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# From possibility to prohibition: A rare grammaticalization pathway

BRIGITTE PAKENDORF and EWA SCHALLEY

## *Abstract*

*It is generally assumed that the development of modality proceeds in a unidirectional manner from deontic to epistemic meaning. In this article, we present crosslinguistic data in contradiction of this hypothesis by showing that markers of possibility can, albeit rarely, develop to prohibitives by following a path of semantic change that includes warnings as intermediary links. In addition, this rare development is interesting in that it involves a polarity shift from an affirmative marker to a negative meaning.*

*Keywords: deontic, epistemic, grammaticalization, imperative, modality, mood, negation, potential, prohibitive, semantic change*

## **1. Introduction**

The negative imperative mood (also called “prohibitive”) can be expressed in various ways. A commonly used strategy is to negate either the verb form used to express the affirmative imperative or a verb form not found in the affirmative imperative construction, such as an infinitive or subjunctive (Sadock & Zwicky 1985, van der Auwera & Lejeune 2005). The negative markers used in prohibitive constructions also vary: some languages use the same negative markers as those found in declarative sentences, while other languages use non-declarative negative markers. Often prohibition is expressed by periphrasis, such as ‘cease doing ...’ or ‘you will not ...’ (Sadock & Zwicky 1985, van der Auwera & Lejeune 2005).

Whatever the means of negation, and whichever verbal form is used in these constructions, the prohibitive strategy generally includes some form that carries a negative meaning. Very rarely does an affirmative form alone convey a negative imperative meaning, which can then grammaticalize further into a

negative imperative mood. Though very rare, such cases are attested. In their discussion of the development of an admonitive mood out of a marker denoting a meaning of possibility, Bybee et al. (1994: 211–212) mention Chepang, a Tibeto-Burman language from Nepal (which we discuss in detail in Section 4.1), where an affirmative verb form has developed a prohibitive meaning.

We also find such a development in Sakha (Yakut), a Turkic language from northeastern Siberia. Although Sakha has two forms at its disposal which have no other functions than to express a prohibition with reference to either immediate or distant future, in addition speakers of Sakha use the 2nd person affirmative “Voluntative-Potential” forms (Stachowski & Menz 1998) in order to convey a future prohibition. This finding is doubly intriguing, in that it not only represents a rare example of the grammaticalization of a negative imperative marker out of an affirmative form, but also because we find here the development of deontic modality (negative imperative) out of epistemic modality (possibility). In this article, we assess the crosslinguistic relevance of the phenomenon observed in Sakha; based on the results of our survey, we propose an explanation for this counterexample to the supposed unidirectional development of epistemic modality from deontic modality (Traugott 1989, Bybee & Pagliuca 1985).

## 2. The data

We will begin by discussing the relevant phenomenon in Sakha, then in the crosslinguistic sample. Such a presentation of the data is due not only to the fact that the phenomenon discussed in this article was first noticed by us in Sakha, but mainly because the Sakha data are richer: as discussed below, the Sakha material comes from Pakendorf’s personal fieldwork and it was thus possible to check detailed points of usage. The typological data comes from reference grammars and is therefore generally restricted to the phenomena described therein. However, for the languages that appeared to share the development of a negative imperative out of an affirmative form (Section 4) we consulted the authors of the grammars or other specialists as far as possible.<sup>1</sup>

Sakha is a Turkic language spoken mainly by ethnic Sakha in the Sakha Republic (Yakutia), which is a member of the Russian Federation. The data presented here was collected by Pakendorf during two periods of fieldwork in the Sakha Republic (Yakutia) in 2002 and 2003. Data was gathered in four different districts representing four different dialectal zones and consisted of recorded, transcribed, and translated texts (mainly personal life histories) from 15 speakers of Sakha. In addition, translations of Russian sentences into Sakha

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1. See the acknowledgements.

and back-translations of Sakha sentences (obtained by consultants in one district, and also devised with the help of Sakha grammars) into Russian were elicited from a number of speakers in all four districts.<sup>2</sup>

The core typological sample used for the purpose of this article consists of 161 languages<sup>3</sup> from a 200-language sample initially compiled for the *WALS* project (Comrie et al. 2005: 4–6). Moreover, during our literature search we came across a description of a further language (Chepang, Sino-Tibetan; Nepal) not included in the *WALS* sample which uses an affirmative form in order to express a negative imperative meaning. Additionally, it was pointed out to us by Balthasar Bickel, following upon an informal presentation of the Sakha data, that Belhariya (Sino-Tibetan; Nepal) shows a similar phenomenon. Although including Chepang and Belhariya in the present article slightly biases the typological sample, we decided to include them in order to obtain a better picture of the phenomenon in question. Including these languages we arrive at a total typological sample of 163 languages.

In our crosslinguistic study we looked at forms which conveyed “a negative command (prohibition) directed towards one or more addressee(s)”. Since the point of departure for this study was our finding a formally affirmative suffix being used with negative imperative meaning in Sakha, we restricted our search to affirmative forms (or such markers/particles expressing affirmative meanings) that in addition express prohibitive meaning without the help of formal negative markers. Thus, languages in which a negative marker regularly occurs in prohibitive constructions were excluded from further investigation, and only those languages in which no such formal negative marker appeared to be present in prohibitive constructions were analyzed in depth. In these languages (as individually discussed in Section 4), the assessment of the polarity of the forms in question took into consideration the range of meanings of the morphemes as well as other morphosyntactic features of the prohibitive constructions. Since the crosslinguistic study was restricted to reference grammars, it is based on synchronic data.

### **3. The use of an affirmative Voluntative-Potential marker to express prohibition in Sakha**

Sakha has two imperative paradigms: an Immediate Future Imperative/Prohibitive used for immediate commands/exhortations or prohibitions and a Distant Future Imperative/Prohibitive. The Immediate Future Imperative/Prohibitive is

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2. When examples were taken from the recorded texts, the sex, age, and location of the speaker are given in brackets. Examples taken from the elicited data are marked in the text as (translation) or (back-translation).

3. A list of all the languages used in this study, with information on their genetic and geographic affiliation as well as the source grammars can be obtained on request from Ewa Schalley.

available for all person-number combinations (with an additional 1st person dual not distinguished in the indicative mood forms), while the Distant Future Imperative/Prohibitive is restricted to the 2nd person singular and plural. The Prohibitive is regularly derived from the Imperative with the negative suffix *-(I)m(A)*.<sup>4</sup> The forms of the Distant Future Imperative/Prohibitive convey a weaker command/prohibition than the Immediate Future Imperative/Prohibitive, and are also used for requests/commands/prohibitions that are to be performed at a later point in time. The distinction in use between the Immediate and Distant Future Prohibitive is exemplified by (1) and (2).

- (1) *onu sa:la-n-ima-ŋ toʁoy-dor-um . . .*  
 PTL gun-VR-REF-NEG-IMP.2PL toʁoy<sup>5</sup>-PL-POSS.1SG  
 ‘And “My friends, don’t take your guns . . .”’ (female; 82; Olenëk district)
- (2) *sarsin kiehe muosta-ni su:y-um-a:r-iŋ*  
 tomorrow evening floor-ACC wash-NEG-DSTIMP-IMP.2PL  
 ‘Tomorrow evening don’t wash the floor!’ (translation, Taatta district)

Furthermore, Sakha has a full Voluntative-Potential paradigm with both affirmative and negative forms (the negative being regularly derived from the affirmative). These forms primarily express possibility and hope (3a, b), although occasionally they may have an apprehensive nuance (3c, d).

