative, as in (25b).[8] Awara in (26a) expresses imperative negation by means of a proclitic. That *ma=* is not a prefix is evident from its attachment in (26b) to *hikngä* 'real' instead of the verb.

(25) Finnish (Uralic, Finnic; Miestamo 2005: 16)
    a.   ***äl***-*kää*   *juos-ko*
           PROH.AUX-IMP.2PL   run-CNG.IMP
           'Don't you people run!'
    b.   *juos-kaa*
           run-IMP.2PL
           'You people run!'

(26) Awara (Trans-New Guinea, Finisterre-Huon; Quigley 2002: 74)
    a.   ***ma***=xu-*yo*
           PROH=go-IMP.2SG
           'Don't go!'
    b.   ***ma***=*hikngä*   *epu-xu-yok*
           PROH=real   come.down-go-IMP.3SG
           'It truly must not come out.'

In Nadëb, standard negation takes the shape of a noun. To be more precise, *dooh* in (27) is the nominalized form of a negative existential verb and comes before a nominalized clause optionally marked by the postposition *bṵ*. Supyire in (28) can exemplify the possibility of tone as the first negative morpheme: in the recent past (as well as in the remote past and the future), adding the clause-final negation *mɛ́* lowers the tone of the preceding tense marker *nî* in (28a) to *nì* in (28b).

(27) Nadëb (Nadahup; Weir 1994: 295)
    dooh   *kalapéé*   *a-ód*   *(bṵ)*
    NEG   child   PFX-cry.NIND   ABL
    'The child is not crying.'

(28) Supyire (Niger-Congo, Gur; Carlson 1994: 340, 381)
    a.   *u*   *nî*   *pa*
           3SG   REC.PST   come
           '(S)he came (earlier today).'
    b.   *u*   ***nì***   *pà*   ***mɛ́***
           3SG   REC.PST.NEG   come   NEG
           '(S)he didn't come (earlier today).'

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[7] One reviewer wonders why a distinction is made between clitics and particles. Given the shared feature of syntactic independence, it would indeed not be unreasonable to group them together (like Dryer 2013c, seemingly). Unlike particles, however, clitics are phonologically dependent and, in this respect, similar to affixes. One could therefore also make a case for combining clitics and affixes (like Miestamo 2005, it seems). Our separate category for clitics is a way of avoiding the issue entirely, though we acknowledge that it is not always easy to differentiate the various forms and especially clitics from particles. At any rate, the amount of clitics in our data is so low (see Section 3.5) that putting them together with either particles or affixes would have little impact on the results.
[8] A very similar pattern can be seen in Evenki in (12).

For some languages, finally, it is not clear from the grammar whether the negative morpheme constitutes a verb or a particle. This vagueness, which is attributable to the common evolution of verbs into particles (e.g. Aikhenvald 2010: 352–362), can be illustrated with Shuswap imperative negation in (29).

(29) Shuswap (Salishan, Interior Salish; Kuipers 1974: 193)
    *tá*ʔ*wəs*   *k-s-nxᵒ-nt-éx*
    PROH   IRR-NMLZ-believe-3-2
    'Don't believe him!'

Kuipers (1974: 82) suggests that *táʔwəs* is verbal, by describing it as the "third person suffixal form of *táʔ*". This element, without *-wəs*, is used for standard negation and glossed as 'it is not the case'. Compared to other verbs in the language, however, the two forms seem rather invariable in all of the examples, implying that they might be particles instead.

    The last two factors that play a potential role in the position of negation are areal convergence and constituent order (see Section 1). To examine the first one, we will contrast the six macro-areas introduced in Section 2.2 with one another. The second factor will be investigated by identifying, for each sample language, the order of verb and object in declaratives and imperatives – for the latter, not infrequently mainly on the basis of the linguistic examples in the grammar. Note that Dryer's (2013b) study of standard negation and constituent order also looks at the subject. For our study, though, including it would make little sense since, in very many languages, one of the two clause types under consideration, i.e. the imperative, lacks an overt subject (see Aikhenvald 2010: 92; Alcázar & Saltarelli 2014: 21–23). We will, in other words, make a distinction between object-verb and verb-object orders, as in (30) and (31) respectively, as well as acknowledge that, sometimes, both orders are possible, as in Yimas in (24).

(30) Canela-Krahõ (Macro-Ge, Ge-Kaingang; Popjes & Popjes 1986: 158)
    rop   *to*   *a-jàpêt*   *nare*
    dog   OBL.OBJ   2-startle   NEG
    'Don't startle the dog!'

(31) Vietnamese (Austro-Asiatic, Viet-Muong; Thompson 1965: 221)
    chó   *uông*   *ruou*
    PROH   drink   alcohol
    'Don't drink alcohol!'

2.4 Statistics

The three-way classification of standard and imperative negation discussed in Section 2.3 will be operationalized in two ways. In the perhaps more traditional approach, we will examine the sample languages' spread across the types and compare spreads in different contexts with each other (e.g. the numbers of Type 1, Type 2 and Type 3 languages for standard negation versus imperative negation vis-à-vis the finite verb in North America). This method has the advantage of being fairly straightforward but it does not really do justice to the in-between nature of Type 2: the types are treated as nominal categories and thus as all being of the same rank. To recognize that Neg First has more impact in Type 2 than in Type 1 and even more in Type 3, we will also view the three types as indicating the principle's level of strength or, put differently, as an ordinal scale. This approach is, in fact, inspired by Idiatov's (2018) recent study of clause-final negation in Africa. To make his analysis more fine-grained, he proposes a scale from 0 to 4 on which the higher a language scores, the more obligatory (i.e. optional or not) and

constructionally free (i.e. limited to specific constructions or not) its clause-final negation is (Idiatov 2018: 136–138).

Following Janssen et al. (2006), we will use non-parametric, distribution-free tests here to determine statistical significance.[9] They argue that parametric tests (e.g. the t-test, commonly employed for comparing means) should not be applied to data from a typological sample like in Table 1 because it does not meet the parametric requirement that "each case in the population [i.e. every language in the world] has the same chance of appearing in the sample" (Janssen et al. 2006: 423). For the totally valid reason of avoiding genealogical and geographical bias, it is not likely, for instance, that Dutch is included in a typological sample that already contains German. We will therefore draw on the following non-parametric (and distribution-free) tests for ordinal data (see Baayen 2008: 108; Rasinger 2013: 226–234): the Wilcoxon signed-rank test when comparing different phenomena in the same set of languages (e.g. standard negation vis-à-vis the main verb versus standard negation vis-à-vis the finite verb), the Mann-Whitney U test when examining the same phenomenon in two different sets of languages (e.g. standard negation vis-à-vis the main verb in OV versus VO languages) and the Kruskal-Wallis test when dealing with one phenomenon in more than two sets of languages (e.g. imperative negation vis-à-vis the main verb in the six macro-areas).

Janssen et al. (2006) also make the case for entirely distribution-free tests. Even the chi-square test, which would be convenient for comparing spreads, "rests on the assumption that the numbers are large enough and evenly distributed over the table" whereas "in typology, ... empty cells and cells with small values are particularly interesting" (Janssen et al. 2006: 424–425). The alternative that they propose is a randomization test employing the chi-square value of the observed spreads but not its associated p-value. Instead, it is compared with the chi-square values of 10,000 arbitrary permutations of the same data and if the original value falls within the top five percent of the highest values, the result is considered to be significant (see Janssen et al. 2006: 426–431 for the statistical details). It is this test that we will use to contrast the sample languages' distributions across our three types with one another. When reporting it, we will consider the number of permutations a given and only present the (observed) chi-square value and the (randomized) p-value.

Two final remarks are in order. First, non-parametric tests only say something about the cases/languages in the sample and do not permit drawing a *statistical* inference about the population/the world's languages. However, as Janssen et al. (2006: 430) stress, *logical* "inference can alleviate this problem: if we can argue on typological grounds that the sample is representative of the larger unit", as in Section 2.2, "we can logically extend the conclusions drawn on the basis of the sample to" this larger unit. Second, for some tests involving variables with more than two categories (e.g. comparing the six macro-areas), it will be appealing to perform follow-ups on the same data to see which categories in particular stand out (e.g. South America versus the rest of the world, Eurasia versus the rest of the world). For such extra tests, we will Bonferroni-correct our regular level of significance, i.e. it is divided by the number of comparisons made. This correction decreases the risk that too much importance is assigned to one (or more of the multiple) test(s) producing a p-value below 0.05 as it (or they) may simply be the result of chance (Baayen 2008: 114).

3   Results

3.1   In general

To answer the question whether, in the world at large, preverbal negation occurs more often in

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[9] The analyses have been carried out with R (R Core Team 2019).

imperatives than in declaratives, let us first examine the distribution of all our sample languages across our three types. Figure 1 present the types' proportions (via the 100% stacked bars) and absolute frequencies (with the numbers inside the bars) for standard negation (SN) versus imperative negation (IN) vis-à-vis the main verb (MV) on the left and the finite verb (FV) on the right.
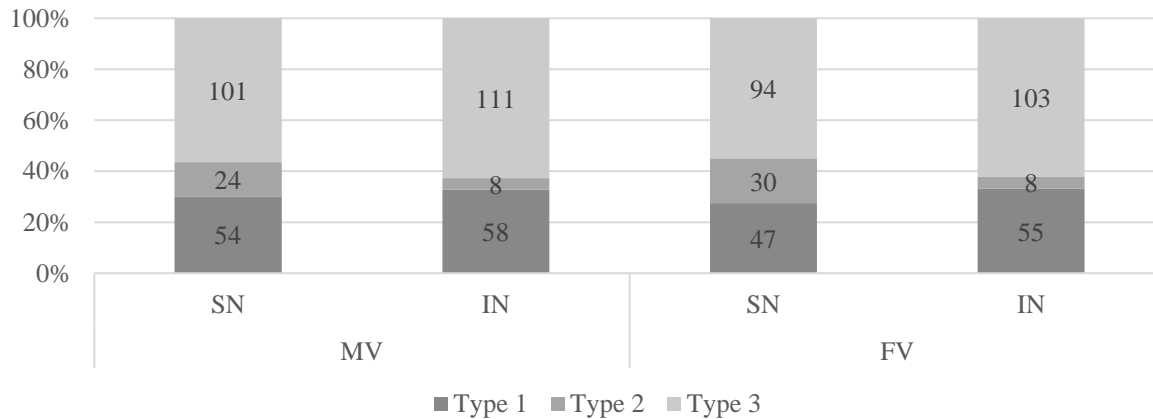

Figure 1: Standard versus imperative negation vis-à-vis the main verb and vis-à-vis the finite verb

What is immediately clear is the overall validity of Neg First: in each bar, at least two thirds of the languages possess preverbal negation unequivocally (Type 3) or show signs of it (Type 2). Randomized chi-square tests do reveal that imperative negation's distribution differs significantly from standard negation's vis-à-vis both the main verb ($\chi^2 = 8.60$, $p < 0.05$) and the finite verb ($\chi^2 = 13.70$, $p < 0.05$). A closer look confirms that there are indeed more Type 3 languages in imperative than in standard negation (62.71%/62.05% versus 56.42%/54.97% vis-à-vis the main/finite verb). Any sweeping claims about Neg First in imperative versus standard negation on the basis of this observation would be premature, however: imperative negation also has a slightly higher number of Type 1 languages (32.77%/33.13% versus 30.17%/27.49%) whereas standard negation features more Type 2 languages (13.41%/17.54% versus 4.52%/4.82%). In fact, in an ordinal interpretation of the data in Figure 1, no substantial differences exist between the two types of negation, according to the Wilcoxon signed-rank tests ($V = 294$, $p > 0.05$ with a main verb reference point; $V = 451$, $p > 0.05$ with a finite verb reference point).