- (3) a. *bihigi telley-d(e):e:ye-bit*  
 1PL mushroom-VR-VPOT-1PL  
 ‘Maybe we could gather mushrooms.’ (explanation, Suntar district)
- b. *jom-mut bultuy-a:yal-lar*  
 people-POSS.1PL hunt-VPOT-PL  
 ‘Hopefully it will be a successful hunt.’ (female; 73; Olenëk district – letter)
- c. *bïyil bihigi telley-de:m-e:ye-bit*  
 this.year 1PL mushroom-VR-NEG-VPOT-1PL  
 ‘What if this year we won’t be able to go mushroom-hunting!’  
 (back-translation, Taatta district)

4. Following Turkological notational conventions, in the archiphonemic forms of morphemes a capital *-A* denotes low vowels (*a, e, o, ö*) and a capital *-I* denotes high vowels (*i, i, u, ü*).

5. *Toʁoy* historically referred to the smallest administrative unit in the northern districts of Yakutia in the first years of Soviet rule and metonymically to the head of such a unit; nowadays, it is used as an informal form of address.

- d. *ialjüt-tar kel-eyel-ler*  
 guest-PL come-VPOT-PL  
 ‘What if guests suddenly come.’ (female; 73; Olenëk district – letter)

However, not all the person-number possibilities are in use with these meanings. This is especially true for the affirmative 2nd person singular/plural Voluntative-Potential forms which are given a negative Distant Future Imperative interpretation, as shown by (4a, b). Only in very rare instances, when a prohibitive reading does not make sense from the context, is a potential reading possible (5). Additionally, the 1st person singular Voluntative-Potential is not accepted by all speakers: this is preferentially expressed as a periphrastic Optative formed by a past participle and the word ‘person’, as exemplified in (6).

- (4) a. *o-lor-go bar-aŋ-ŋin tuoχ-ta:.. ol-bu*  
 that-PL-DAT go-CVB-2SG what-VR[IMP.2SG] that-this  
*die-n kepse:ŋ-ŋin ani iede:n-i*  
 say-CVB tell-CVB-PRED.2SG now trouble-ACC  
*oŋor-tor-o:yo-sun die-bit*  
 make-CAUS-VPOT-PRED.2SG say-PSTPT  
 ‘“Go to them and do what . . . telling them about my plot don’t make them cause trouble”, he said.’ (female; 82; Olenëk district)
- b. *sarsin kiehe muosta-ni su:y-a:ya-xit*  
 tomorrow evening floor-ACC wash-VPOT-2PL  
 ‘Tomorrow evening don’t wash the floor.’ (translation, Suntar district)
- (5) *en sotoru saŋa kvartira-xa köh-ön kel-eye-xin*  
 2SG soon new apartment-DAT migrate-CVB come-VPOT-2SG  
 ‘You might soon move to a new apartment.’ (back-translation, Verxojansk district)
- (6) *bar-an kör-büt kibi kör-üöm e-te*  
 go-CVB look-PSTPT person look-FUT.1SG AUX-PST.3SG  
*bar-iam e-te die-bit*  
 go-FUT.1SG AUX-PST.3SG say-PSTPT  
 ‘I’d like to go and see (them), I’d look, I’d go, he said.’ (female; 63; Taatta district)

The sentence in (5) was given to some Sakha speakers for back-translation into Russian; at first, it was rejected outright as making no sense (with a prohibitive meaning), since moving to a new apartment is considered to be a desirous event. Then, however, a context was thought up where the potential meaning

made sense: if you play in the lottery where the first prize is an apartment and you win, then you might soon move to a new apartment.

Since Sakha is an agglutinative language, there is a clear formal difference between affirmative and negative verb forms, as can be seen in examples (3a) and (3c); these 2nd person forms are therefore unambiguously affirmative in form (for negative 2nd person Voluntative-Potential forms, cf. examples (21a, b) in Section 5). This finding is doubly intriguing: firstly, we have an unexpected shift in polarity from an affirmative form to a negative meaning, and secondly, we have a form usually expressing epistemic modality (possibility, hope, occasionally apprehension) expressing deontic modality (prohibition). In the following, we assess the crosslinguistic relevance of the phenomenon observed in Sakha.

#### **4. Affirmative forms expressing negative imperative meaning in the crosslinguistic sample**

The first observation to be made from the typological survey is that the use of affirmative forms to express a negative imperative meaning is very rare. There are only three languages in our core typological sample of 161 languages (i.e., 1.9 %) that show a similar phenomenon to the one we describe in Sakha. These languages are Navajo (Na-Dene; USA), Carib (Carib; Venezuela), and Lavukaleve (East Papuan; Solomon Islands). Furthermore, including Chepang, which we came across during our literature search, as well as Belhariya, mentioned to us by Balthasar Bickel, we arrive at a total (slightly biased) typological sample of 163 languages of which five (i.e., only 3.1 %) use an affirmative form to express prohibition. Thus, even when considering this somewhat biased sample one may clearly state that the phenomenon described in the present article is rare.

Chepang and Belhariya are genealogically and areally affiliated: both belong to the Mahakiranti family of Sino-Tibetan and both are spoken in Nepal. Altogether, however, the languages using an affirmative form to express prohibition are scattered geographically and across linguistic genera, so that inheritance from a shared ancestor or areal contact can be excluded in the development of this phenomenon.

Two remarks are in order before we turn to the discussion of the affirmative forms expressing prohibitive meaning in our typological sample. Firstly, the affirmative markers found to express prohibition in the five languages listed above primarily denote the meaning of possibility (in Chepang, Belhariya, and Lavukaleve), while in Carib and Navajo the relevant markers express the desire of the speaker. In Navajo, the form under consideration may additionally carry a meaning of possibility. Secondly, all of these languages, with the exception of Carib and Lavukaleve, also have other (negative) forms at their disposal

to prohibit an action. In the following we discuss each of these languages in detail.

#### 4.1. *Chepang*

In Chepang, prohibition can be expressed in three ways: (i) by the suffix *-lam* (7a), (ii) by the particle *ta?* and the regular Imperative affixed with the negative marker *-lə* (7b), and (iii) by the suffix *-ca?* or one of its allomorphs (7c) (Caughley 1982: 102–103). The affix *-lam* is a negative Hortative marker; the affirmative Hortative in Chepang is expressed by the affix *-pa*, as can be seen in (7a). The particle *ta?* is a Cessative particle. In its prohibitive function it precedes the regular Imperative verb form negated by the affix *-lə*. The Cessative particle *ta?* can sometimes be reduplicated in this context. The suffix *-ca?* is an Indefinite Future marker. It is one of the three absolute tense markers in Chepang with aspectual and modal functions (the other two absolute tense markers include *-ʔa* (Past Tense) and *-na?* (Non-Past Tense)). As pointed out by Caughley (1982: 104) “[e]very positive Primary verb in a Declarative utterance has one of these forms [absolute tense markers] occurring along with the Pronominal affixes. They do not occur, however in Negative and Imperative verb forms”. Since none of the absolute tense affixes in Chepang occur in negative verb forms, i.e., verb forms negated by the markers *-lə* or *-ma?*, negative verbs are not marked for absolute tense (Caughley 1982: 95–96). We thus have a clear case of an affirmative form expressing a negative meaning. In addition to future tense, *-ca?* may also express hypothetical situations, or situations for which the speaker is uncertain as to their eventual occurrence (8) (Caughley 1982: 105).