The explanation for comparatively more Type 2 and less Type 1 and Type 3 in standard negation lies in its range of constructions. Many languages exhibit a wider variety of different constructions in standard negation than in imperative negation. Korean can serve as an example: it possesses two standard negation constructions, as in (8), but just one negative imperative (Chang 1996: 101–103). The opposite is possible too (e.g. in Kresh; see Santandrea 1976: 160; Brown 1994: 166) but is quite rare in our data. Standard negation, as the domain that tends to involve the larger number of constructions, is therefore simply more likely to display variation in the position of negation or, in other words, to belong to Type 2. The reason for this difference in the range of constructions is probably that the declarative has more dimensions along which negation can fluctuate – such as tense and aspect – than the imperative (see Aikhenvald 2010: 125–133).

3.2 Reference point

The lack of consensus about whether Neg First relates to the main verb or the finite verb raises two questions here. The first one pertains directly to the topic of our study: does reference point affect the performance of Neg First in imperative negation compared to standard negation? It

is evident from Figure 1 and the discussion in Section 3.1 that, at least on the whole, the answer is no. Horn's (1989) hypothesis is not borne out from either a main verb perspective or a finite verb one. The second, more general question is whether reference point actually has an effect on Neg First. The data for our entire sample in Figure 1 indicate that the answer is again negative. No significant differences are found between main verb and finite verb for standard negation (in distributional terms: $\chi^2 = 1.22$, $p > 0.05$; in ordinal terms: $V = 81$, $p > 0.05$) or for imperative negation (in distributional terms: $\chi^2 = 0.03$, $p > 0.05$; in ordinal terms: $V = 22.5$, $p > 0.05$). The reason should be obvious: in a large majority of negation constructions, the main verb and the finite verb coincide. For the sake of precision and completeness, we will nonetheless include the numbers for both reference points in the rest of the article.

3.3 Macro-area

Janhunen's (2018) claim that the Transeurasian belt languages are characterized by postverbal standard but preverbal imperative negation suggests that it is worth examining the relation between the two types of negation in different areas. Figure 2 gives the proportions and raw frequencies for standard versus imperative negation vis-à-vis the main verb in Africa (AFR), Australia and New Guinea (A&NG), Eurasia (EA), North America (NA), South America (SA) and South East Asia and Oceania (SEA&O). Figure 3 does the same for negation vis-à-vis the finite verb. Note also that Haitian Creole is not included in these figures.
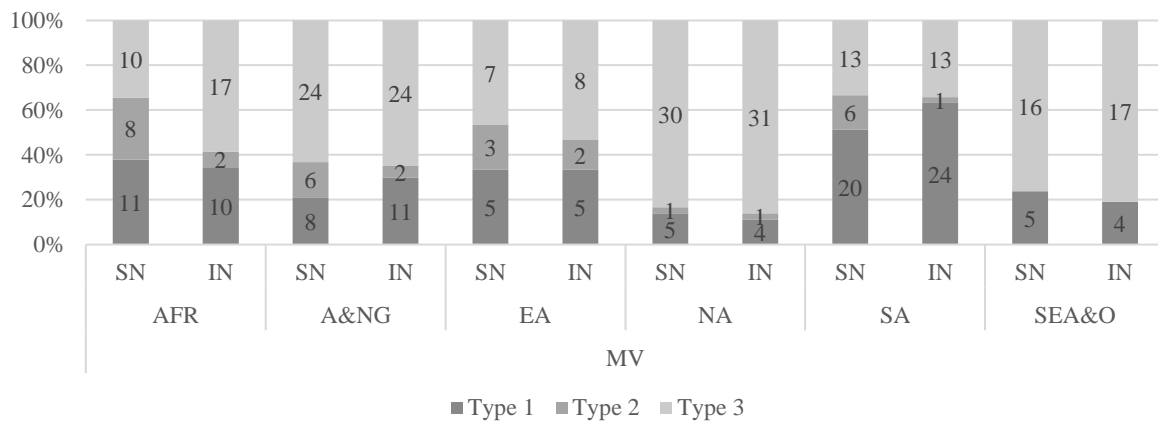