- (7) a. *momʔco? way-lam goyco? way-pa-nə-y*  
 women come-NEG.HORT men come-HORT-NPT-PL  
 ‘Let the men come but not the women!’
- b. *ta? ta? dayh-ʔə-lə*  
 CES CES speak-EMPH.IMP-NEG  
 ‘Stop talking!’
- c. *jugay-ma-te? glyuyh-ca?-jə*  
 ever-CO-CIF go.out-IFUT-2DU  
 ‘Don’t you two ever go out!’ (Caughley 1982: 102–103)
- (8) *ŋa-ʔi goʔ-ceʔ-na-ŋ*  
 1-AG call-IFUT-2-1EXC  
 ‘I will/may call you.’ (Caughley 1982: 105)

The two prohibitive markers *-lam* and *-ca?* in Chepang convey different shades of the negative imperative meaning. Thus, (7a) is more polite than (7c)



(Caughley 1982: 102). Furthermore, as is clear from (7b), the Cessative construction in Chepang prohibits the continuation of an action which is already in progress.

#### 4.2. *Belhariya*

In Belhariya, prohibition is expressed by negating the Imperative with the regular negation circumfix *n-...-n(i)* (Bickel 2003: 555, personal communication), as illustrated in (9a). Furthermore, as exemplified in (9b), 2nd person negative non-past Subjunctive verb forms can also convey a negative imperative meaning. The zero-marked affirmative Subjunctive<sup>6</sup> generally suggests the proposition as a possibility (10a), but it can also express an exhortation in the 1st person plural and deontic requests in the 1st person singular (Bickel 1996: 99–100). Interestingly enough, affirmative 2nd person zero-marked Subjunctive verb forms can also implicate prohibition in Belhariya, as exemplified by (10b).

- (9) a. *ka-lu-n-a-n*  
1SG.U-tell-NEG-IMP.SG-NEG  
'Don't tell me!' (Bickel, personal communication)
- b. *wa-cilet-chi n-ript-u-n-chi-nn-ai wa-a*  
hen-DIM-PL NEG-step.on-3.U-NEG-PL.U-NEG-EMPH hen-OBL  
*ɲɲ-ok-ka!*  
3.A-peck-2  
'Don't step on the little chickens! The hen will peck you!'
- (10) a. *ɲka kisi lapb-itt-u-ɲɲ-ai!*  
1SG ask ask-ACCEL-3.U-1SG.A-EMPH  
'I may just ask him!'
- b. *pheri yeti ka-lu-ga-i mura!*  
again what 1SG.U-tell-2-EMPH grandmother  
'Don't tell me nonsense again!' (lit., 'You may again tell me some [nonsense], grandmother!') (Bickel 1996: 100–102)

#### 4.3. *Lavukaleve*

In Lavukaleve, the Admonitive suffix *-n* can carry several meanings. In addition to the meaning of warning, which is its core meaning in terms of frequency, it can express prohibition (11), deleterious possibility, and neutral possibility (12a, b), though the last use is less common. In addition, the suffix is used with an exhortative meaning, "asking that something, usually good, should happen";

6. That is, the respective slot in the verbal mood-tense system is filled by a zero suffix (Bickel 1996: 91).

this is restricted to prayers (13) (Terrill 2003: 335–336). As mentioned before, this is the only way of expressing prohibition in Lavukaleve.

- (11) *o-ne-foi-n*  
3SG.F.OBJ-2SG.S-hold-ADMON  
'Don't touch!'
- (12) a. *vula-ba ui rugi hoga*  
come-DURIMP.PL food(N) big.SG MOD.PROX.SG.N  
*e-le me-me-n*  
3SG.N.OBJ-see 2PL-HAB-ADMON  
'Come! So you can see the big feast.'
- b. *nga-seri vo-e-me-n o*  
1SG.OBJ-be.surprised.by 3PL.OBJ-SBD-HAB-ADMON and  
*nga-liko vo-e-me-n*  
1SG.OBJ-want 3PL.OBJ-SBD-HAB-ADMON  
'They may be surprised by me and they may want me.'
- (13) *lod me-ne ngoa la-e-me-n*  
lord 2PL-with stay 3SG.M.OBJ-SBD-HAB-ADMON  
'May the Lord be with you.' (Terrill 2003: 337–339)

Similarly to the Chepang Indefinite Future marker, the Admonitive *-n*, which is one of the five morphologically marked categories of mood in Lavukaleve, cannot be used with the negative suffix *-la*, since the latter cannot co-occur with any TAM suffixes (Terrill 2003: 335, 462). Thus, we are again dealing with an affirmative form, which is moreover the only means of expressing the negative imperative meaning in Lavukaleve. That this form is not inherently negative is shown by the fact that most of the meanings it conveys are affirmative, and only the prohibitive function has a negative meaning. Furthermore, it can co-occur with the particle *sevo* 'tabu, holy', which "can also be used by itself to tell someone to stop doing whatever they are doing" (Terrill 2003: 336).

#### 4.4. *Carib*

Diphthongization of the final vowel marks the prohibitive in Carib. The prohibitive in Carib is restricted to 2nd person. Moreover, diphthongization of the final vowel occurs in verb forms to indicate that the speaker (i) wishes a certain event to take place (optative function), or that s/he (ii) declares, finds, confirms, or admits that some event is taking or took place (realis function) (Hoff 1968: 177). Diphthongization of the final vowel occurs with all person-number combinations. Consequently, every verb form marked by the diphthongization process can have prohibitive, optative, and realis readings, as illustrated in example (14a), but only with reference to 2nd person. With reference to either 1st or the 3rd person, the prohibitive reading is excluded (14b) (Hoff 1968:

114, 191; see also our discussion of Carib in Section 5). This is the only way of conveying the prohibitive meaning in Carib. We were not able to find information on whether diphthongization of the final vowel can co-occur with the negative markers *-xpa* and *-xto* in Carib. Nevertheless, we assume that the prohibitive meaning is expressed by affirmative verb forms in Carib. We base this assumption on the fact that the affirmative readings of the forms in question are unrestricted with regard to person reference (they can thus occur with 1st, 2nd, and 3rd persons), whereas the prohibitive reading is restricted to 2nd person.

- (14) a. *kī-ku:ra:ma-i*  
 2>1SG-look.after-OPT/R/PROH  
 ‘You must not look after me.’  
 ‘May you look after me.’  
 ‘You have really looked after me.’ (Hoff 1968: 191)
- b. *s-e.me-i*  
 1SG>3-see-OPT/R/PROH  
 ‘May I see it.’  
 ‘I have really seen it.’ (Hoff 1968: 173)

#### 4.5. *Navajo*

In Navajo, prohibition can be expressed by either the Imperfective mode or by the Optative mode, depending on the (primary) aspect involved in the verbal morphology. There are at least eleven primary aspectual categories in Navajo, as well as ten additional subspects (Young & Morgan 1987: 164). Aspect is defined by Young & Morgan as “that feature of the grammatical system that serves to define the KIND of verbal action that is represented by the verb base” (Young & Morgan 1987: 164; *emphasis* in the original), i.e., what is generally known as Aktionsart. If the Aktionsart involved is atelic, the Imperfective Mode is used, if the Aktionsart is telic, the Optative occurs.<sup>7</sup>

The Imperfective mode describes a verbal action or event as incomplete (Young & Morgan 1987: 144). In its prohibitive use, it co-occurs with *t’áadoo . . . -í* ‘don’t be the one who . . . (is performing the action denoted by the verb)’. This Negative Imperative conveys the meaning ‘quit; stop; don’t (be doing what you are doing)’, see (15) (Young & Morgan 1987: 204). The Optative mode, in addition to expressing a wish or desire, expresses a possibility (Young 2000: 307). However, the possibility sense of the Optative seems to be restricted to cases in which it occurs with some adverbial constructions such as ‘lack the means or wherewithal’, ‘lack strength or ability’, ‘in such a manner that it prevents’, ‘proof against’, and ‘could easily; could with little effort’ (Young &

7. This analysis of the Imperfective occurring with atelic Aktionsart, and the Optative with telic Aktionsart, is due to Bernard Comrie (personal communication).

Morgan 1987: 163, Haile 1926: 103, 104). As a negative imperative, the Optative can occur with (i) the negative optative particle *lágo* 'would that not', or (ii) with *t'áá ká* 'see to it that (you do not ...)'. However, the use of *lágo* or *t'áá ká* is not obligatory in such cases: the Optative used alone can also convey the prohibitive meaning (Young & Morgan 1987: 204). In (16a) we give an example of the prohibitive use of the Optative with *t'áá ká*, and in (16b) of the Optative used alone.<sup>8</sup>

- (15) *t'áadoo naninéh-í*  
 NEG play.around.IPFV.2SG-NMLZ  
 'Stop your playing!' (Young & Morgan 1987: 204)
- (16) a. *t'áá ká ndoóhtéét*  
 see.that you.do.not pick.it.up.OPT.2DU  
 'Don't pick it up.' (Young 2000: 307)
- b. *?óóle?*  
 make.OPT.2SG  
 'Don't make it!'  
 'I wish you could make it.' (Landar 1962: 12)

##### 5. An explanation for the development of affirmative possibility and/or desire markers to prohibitives

Thus, in a small number of the world's languages we find a rather striking use of an affirmative form with an original meaning of possibility to express prohibition. We suggest that this use may have developed via intermediate stages of apprehension and warning as shown in (17).

- (17) possibility → apprehension → warning → prohibition

We assume that the affirmative meaning is the primary one, since it is not restricted to specific person reference in any of the languages showing the phenomenon in question, while the prohibitive meaning is restricted to 2nd person. Furthermore, most of these forms can either be negated regularly (Sakha, Belhariya, and Navajo) or cannot co-occur at all with regular negative markers (Chepang and Lavukaleve).

A similar path of grammaticalization has been proposed for Chepang (Caughley 1982: 102; see also Bybee et al. 1994: 212). According to Caughley (1982: 102), the prohibitive function of the Indefinite Future marker *-ca?* developed out of the meaning of apprehension/warning which this marker could carry in situations where the addressee was not intentionally involved, as illustrated in example (18a). Later, the warning function was extended to situations in which

8. Glosses for the Navajo examples have been kindly provided by Joyce McDonough.

the addressee could have some control (18b). In these cases the warning could also be understood as a prohibition and has consequently been interpreted as such in situations where the addressee is clearly intentionally involved, as in (7c), repeated here as (18c).

- (18) a. *naŋ has-teʔ-caʔ*  
 you vomit-CIF-IFUT  
 ‘You may be sick!’
- b. *baŋ-səy ton-teʔ-caʔ*  
 stone-ABL fall-CIF-IFUT  
 ‘You may fall from that rock!’  
 ‘Don’t fall from that rock!’
- c. *jugat-ma-teʔ glyuŋh-caʔ-jə*  
 ever-CO-CIF go.out-IFUT-2DU  
 ‘Don’t you two ever go out!’ (Caughley 1982: 102)

The diachronic data supports this path of grammaticalization for the Sakha Voluntative-Potential forms, too. Although currently the primary meaning of 1st and 3rd person Voluntative-Potential is one of possibility and hope, while the 2nd person expresses prohibitions, a survey of earlier descriptions (Böhtlingk 1851, Xaritonov 1947, Korkina 1970) shows that the 2nd person used to carry a meaning of apprehension as well. Thus, in the first half of the twentieth century the 2nd person affirmative was still used with a meaning of (undesirable) possibility containing a nuance of apprehension (19a) and warning (19b–c):<sup>9</sup>

- (19) a. *aha:maχta: oskuola-sar χoyu-t(a):a:ya-xin*  
 eat-ACCEL[IMP.2SG] school-DAT.2SG late-VR-VPOT-2SG  
 ‘Eat faster, (or) you may be late for school!’
- b. *seren oχt-o:yo-xun*  
 be.careful[IMP.2SG] fall-VPOT-2SG  
 ‘Be careful (or) you might fall!’ (Xaritonov 1947: 203)
- c. *oxo-lo:r olus araljiy-ima-ŋ ere*  
 child-PL[VOC] very be.distracted-NEG-IMP.2PL PTL  
*tü:ni χamsa-t-a:ya-xit*  
 boat-ACC move-CAUS-VPOT-2PL  
 ‘Hey kids, don’t get too carried away, you might rock the boat!’  
 (Korkina 1970: 236)

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9. In all the following Sakha examples glosses are ours.

It should be stressed that in two of the four districts of the Sakha Republic included in this study, the 2nd person Voluntative-Potential forms have replaced the standard Distant Future Prohibitive in production, while in all four districts the prohibitive meaning of the 2nd person Voluntative-Potential forms appears to be the default reading. However, as discussed in Section 3 (Example (5)), if a prohibitive reading of 2nd person Voluntative-Potential forms does not make any sense, a potential interpretation is possible even today. Possibly, the intonation pattern might provide some cue to the intended interpretation; this, however, requires further analysis.

Thus, for Chepang and Sakha we have good diachronic evidence for the development of meanings illustrated in (17). Although we do not have equally good diachronic evidence for the direction of development for the other languages, the available synchronic data for Lavukaleve further support the development postulated in (17).

It was noted in Section 4.3 that the Admonitive suffix *-n* in Lavukaleve has a range of overlapping functions, as pointed out by Terrill (2003: 336). Firstly, it functions as a neutral irrealis marker expressing that “something may happen, whether good or bad, again with no implication that the speaker should do or not do anything to avoid it”. (Terrill 2003: 335; cf. (12a), repeated here as (20a)). Secondly, it functions as a marker of deleterious possibility (again without any implication that the addressee should avoid the negative outcome or not do something), as exemplified by the second sentence of (20b). Thirdly, it expresses warnings, telling the hearer to avoid something bad happening, as exemplified by the first sentence of (20b); this is its most frequent use. Lastly, it is the only means of conveying prohibitions. In this case, there is no implication that the hearer should avoid an action that may result in a bad consequence (Terrill 2003: 335; cf. example (11), repeated here as (20c)). There is a further, marginal, function of expressing exhortations in prayer which does not fit the development proposed here, but which can be understood “in terms of a slight alteration of the irrealis meaning of ‘something might happen’ to wanting something to happen” (Terrill 2003: 336). The list of functions covered by the Admonitive suffix in Lavukaleve shows very clearly the development from neutral possibility via deleterious possibility (apprehension) to a warning, and further to a prohibition, as suggested in (17). Thus, Lavukaleve provides another prime example of this development, along with Chepang and Sakha.