Figure 2: Standard versus imperative negation vis-à-vis the main verb in the six macro-areas
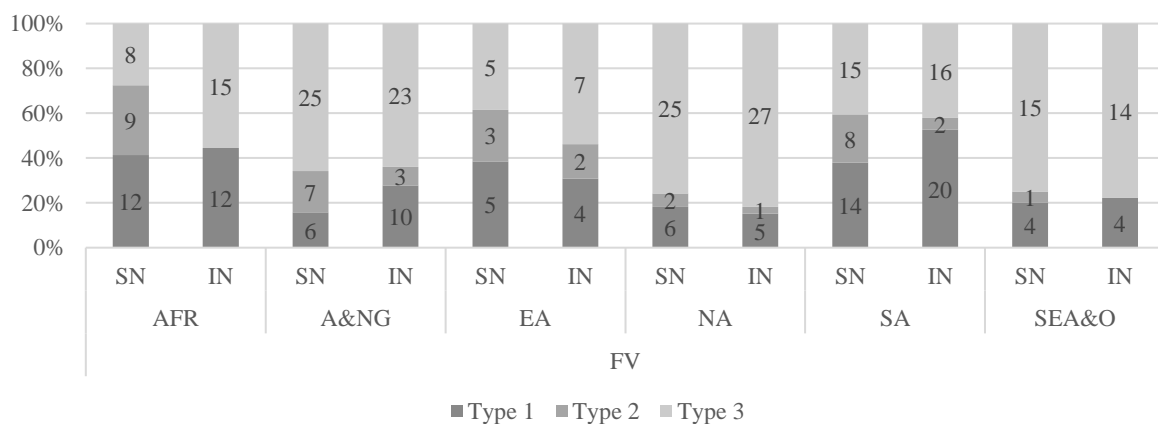

Figure 3: Standard versus imperative negation vis-à-vis the finite verb in the six macro-areas

None of our macro-areas, however, appears to exhibit any variation between standard and

imperative negation (for reasons of space, the negative results of all these statistical tests are left out), with the exception of Africa in Figure 3. In this macro-area, the distribution of Types 1 to 3 in standard negation vis-à-vis the finite verb (i.e. 41.38%, 31.03% and 27.59%) is found to differ substantially from that in imperative negation (i.e. 44.44%, 0.00% and 55.56) (χ^2 = 11.07, p < 0.05). Like in Section 3.1, though, this finding is mainly due to standard negation's larger share of Type 2 languages. It should thus not come as a surprise that no significant difference exists in an ordinal interpretation of the African numbers (V = 18, p > 0.05). Importantly, these findings are not to be taken as proof that there are no areal effects at all in the Neg First relation between standard negation and imperative negation. A more fine-grained geographical classification, like Nichols et al.'s (2013), and a more sizable sample might still reveal areas of convergence like Janhunen's (2018).

In general, Neg First does display areal variation, of course. Randomized chi-square tests and Kruskal-Walls tests show that the macro-areas differ significantly from each other both for standard negation vis-à-vis the main verb (χ^2 = 34.56, p < 0.05; H = 25.94, p < 0.05) and the finite verb (χ^2 = 26.09, p < 0.05; H = 21.04, p < 0.05) and for imperative negation vis-à-vis the main verb (χ^2 = 31.10, p < 0.05; H = 26.23, p < 0.05) and the finite verb (χ^2 = 21.44, p < 0.05; H = 14.83, p < 0.05). Bonferroni-corrected post hoc comparisons of every macro-area with the rest of the sample reveal some more specific differences.

First, Africa possesses less preposed standard negation vis-à-vis the finite verb: Type 1, for example, makes up 41.38% of the languages in this macro-area but only 24.82% of the other languages (χ^2 = 10.64, p < 0.008 for the distributional interpretation) and the median strength of Neg First in Africa is just 2 (IQR = 2), compared to 3 (IQR = 1) in the other macro-areas (U = 1367.5, p < 0.008 for the ordinal interpretation, according to the Mann-Whitney U test). Second, South America has less preposed standard and imperative negation vis-à-vis the main verb. For standard negation, half of the sample languages in this macro-area are Type 1, versus a quarter in the rest of the sample (χ^2 = 12.00, p < 0.008). For imperative negation, the difference is even bigger (χ^2 = 20.01, p < 0.008). Moreover, the median strength of Neg First in negation vis-à-vis the main verb is only 1 (IQR = 2) in South America but 3 (IQR = 1) in the other macro-areas (U = 3581.5, p < 0.008 for standard negation; U = 3635, p < 0.008 for imperative negation). Third, North America possesses more preposed standard and imperative negation vis-à-vis the main verb than normal. Type 3 accounts for 83.33%/86.11% of the languages in this macro-area for standard/imperative negation, compared to 49.30%/56.43% of the other languages (respectively χ^2 = 13.78, p < 0.008; χ^2 = 10.90, p < 0.008). As to Neg First's median strength, for standard negation, it is 3 (IQR = 0) in North America but just 2 (IQR = 2) in the rest of the sample (U = 1599.5, p < 0.008). For imperative negation, it is 3 in both cases but its spread is much wider in the sample at large (IQR = 2) than in North America (IQR = 0) (U = 1759, p < 0.008).

As the number of languages per macro-area is fairly limited in our sample, we should be careful not to infer too much about the world from the above. Still, some of the results seem to match earlier findings. The relative lack of preverbal negation in our African data, for instance, may be related to the identification of sub-Saharan Africa as a hotspot for postverbal negation (often but not always as one of two or more negation exponents; see Devos & van der Auwera 2013). Dryer (2009: 307), for one, notes that there are many cross-linguistically unusual SVO languages in "an area in central Africa from Nigeria across to the Central African Republic and down into the northern Democratic Republic of Congo" where "the negative follows the verb, typically occurring at the end of the clause" (see Idiatov 2018 too). Our results for South America may be linked to a well-known partiality to postverbal negation as well. Dryer (2013a), for example, points out that "the largest concentration of languages with negative suffixes is in the northern half of South America" and Schwegler (2018: 260) adds that "sentence-final negation ... is particularly frequent in South America's indigenous languages". Our findings for North

America, finally, are new, to our knowledge. It remains to be seen, however, whether this very strong preference for preverbal negation holds up in a larger sample[10] and whether it can perhaps be connected to constituent order and/or form here (e.g. more VO, more particles).