- (20) a. *vula-ba*                    *ui*            *rugi*            *hoga*  
 come-DURIMP.PL    food(N)    big.SG.N    MOD.PROX.SG.N  
*e-le*                            *me-me-n*  
 3SG.N.OBJ-see    2PL-HAB-ADMON  
 ‘Come! So you can see the big feast.’

- b. *sevo kua ga e-na umu*  
 tabu/holy coconut.tree(N) DEF.SG.N 3SG.OBJ.N-in under  
*ngo-fifi-n*  
 2SG-sit-ADMON  
 ‘Don’t sit under the coconut tree.’  
*e’rau nei ngo-kuru-n*  
 fall/jump coconut(N) 2SG-hit-ADMON  
 ‘A coconut might fall and hit you (which would be bad).’
- c. *o-ne-foi-n*  
 3SG.F.OBJ-2SG.S-hold-ADMON  
 ‘Don’t touch!’ (Terrill 2003: 337–338)

The diachronic data from Chepang and Sakha and the synchronic data from Lavukaleve provide support for the claim made by others that one of the processes involved in grammaticalization is the conventionalization of implicatures (Traugott 1989, Heine et al. 1991: 71–72, Heine 1995), especially in the development of modal meanings (Traugott 1989, Bybee et al. 1994: 211, Heine 1995). The diverse markers discussed in this article implicate a warning through their expression of undesirable possibility/apprehension, as can clearly be seen in examples (18b), (19b), and (20b). The fact of voicing one’s apprehension, i.e., fear of bad consequences, to an addressee often contains a warning to that addressee to do whatever needs to be done to avoid the consequences of his/her action (cf. Lichtenberk 1995: 307). Thus, Sakha example (19b) with the meaning ‘careful, you might fall’ expresses not just the apprehension of the speaker that the addressee might fall, but also a warning to that addressee to be careful and to avoid such a consequence.<sup>10</sup> In turn, a warning can be viewed as an incipient prohibition, since the most certain way of ensuring that the addressee avoids an action that might be followed by bad consequences is to prohibit it altogether (cf. Lichtenberk 1995: 311). Thus, the Sakha example (19c) contains a warning that can also be understood as a prohibition not to rock the boat. From such a prohibition that is uttered to elicit an avoidance response by the addressee the meaning can extend even further to prohibitions that do not entail warnings anymore, as shown by examples (18c), (20c), and others. This chain of overlapping meanings enables the semantic shift from a form expressing possibility to a form with a prohibitive meaning, as illustrated in (17).

Since the path of analysis proposed here leads via a meaning of apprehension, i.e., a fear of possible negative consequences of an action, this negative

10. In this context it is interesting to note that the Voluntative-Potential mood is called *sereter kiep* ‘warning mood’ in Sakha (*Grammatika sovremennogo jakutskogo literaturnogo jazyka* 1982: 333).

meaning carries over to the prohibitive meaning, even without formal negative marking. Thus, in all the languages discussed here it is a clearly affirmative form that carries the prohibitive meaning without additional negative forms being present. This is exemplified very clearly by Sakha, where there is some confusion amongst speakers in how to interpret negative 2nd person Voluntative-Potential forms. Either they are given the opposite interpretation from the affirmative Voluntative-Potential, i.e., they are translated as an affirmative Imperative (21a), or the form is rejected as being incorrect and is changed to the affirmative Voluntative-Potential with a prohibitive meaning (21b), even though the negative Voluntative-Potential is accepted for 3rd person<sup>11</sup> (21c).

- (21) a. *ehigi Joku:skay-ga kuorat bira:hinüg-ar*  
 2PL Yakutsk-DAT town festival-DAT.3SG  
*bar-ïm-a:ya-šit*  
 go-NEG-VPOT-2PL  
 Intended reading: ‘You might not be able to go to the town festival in Yakutsk.’  
 Translated as: ‘You must under all circumstances go to the town festival in Yakutsk.’ (back-translation, Tatta district)
- b. *en bali:ha-ša bar-a silj-ïm-a:ya-šin*  
 2SG hospital-DAT go-CVB IPFV-NEG-VPOT-2SG  
 Intended reading: ‘Maybe you won’t need to go to the hospital.’  
 Changed to:  
*bali:ha-ša bar-a silj-a:ya-šin*  
 hospital-DAT go-CVB IPFV-VPOT-2SG  
 ‘Don’t go to the hospital.’ ((back-)translation, Verxojansk district)
- c. *ubay Vanya bügün bult(a:)-u: bar-ïm-a:ray*  
 older.brother Ivan today hunt-CVB go-NEG-VPOT.3SG  
 ‘Maybe Uncle Ivan won’t go hunting today.’ (back-translation, Verxojansk district)

This development also explains why these prohibitives are restricted to 2nd person. While the meanings of possibility and apprehension are unrestricted with regard to person categories (1st, 2nd, or 3rd), warnings are always addressed to a hearer, i.e., to a 2nd person addressee, because the purpose of the warning is to elicit a response. This restriction is then continued throughout the grammaticalization path. We therefore argue that the semantic development suggested here, and supported by diachronic evidence for Chepang and

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11. Although this speaker accepted the negative Voluntative-Potential for 3rd person, she rejected it for 1st person.



Sakha, offers a plausible explanation for the range of meanings covered by the Admonitive mood suffix *-n* in Lavukaleve, for which no diachronic data are available. This therefore represents a counterexample to the proposed unidirectionality of development of epistemic modality out of deontic modality (Traugott 1989, Bybee et al. 1994: 195, Heine 1995, Heine & Kuteva 2002: 116). Of course, it could be argued that the development followed the generally accepted direction from deontic (prohibitive) modality to possibility. This view is held by Lichtenberk (1995) who suggests a path of development from warning via fear to apprehensional-epistemic modality for a range of languages, from Austronesian To'aba'ita and Fijian to Classical Greek and English 'lest', i.e., exactly the opposite direction from that proposed here. However, there are several arguments against this view. In the languages surveyed in the present article, the prohibitive reading is restricted to 2nd person, while the potential reading is found for 1st and 3rd persons. Furthermore, in Sakha, a potential reading is still possible for 2nd person forms given an appropriate context, as shown by example (5); and lastly, while the negative 1st and 3rd person Voluntative-Potential forms in Sakha are given negative translations (cf. example (21c)), the negative 2nd-person forms are sometimes rejected (cf. example (21b)).

Unfortunately, due to a lack of data, we are not able to advance any claims about the path of development of the prohibitive meaning for the Navajo Optative form, nor for the Carib prohibitive. As mentioned in Section 4.5, the Navajo Optative, too, expresses a possibility, often in a negative sense. However, we do not have evidence that it can also have a warning function, as is the case in Chepang, Lavukaleve, and Sakha. Therefore, we cannot be sure that the development in Navajo followed the same path as that outlined in (17), nor do we have enough evidence to propose an alternative development in this case.