3.4 Constituent order

In Figure 4, we provide, for standard negation on the left and imperative negation on the right, the proportions and absolute numbers of our three types in object-verb (OV), free constituent order (OV/VO) and verb-object (VO) languages. For each order, we also give, between brackets, its raw frequency in declaratives and imperatives and distinguish between negation vis-à-vis the main verb and negation vis-à-vis the finite verb.
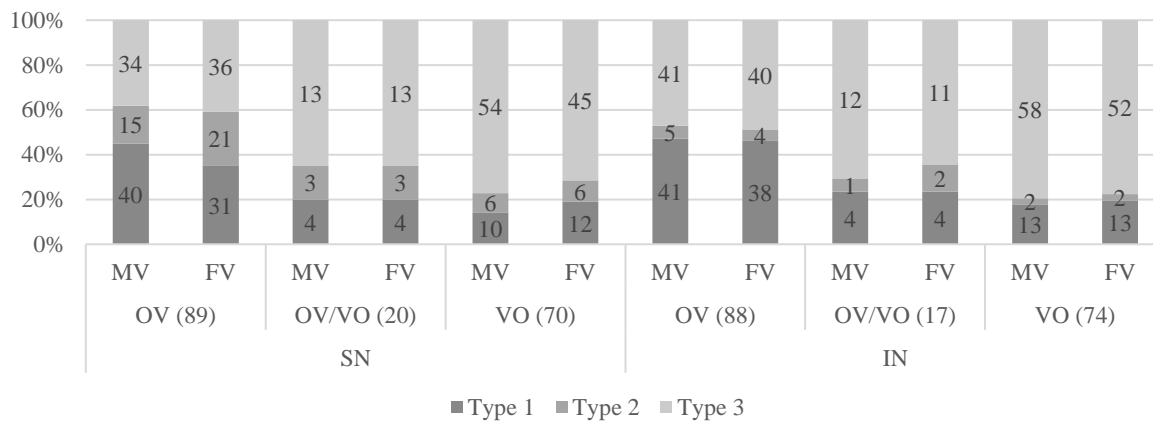

Figure 4: Constituent orders in standard and imperative negation vis-à-vis the main verb and the finite verb

What is immediately clear from Figure 4 is that our data confirm the well-established existence of a relationship between the position of negation and constituent order (e.g. Dryer 2013b). In both standard and imperative negation vis-à-vis either the main verb or the finite verb, the three orders differ significantly from each other in distributional as well as ordinal terms. For imperative negation vis-à-vis the finite verb ($\chi^2 = 15.73$, $p < 0.05$; $H = 13.44$, $p < 0.05$), for instance, the Bonferroni-corrected post hoc tests reveal that OV languages have less preposed negation than other languages while VO languages have more (the free constituent order languages are not substantially different from OV and VO languages). Of the OV languages, 46.34% belong to Type 1 and their median strength of Neg First is 2 (IQR = 2), versus 20.24% and 3 (IQR = 0.25) in non-OV languages ($\chi^2 = 13.13$, $p < 0.01$; $U = 2499$, $p < 0.01$). Of the VO languages, by contrast, 77.61% are Type 3 and their median strength of Neg First is 3 (IQR = 0), compared to 42.42% and 3 (IQR = 2) in the non-VO languages ($\chi^2 = 11.56$, $p < 0.01$; $U = 2448$, $p < 0.01$). The numbers for imperative negation vis-à-vis the main verb and those for standard negation are virtually the same (but will not be presented here for reasons of space) and thus all basically in line with Miestamo's (2005: 189) observation that preverbal negation correlates with verb-object order and postverbal negation with object-verb order.

This connection between Neg First and the order of verb and object does not seem to be affected by the type of negation (or by reference point, for that matter), as the lack of significant differences between the two makes clear. Negation vis-à-vis the main verb in object-verb languages can serve as an example: its distribution in declaratives is similar to that in imperatives ($\chi^2 = 5.64$, $p > 0.05$); the median strength of Neg First is 2 (IQR = 2) in both sentence types (V

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[10] In fact, according to one of the guest editors, Vossen's (2016) large-scale study does indeed point in the same direction.

= 474, p > 0.05). Constituent order could, obviously, still play a role in standard versus imperative negation if they favored different orders – which is not the case, however. OV languages account for just under half of the sample and VO languages for roughly two fifths in either type of negation (χ^2 = 0.36, p > 0.05).

Note also that, for what the low numbers of our three constituent orders in each macro-area are worth and to the extent they can be considered representative, the areal effects in Section 3.3 do not appear to be due simply to different preferences for the order of verb and object. Maybe somewhat surprisingly (cf. Dryer 2013e writing, for instance, that "VO ... is the dominant type in Africa"), our data display no significant dissimilarities for Africa, South America or North America in the distribution of object-verb, verb-object versus free constituent order. There are also no indications of a stronger "postverbal/preverbal bias" of OV/OV languages in these macro-areas – with the exception of the OV languages in Africa, which exhibit even less preverbal negation than normal for some reason (66.67% are Type 1 and Neg First has a median strength of 1 (IQR = 1), compared to 31.17% and 2 (IQR = 2); χ^2 = 5.68, p < 0.05; U = 186.5, p < 0.01).

3.5 Form

Figure 5 gives, for standard negation vis-à-vis the main verb on the left and imperative negation with this reference point on the right, the proportions and absolute numbers of our three types in affixes (A), clitics (C), nouns (N), particles (P), particle/verbs (P/V), tone (T) and verbs (V) (see Section 2.3). For each category, we also provide, between brackets, its raw frequency in standard and imperative negation. Figure 6 does the same for negation vis-à-vis the finite verb.
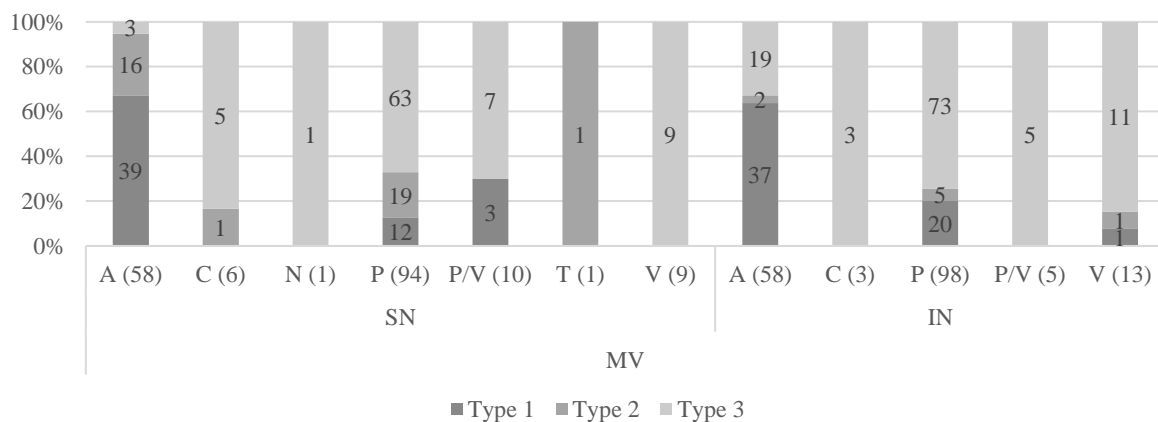

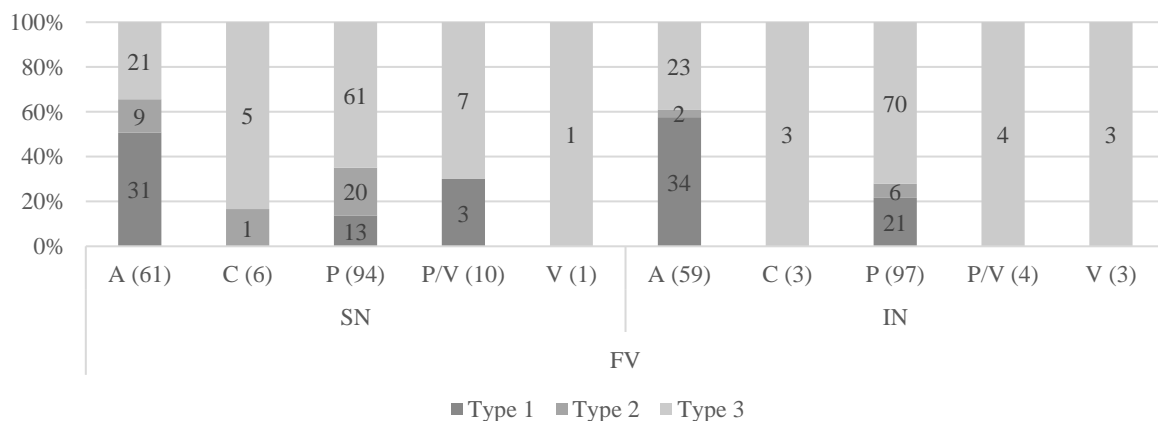Figure 5: Negative morphemes in standard and imperative negation vis-à-vis the main verb

Figure 6: Negative morphemes in standard and imperative negation vis-à-vis the finite verb

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It is evident from Figures 5 and 6 that there exists a correlation between the position of negation and its form. In standard as well as imperative negation vis-à-vis either the main or the finite verb, the various types of morpheme behave in a substantially different way from one another in both distributional and ordinal terms. For imperative negation vis-à-vis the main verb (χ^2 = 40.83, p < 0.05; H = 38.35, p < 0.05), for example, our Bonferroni-corrected post hoc testing indicates that affixes have less preposed negation than other forms whereas particles have more (the other morpheme types do not display any significant differences). Of the "affix languages", 63.79% belong to Type 1 and their median strength of Neg First is 1 (IQR = 2), versus 17.65% and 3 (IQR = 3) in non-affix languages (χ^2 = 37.90, p < 0.01; U = 1823.5, p < 0.01). By contrast, of the "particle languages", 74.49% are Type 3 and their median strength of Neg First is 3 (IQR = 0.75), compared to 48.10% and 2 (IQR = 2) in non-particle languages (χ^2 = 15.26, p < 0.01; U = 4957.5, p < 0.01). The numbers for imperative negation vis-à-vis the finite verb and those for standard negation are essentially the same (but will not be given here to save space).

Our results are consistent with Miestamo's (2005: 186) finding for standard negation that "bound negators are typically postposed and free negators preposed" (see Dahl 1979: 94–95 too). As Dryer (2013a) points out, the former correlation "can probably be attributed to the general crosslinguistic suffixing preference, which competes with the preference for preverbal negative morphemes". Our data also confirm the existence of "two main clusterings: free-pre-posed-VO and bound-postposed-OV" (Miestamo 2005: 189). Imperative negation vis-à-vis the main verb is a case in point. OV languages feature a bound negative morpheme (i.e. an affix or a clitic) in 45.98% of the cases, versus 23.33% in non-OV languages (χ^2 = 10.04, p < 0.01), and comprise 65.57% of all bound morphemes in the sample. VO languages, however, have a free negative morpheme in 71.76% of the cases, compared to 53.21% in non-VO languages (χ^2 = 6.87, p < 0.01), and are responsible for 48.28% of the free morphemes in the sample.