We are also not aware of the factor(s) or directionality of change that have led to the use of a single marker to cover the realis/optative/prohibitive senses in Carib. It would not be implausible to think that the semantic change started from the optative/realis meanings and later developed the prohibitive sense. An argument in favour of such a development would be the fact that the prohibitive meaning is conveyed only with reference to the 2nd person, which is identical to the person distinctions made by the imperative, while the realis/optative readings have the possibility to co-occur with other person/number markers (Hoff 1968: 192). This coincides with what we find in the other languages discussed in this article: the negative (prohibitive) meaning is restricted to 2nd persons.<sup>12</sup> However, Hoff (1968: 192), who argues for homonymy of the pro-

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12. Although we have proper evidence for this claim only for Carib (Hoff 1986: 192) and Sakha (Pakendorf, field data), this is strongly suggested for the other languages by the examples given in the respective grammars. Only in Navajo do affirmative Optative forms of some verbs

hibitive and realis/optative verb forms in Carib, claims the restriction of the prohibitive meaning to 2nd person as evidence against polysemy. He also gives two further arguments in support of homonymy (for a detailed discussion in favour of homonymy see Hoff 1968: 191–193): (i) a prohibitive reading is excluded when the prohibitive/optative/realis marker occurs with markers having temporal values,<sup>13</sup> and (ii) the personal prefixes *kisi:-*, *kis-*, and *kit-* carry different meanings, depending on the reading. With a prohibitive reading, *kisi:-*, *kis-* convey the meaning of an ‘action proceeding from the 2nd person and directed at the 3rd person’, while with an optative/realis reading, *kisi:-*, *kis-* mean ‘action proceeding from the 1st and 2nd person and directed at the 3rd person’. *Kit-* refers to ‘action proceeding from the 2nd person’ when prohibiting an action, and ‘action proceeding from 1st and 2nd person’ when wishing or affirming an action (Hoff 1968: 192). However, the prefix *kisi:-* generally marks 1st and 2nd person agents acting on 3rd persons in transitive verbs (Hoff 1968: 113). Therefore, the difference in meaning between the person-marking prefixes in the prohibitive and optative/affirmative readings lies solely in the fact that in the prohibitive reading the person marker is restricted to a 2nd person agent, while in the optative/realis reading the agent is 1st and 2nd person. This, of course, follows from the restriction of the Prohibitive to 2nd person, so that this cannot be adduced as an argument in favour of homonymy. It thus remains unclear whether in Carib we are dealing with homonymy or polysemy of the relevant form, although the typological data favour polysemy.

## 6. The element of warning as a crucial intermediate stage

From the above discussion it is clear that our argument hinges on the intermediate links of apprehension and warning that lead from a meaning of possibility to prohibition. As argued by one reviewer, the link might more plausibly be a mere conventionalization of an indirect speech act, such as can be seen to hold in a number of Standard Average European (SAE) languages. Thus, in English the sentence *Just try and go to the river by yourself!* delivered in a stern voice implies not a suggestion that the addressee might actually go to the river by him- or herself, but that s/he had on the contrary definitely NOT do it (Don Stilo, personal communication). Similarly, Russian *Tol’ko poprobuj tuda pojti* ‘Just try and go there!’, Polish *Tylko spróbuj to zrobić* ‘Just try to do it!’, and Dutch *Probeer het maar eens te doen* ‘Just try to do it!’ imply a prohibition with a strong nuance of threat. However, although the conventionalization of an implicature has clearly played a role in the process we outlined above,

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(e.g., ‘drink’) seem to have a possible negative interpretation even with a 3rd singular/plural or 1st dual/plural person reference (Landar 1962: 10, 12–13; Haile 1926: 104).

13. These markers are *-ŋ* ‘desired, affirmed to have taken place before speech event’ and *-:se* ‘desired to happen after speech event’ (Hoff 1968: 114, 175).

there are two differences: first of all, in SAE languages the implicature is not grammaticalized, but depends on a collocation of a restrictive particle ‘just, only’ and the auxiliary ‘try’, as well as, crucially, intonation and possibly gestures to be understood as a threat. In Sakha, however, the prohibitive reading is the default for 2nd person Voluntative-Potential forms, even in the absence of any threatening intonation. Furthermore, as already mentioned in Section 5, in two districts it appears to have completely replaced the standard Distant Future Prohibitive forms. Thus, this is not just a pragmatic usage of these forms, but a grammaticalized function. Similarly, in Lavukaleve and Carib the respective verb forms are the only means to express prohibition.

Only one language found in our survey can be considered as using a conventionalized indirect speech act in its expression of prohibitives: Belhariya. Bickel (1996: 95–102) argues that the meanings of the zero-marked (non-past Subjunctive) form are best explained in accordance with pragmatic principles rather than their having a specific semantic content. The development of the implied meanings in Belhariya appears to have followed the path from possibility via apprehension to warning, with a further extension to prohibition. However, according to Balthasar Bickel (personal communication), the development here has not yet progressed beyond the stage of conventionalized implicatures. Thus, the zero form (Subjunctive) is often used with 2nd and 3rd person reference to express an apprehension that implicates a warning, as illustrated in (22a–c). The indirect speech act can extend beyond the function of warning to a prohibition, as illustrated in (10b), repeated here as (22d), possibly with the help of irony.

- (22) a. *e ript-u-ga-i!*  
 INTERJ step.on-3U-2-EMPH  
 ‘Eh! you may stumble over [the microphone]!’
- b. *khan-lo cuy-ŋa si-chi-ga!*  
 good-COM cold-OBL die-DU-2  
 ‘You may well die of cold!’ (i.e., ‘Keep yourselves warm!’)
- c. *nas li!*  
 destruction be  
 ‘It may break!’ (i.e., ‘Watch out!’)
- d. *pheri yeti ka-lu-ga-i mura!*  
 again what 1SG.U-tell-2-EMPH grandmother  
 ‘Don’t tell me nonsense again!’ (lit., ‘You may again tell me some [nonsense], grandmother!’) (Bickel 1996: 100–101)

Furthermore, although the development of affirmative forms to prohibitive meanings may involve the conventionalization of indirect speech acts, a crucial element of the languages discussed here is that they have developed a prohibitive meaning from a form otherwise expressing possibility. This places

these languages (including Belhariya) apart from the SAE languages that can make pragmatic use of affirmative forms to express threats.