The role that the connection between Neg First and form plays in standard versus imperative negation appears to be quite limited. The main reason is that the overall profile of imperative negation's morphemes closely resembles that of standard negation's morphemes. In negation vis-à-vis the finite verb, for instance, affixes account for 35.47% and 35.54% in declaratives and imperatives respectively and particles for 54.65% and 58.43% (χ^2 = 4.55, p > 0.05). Negation vis-à-vis the main verb is similar (χ^2 = 5.47, p > 0.05). The distributions of particle languages across Types 1 to 3 do differ between the two types of negation (e.g. χ^2 = 10.82, p > 0.05 with a main verb reference point) but this fact is again primarily due to Type 2 (see Section 3.1) and there is no distinction in ordinal terms (e.g. V = 60, p > 0.05). Yet, in negation vis-à-vis the main verb, affixes are found to have slightly more preposed negation in the imperative than in the declarative from a distributional and an ordinal point of view (χ^2 = 22.58, p < 0.05; V = 0, p < 0.05). The median strength of Neg First is only 1 in both cases but the IQR is 2 for imperative negation and 1 for standard negation. We have, at present, no explanation for this result.[11]

The areal effects mentioned in Section 3.1, finally, do not seem to be ascribable just to different preferences for negation's form – although, admittedly, the numbers per macro-area are probably too low to be representative. Our data do not display any significant dissimilarities in the distribution of affixes, particles and such for Africa or North America. Still, South America appears to have more affixes than normal: in imperative negation vis-à-vis the main verb, for example, they account for 65.79% of the languages, compared to 26.09% in the rest of our sample (χ^2 = 20.74, p < 0.008). The fact that the macro-area has comparatively less preposed

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[11] We briefly considered the idea that, perhaps, prohibitive affixes – which are often in a paradigmatic relationship with imperative affixes – should be analyzed as functioning more as mood than as negation markers, at least more so than standard negation affixes. Mood affixes are, however, known to be predominantly suffixing (see Cutler et al. 1985: 735).

negation is thus at least partly related to its partiality to affixes. This preference cannot be the whole story, though. South America is also the only macro-area for which there are indications that, for some reason, the postverbal/preverbal bias of affix/particle languages is even stronger than usual. More specifically, in imperative negation vis-à-vis the main verb again, 80% of its affix languages are Type 1 and their median strength of Neg First is 1 (IQR = 0), versus 47.22% and 2.5 (IQR = 2) for the other affix languages (χ^2 = 7.41, p < 0.01; U = 272.5, p < 0.008).

4 Conclusion

The discussion in Section 3 reveals/confirms a number of interesting facts about Neg First. For one thing, the principle is found to be at work in standard negation as well as imperative negation. It is also shown to exhibit some areal variation – including its limited influence in South America and surprisingly profound impact in North America – that may not be entirely attributable to other factors. In addition, our data indicate that the correlations between postposed negation, object-verb order and affixes on the one hand and preposed negation, verb-object order and particles on the other – known from standard negation – hold for imperative negation too. Another finding about Neg First is that, at least for an operationalization of its overall strength, the distinction between a main verb reference point and a finite verb one does not really appear to matter. Lastly, Sections 3.4 and 3.5 point out that, in general, constituent order does not vary much between negative declaratives and negative imperatives and that, on the whole, the forms usually taken by imperative negation are basically identical to those of standard negation.

What we do not find in Section 3 is any substantial difference in Neg First between standard and imperative negation. They do occasionally diverge but, in these cases, the dissimilarity is virtually always one in the distribution across Types 1 to 3 only (but see Section 3.5 for the exception of affixes with negation vis-à-vis the main verb) and particularly of a higher number of Type 2 languages in standard negation. As argued in Section 3.1, this larger proportion is primarily due to the typically wider range of standard negation constructions and the increased likelihood of a Type 2 classification. No such dissimilarity in distribution is, however, backed up by a significant difference in the overall strength of Neg First, where Types 1 to 3 are interpreted as a rank and the in-between status of Type 2 is fully recognized. In short, contra Van Olmen's (2010) unsystematic analysis, the present study suggests that Neg First is *not* stronger in imperatives than in declaratives in the languages of the world or, put differently, that Horn's (1979) claim – and Jespersen's (1917) before him – does not hold cross-linguistically.

One reason why Horn's (1979) hypothesis is not borne out here may be that it hinges on the possible confusion between a positive and a negative imperative. To be more specific, the lack of preverbal negation in (32) can only be argued to "literally constitute a matter of life and death" (Horn 1989: 450) because *kill him!* might be understood as a directive to murder someone first, i.e. before *not* is uttered.

(32) *Kill him – oops – **not**!*

In a language such as Una, though, this kind of confusion does not really take place. The verb in the negative imperative (33a) needs to be in its infinitive form and cannot be mistaken for a positive imperative such as (33b) as it does not carry the dedicated affix *-rum*. Thus, the "extra" need for preverbal negation in (32) may just not be felt in (33a).

(33) Una (Trans New-Guinea, Mek; Louwerse 1988: 31)
    a. *uram*   *e-na*   ***mem***
        talk   speak-INF   PROH
        'Don't talk!'

b. *eb-rum*
speak-IMM.IMP.2SG
'Speak!'