Our hypothesis predicts that it should be possible to find languages in which the development from possibility to prohibition has not been completed, but where only the first half of the pathway (possibility → apprehension → warning) or the second half (warning → prohibition) has been covered. As shown by Bybee et al. (1994: 211–212), in languages in which the marker of possibility has an additional meaning of apprehension, this can occasionally grammaticalize to an admonitive (warning) mood. In order to find further evidence for the pathway postulated here, we surveyed languages with a grammaticalized apprehensive mood, following the suggestion of a reviewer. For this, we surveyed 31 Australian languages and additionally looked at 38 grammars that followed the Comrie-Smith “Lingua Questionnaire” (Comrie & Smith 1977); this sample is called “Lingua” sample in the following discussion. This was a purely practical approach that targeted specifically Section 2.1.3.4.11 “Monitory mood”. There is a partial overlap between the languages in the three different samples: seven of the languages included in the Australian survey and 17 languages of the “Lingua” sample were also included in the *WALS* sample. However, during the initial survey of the 161 languages of the *WALS* sample we focussed on the expression of prohibition, while in the second survey of the Australian and “Lingua” sample we focussed on the expression of warnings. Thus, although the same languages were surveyed twice from the same grammar, the focus of the analysis was different, leading to slightly different results (thus, the Australian language Wambaya uses a marker of possibility to express warnings – a fact which had escaped our notice during the initial survey since warnings were not our focus at that point). Furthermore, during the initial survey, we worked with a paper by Polinsky (2001) describing imperative constructions in Maori rather than consulting a grammar; during our examination of the grammar published by Bauer (1993) in the (ex-Lingua) Routledge Descriptive Grammar Series we found evidence that the monitory particle *kei* can also express negative imperatives (Bauer 1993: 37, 465). Since Polinsky (2001: 417) calls this particle “the NEGATIVE matrix verb *kei*” (emphasis ours) we had not included it in our initial discussion, as the focus of our study was on positive forms that express negative meanings.

Of the 31 Australian languages, three clearly have a formal marker which expresses both possibility and warning: Murrinh-Patha (Daly), Wambaya (West Barkly), and Nyangumarta (Pama-Nyungan). These languages are not genealogically related; nor are they spoken in close geographic proximity to each other.

Murrinh-Patha has an admonitive mood marked by the modal word *nukun*, which conveys a meaning of possibility. Judging from the examples found in Street (1996: 215), the admonitive mood in Murrinh-Patha often expresses a

meaning of apprehension (23a), although a meaning of neutral possibility can also be conveyed by this mood (23b). The admonitive mood in Murrinh-Patha occurs in all persons. With 2nd person subjects, the admonitive is frequently used as a warning (23c) (Street 1996: 215).

- (23) a. *“ku-nhi-bat nukun,” nukunu ma-m*  
 3SG-2SG-hit ADMON 3SG say.3SG-PERF  
 ‘“He might hit you”, he said.’
- b. *ma-dharlurl nukun kani*  
 3SG-open ADMON HAB  
 ‘He might habitually open it.’
- c. *“duy-bat nukun,” kardu kathu-yu puma-m-nga*  
 2SG-fall ADMON people from-FOC say.3PL-PERF-1SG.OBJ  
 ‘“You might fall,” they told me.’ (Street 1996: 215)

In Wambaya, the hypothetical suffix *-agba*, which, similarly to the admonitive mood in Murrinh-Patha, occurs in all persons, implies that a future event is possible, but not certain (24a). In addition to its function as a neutral possibility marker, *-agba* is also used with a meaning of apprehension (24b), which can contain strong overtones of warning, as exemplified in (24c) and especially (24d) (Nordlinger 1998: 150–151).

- (24) a. *angbardi irr-agba barrawu ngirra yarru*  
 build 3PL.TR.S-HYP house.ACC 1PL.EXC.OBL go  
*ngirr-iba*  
 1PL.EXC.INTR.S-NONPST.AWY  
 ‘They might build a house for us, (then) we’ll go.’
- b. *yangula gunu-ng-agba yagu. Gurda*  
 NEG 3SG.M.TR.S-1.TR.OBJ-HYP leave be.sick  
*ngi-ngg-agba banjangani nanga*  
 1SG.TR.S-RR-HYP behind 3SG.M.OBL  
 ‘He won’t leave me. (He’s worried) I might get sick behind him.’
- c. *narunguji-ni ngiyi-ny-agba nawu*  
 car-LOC 3SG.M.TR.S-2.TR.OBJ-HYP step.on  
 ‘A car might run you over.’ (lit., ‘A car might step on you.’)
- d. *alyu lingba-j-ba! giganbi ny-agba!*  
 NEG.IMP bogey-TH-FUT drown 2SG.INTR.S-HYP  
 ‘Don’t swim! You might drown!’ (Nordlinger 1998: 150–151)

In Nyangumarta, the anticipatory mood, which is marked by the discontinuous suffix *-a/-i...-IV*, is used when the speaker wants to indicate that something might happen or that something is expected to happen (25a). The anticipatory mood can additionally imply an undesirable consequence and carry the sense

of not wanting something to happen (25b). In this apprehensional sense, the anticipatory mood is often used as an expression of warning (Sharp 2004: 165, 186–187).

- (25) a. *wangka-ji-lkuliny nganyjurrinyi kaja-rla ya-nanyi*  
 close-AFF-FUT 1PL.INC.OBJ long.way-FOC go-PRS  
*wakala karri-a-nyi-li marnti-ja warrukarti*  
 tired STAT-ANT-1PL.INC-ANT walk-ABL night  
*kaja-la-nyi-li*  
 arrive-ANT-1PL.INC-ANT  
 ‘We will get close after going a long way and we might get tired from walking; we should arrive there at night.’
- b. *partany pungka-a-li*  
 child fall-ANT-ANT  
 ‘The child might fall down.’ (Sharp 2004: 186–187)

These three cases illustrate the first half of our proposed path of grammaticalization, namely the development of a meaning of warning from a marker expressing possibility. Especially in Wambaya we have a clear semantic chain from neutral possibility via apprehension (in all persons) to a warning in the 2nd person. However, this development is rare. Of the 31 Australian languages examined here only three have one formal marker with both possibility and warning functions. Furthermore, in none of the Australian languages examined do we find the continuation of the grammaticalization path from warning to prohibition.

Of the 38 languages in the “Lingua” sample, two confirm parts of our proposed path of development. Thus, in Kannada there is a full person-number paradigm of contingent forms expressing a potential future event. The contingent mood is formed from the past stem by lengthening the first vowel of the agreement marker, for instance, *bare-d-enu* ‘I wrote’ as opposed to *bare-d-e-nu* ‘I might write’ (Sridhar 1990: 224–225, 242). Contingent forms with a 2nd person subject serve to convey a stern or concerned warning (26a), which often has a strong nuance of threat (26b) (Sridhar 1990: 39, 242). We thus have a development of a warning out of a possibility marker, similar to what we find in Australian languages.

- (26) a. *ka:lu ja:ri iddi:ye, jo:ke!*  
 foot slip.PSTPT fall.CONT careful  
 ‘Look out, you might slip and fall!’
- b. *appi-tappi i: kaDe tale ha:ki:ye!*  
 by.mistake this side head put.CONT  
 ‘Don’t you dare show up around here even by mistake!’ (Sridhar 1990: 242)

In Maori, the monitory particle *kei* is used on its own to express positive warnings (27a), and with the negator *kore* to express negative warnings (27b), both with 2nd person subjects. Although Bauer (1993: 465) argues that *kei* also conveys a meaning of positive warning with non-2nd person subjects, we feel that in this case the particle *kei* rather conveys a meaning of apprehension, cf. example (27c). Additionally, with 2nd person subjects, *kei* can be used to express a negative imperative meaning. In this case, *kei* can be used on its own, as illustrated in (27d), or co-occur with *noho* ‘never’ (27e) (Bauer 1993: 37, 465). Interestingly, as mentioned above, Polinsky (2001: 417) calls *kei* a “negative matrix verb” and mentions its use only in “so-called preventive constructions” which admonish the hearer “not to perform an uncontrollable action”. However, as can be seen from the examples given by Bauer (27d, e), the negative imperative use of *kei* is not restricted to these functions. Like Bauer (1993), we assume that *kei* is an affirmative particle in Maori, since, similarly to the other languages discussed here, its positive warning function is unrestricted with regard to person, i.e., it can occur with 1st, 2nd, or 3rd person, whereas its prohibitive function is restricted to 2nd person; furthermore, it can co-occur with the negator *kore*.

- (27)
- a. *kei mate koe i nga motokaa raa*  
 ADMON die 2SG cause DEF.PL car DIST  
 ‘You might be killed by those cars!’
  - b. *kei kore koutou e horo ki te oma*  
 ADMON NEG 2PL T/A fast to DEF run  
 ‘You might not be able to run fast.’
  - c. ... *kei paangia ia e te ruumaatiki*  
 ADMON touch.PASS 3SG by DEF rheumatism  
 ‘... he might get rheumatism.’
  - d. *kei patua e koe te tangata raa moo*  
 ADMON beat.PASS by 2SG DEF man DIST INTGEN  
*te kore take noa iho*  
 DEF not matter unlimited down  
 ‘Don’t you beat that man for no reason at all!’
  - e. *kei noho koe ka korero parau*  
 ADMON never 2SG T/A speak false  
 ‘You must never tell lies!’ (Bauer 1993: 37, 465)

The two prohibitive constructions in Maori exemplified in (27d, e) convey different shades of the negative imperative meaning. The construction with the monitory particle *kei* and *noho* ‘never’ (27e) denotes a stronger prohibition than the construction with just the monitory particle (27d). We thus find here a development from apprehension and warning to prohibition, i.e., the Maori data highlight the second half of our hypothesized grammaticalization path.

The data from Kannada and Maori confirm different parts of our proposed path of grammaticalization. Kannada illustrates the first half, namely the development of a meaning of warning from a form conveying a meaning of possibility, while Maori shows that a meaning of warning can lead to a meaning of prohibition, thus confirming the second part of the semantic development suggested here.

Taken together, the additional “crosslinguistic” survey of 31 Australian languages and 38 worldwide languages from the “Lingua” sample provide further evidence for the crucial intermediate stage of warning in the grammaticalization path we propose. In the three Australian languages (Murrinh-Patha, Wambaya, Nyangumarta) as well as in Kannada we find evidence for a development from a meaning of possibility to a meaning of warning, while in Maori we find evidence for the development of a meaning of apprehension and warning to a prohibitive. However, these surveys further confirm the rarity of this development. Among 69 surveyed languages, chosen partly for the known presence of an admonitive mood, only five show some part of this pathway, and none show the full development.

## **7. Conclusions**

We have presented evidence of a very rare development of a negative imperative out of affirmative markers that have a meaning of possibility. This development or parts thereof are found in a small number of languages that are widely scattered geographically and in general are not genealogically related. Such a development of an affirmative form to a negative imperative meaning would in itself be highly interesting. However, the most notable finding of our analyses is that the data presented here contradict the general tendency observed by others that the development of modal meanings proceeds from deontic modality to epistemic modality (Traugott 1989, Bybee et al. 1994: 195, Heine 1995, Heine & Kuteva 2002: 116). In a very strong statement, Bybee & Pagliuca (1985: 66; emphasis ours) claim:

All of the historical evidence available on the semantic development of modals points to the unidirectional evolution of agent-oriented modalities into epistemic modalities. Indeed, we are hypothesizing that THE OPPOSITE DIRECTION OF DEVELOPMENT IS NOT POSSIBLE.

This claim is clearly refuted by the data presented here, which shows a development from possibility (i.e., epistemic modality) to negative imperatives, which are clearly deontic in their meanings. As we have shown, these two seemingly opposite poles are linked through apprehension and warning, which overlap in meaning with possibility on the one hand and prohibition on the other. The meaning of (neutral) possibility can extend to a meaning of apprehension, which in turn can implicate a warning when addressed to a 2nd person.



This warning can on rare occasions convey indirect prohibitions, which can then grammaticalize further to direct prohibitions, as has happened in Sakha, Chepang, and Lavukaleve, and as appears to be happening in Belhariya.

However, even though we have shown that the development of deontic modality out of markers expressing epistemic modality is possible, it should be stressed that this is typologically very rare (see also van der Auwera & Ammann (2005: Endnote 4) for a discussion of two putative examples). In the total sample of 164 languages (including Sakha)<sup>14</sup> that we considered in our study, only three are clearly undergoing such a development: Sakha, Chepang, and Lavukaleve. Belhariya appears to show the same development; however, this may still be at the stage of a conventionalized implicature, rather than being fully grammaticalized. Although Navajo and Carib also use an affirmative marker to express negative imperatives, we lack the data to evaluate the path of development taken by them. Furthermore, from the additional sample of 31 Australian languages and 38 grammars following the “Lingua Questionnaire”, three unrelated and areally unconnected Australian languages (Murrinh-Patha, Wambaya, and Nyangumarta) as well as Kannada exemplify the development of an admonitive (warning) mood out of a meaning of possibility, while Maori exemplifies the development of a negative imperative meaning out of a meaning of apprehension and warning. This clearly shows that the crucial link in the development of prohibition from possibility is the element of warning.

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14. This, of course, is a biased sample, since it includes those languages that we included precisely because they show the phenomenon at issue, i.e., Sakha, Chepang, and Belhariya.

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*Abbreviations:* 1/2/3 1st/2nd/3rd person; A actor; ABL ablative; ACC accusative; ACCEL accelerative Aktionsart modifier; ADMON admonitive (verb suffix); AFF affective verbalizer; AG agent case; ANT anticipatory mood; AWY direction away; CAUS causative; CES cessative; CIF contrary information flow; CO co-ordinator 'and, also'; COM comitative; CONT contingent; CVB converb (the glosses do not distinguish between simultaneous and sequential); DAT dative; DEF definite article; DIM diminutive; DIST distant from speaker and hearer; DSTIMP distant future Imperative; DU dual; DURIMP durative imperative; EXC exclusive of addressee; EMPH emphatic; F feminine; FOC focus; FUT future; HAB habitual (verb prefix); HORT hortative; HYP hypothetical mood; IFUT indefinite future; IMP imperative; INC inclusive; INTERJ interjection; INTGEN intended genitive; INTR intransitive; IPFV imperfective; LOC locative; M masculine; MOD demonstrative modifier; N neuter; NEG negative; NMLZ nominalizer; NONPST non-past; NPT non-past non-terminated; OBJ object; OBL oblique case; OPT optative; PASS passive; PERF perfect; PL plural; POSS possessive; PRED predicative person marking; PROH prohibitive; PROX proximal (demonstrative category); PRS present tense; PST past tense; PSTPT past participle; PTL particle; R realis; REF reflexive; RR reflexive/reciprocal; S subject; SBD subordinate (verb prefix); SG singular; STAT stative; T/A tense/aspect marker; TH thematic consonant; TR transitive; U undergoer; VOC vocative; VPOT voluntative-potential; VR verbalizer.

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