This could explain the general similarity in Neg First between standard and imperative negation since, cross-linguistically, the Una pattern is far from uncommon according to van der Auwera & Lejeune (2013). They typologize the (second person singular) negative imperative in terms of [± (second person singular) imperative verb construction] and [± standard negation construction]. In their convenience sample, 40.40% of nearly 500 languages share Una's use of a non-imperative verb form (and 66.06% its reliance on a non-standard negation form).

If the (absence of) confusion in (32) and (33) indeed played a role, one could, of course, hypothesize Neg First to have a stronger impact on imperative negation in [+ imperative verb] languages like English than in [– imperative verb] languages like Una. To test this theory, we present, in Figure 7, for negation vis-à-vis the main and finite verb on the left and right respectively, the proportions and raw numbers of Types 1 to 3 in the standard and imperative negation of English-like languages ([+IMP]) and Una-like languages ([-IMP]).
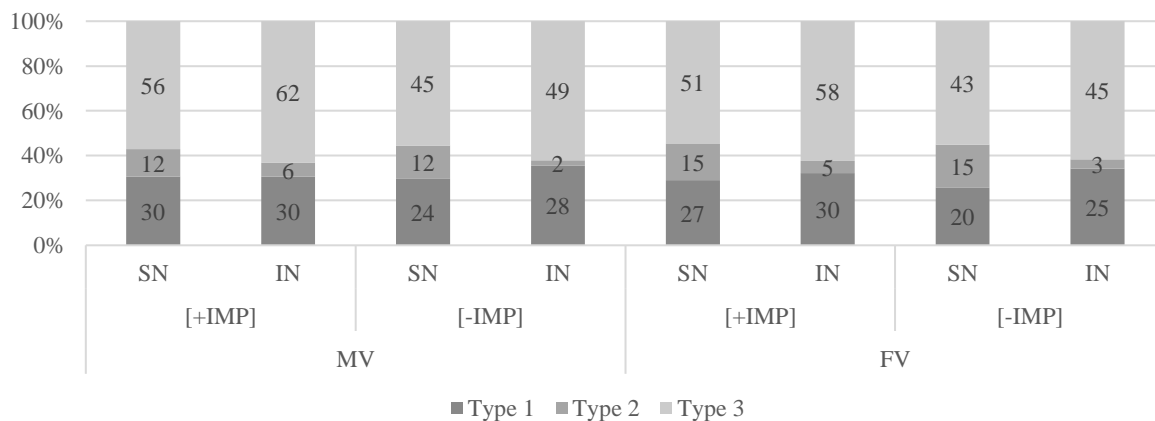

Figure 7: Standard versus imperative negation vis-à-vis the main or finite verb in [± imperative verb] languages

Yet, no differences, in either distributional or ordinal terms, are found for standard versus imperative negation in [+ imperative verb] languages or for imperative negation in [+ imperative verb] languages versus that in [– imperative verb] ones. In imperative negation vis-à-vis the main verb, for instance, the proportions of Type 1 are 63.27% for [+ imperative verb] languages and 62.03% for [– imperative verb] ones ($\chi^2 = 1.57$, $p > 0.05$) and their corresponding median Neg First strengths are both 3 (IQR = 2) (U = 3973, $p > 0.05$). In [– imperative verb] languages, standard negation does differ from imperative negation in terms of distribution (e.g. $\chi^2 = 7.60$, $p < 0.05$ for negation vis-à-vis the main verb). The median strength of Neg First is 3 (IQR = 2) in each case, however (e.g. V = 243.5, $p > 0.05$).

In other words, the notion of confusion and the parameter of [± imperative verb construction] do not seem to be able to save Horn's (1989) hypothesis either for the world's languages, where preverbal negation simply does not occur more often in imperatives than in declaratives. This fact should not be taken to mean that one cannot entertain the idea of a stronger Neg First in imperatives at all to account for, say, a language-specific phenomenon such as the German directive *nicht hinauslehnen!* 'don't lean out (the window)!' versus the imperative *trink nicht!* 'don't drink!' in (1).[12] Still, the finding that it does not even manifest itself a little cross-

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[12] This was pointed out to us by Martin Haspelmath. As one of the reviewers writes, the preverbal position of *nicht* in the directive infinitive is obviously due to a general characteristic of German syntax, i.e. the clause-final

linguistically suggests that one should be careful and perhaps consider alternative explanations.

Acknowledgments

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nature of non-finite verb forms: with just an infinitive in the clause, the negation can only precede the verb. This syntactic account still does not explain, however, *why* the option of (negative) directive infinitives exists and *why* they are sometimes preferred to negative imperatives.

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Abbreviations

>	acting on
1,2,3	first, second, third person
ABL	ablative
ACC	accusative
AUX	auxiliary
CAUS	causative
CNG	connegative
CONT	continuous
DECL	declarative
DEF	definite
DEM	demonstrative
DIST	distal
ERG	ergative
F	feminine
FOC	focus
FUT	future
IMM	immediate
IMP	imperative
INCL	inclusive
IND	indicative
INF	infinitive
INT	intentional
ITER	iterative
IRR	irrealis
MED	mediate
N-	non-
NEG	negation
NMLZ	nominalizer
M	masculine
OBJ	object
OBL	oblique
PART	partitive

PFX	prefix
PL	plural
POL	polite
POSS	possessive
POT	potential
PREV	preventive
PROH	prohibitive
PRS	present
PST	past
REC	recent
SBJ	subject
SG	singular
SUSP	suspective
TNS	tense
TOP	topic
TR	transitive