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FROM HABITUALS TO FUTURES

Discerning the path of diachronic development

Abstract. This paper explores the problem of diachronic development of verbal forms expressing future time reference. The analysis proposed so far (Bybee et al. 1994 and, especially, Haspelmath 1998) suggest that habitual-future polysemy frequently attested across languages only emerges as a side effect of the independent development of two grammatical morphemes along the same grammaticalization path. This analysis fails to explain the distribution of a few verbal forms in Nakh-Daghestanian languages. In these languages, individual-level and stage-level predicates possess different potential as to the diachronic development of habituals: habitual grams applied to SLPs readily acquire future time reference, while those applied to ILPs retain present time reference. To account for these I propose that habituals can directly develop into futures via modality. Establishing such a grammaticalization path allows to avoid unnecessary theoretical assumptions without loosing advantages of the previous analysis, and to provide a unifies explanation to apparently unrelated facts about present-future polysemy.

Keywords. Diachronic development, habitual, future time reference, individual-level/ stage-level predicates.

1. INTRODUCTION

In a wide variety of languages, verbal forms are attested that can refer to both present and future. (1) from Kannada provides a paradigmatic example of such a form, other languages of the same type cited in the literature (see, particularly, Haspelmath 1998) being Welsh, Udmurt, Lezgian, and a few others:

(1)   avanu   manege   **ho:gu-tt-a:ne**
         he   home   **go-NON.PAST-3:M:SG**
         1. 'He **goes** home (**habitually**)'; 2. 'He **will go** home'
         (Bhat 1999:17)

(1) has two readings: habitual (1.1) and future (1.2). On the habitual reading, (1) characterizes the individual referred to by the subject NP by saying that in the present this individual possesses the property of going home (e.g. after his working hours are over). (1.2) differs from (1.1) in two significant characteristics: first, it is not habitual, but episodic, that is, referring to a single event; second, the event referred to is predicted to occur in the future.

The problem of grammatical polysemy, an example of which is (1), can be approached in different ways. One of the common strategies is to assume that the morpheme in question is in fact monosemic, and that the whole range of its uses can

be derived by applying certain rules to the general meaning. Yet, in many cases much more revealing is a different strategy: to account for the distribution of a grammatical morpheme along the diachronic dimension, as different uses of the morpheme may reflect different stages of its development.

Various typological studies of the meaning and distribution of grammatical categories recognized universal restrictions on the diachronic development of tense-mood-aspect (TMA) categories and on their synchronic distribution. It has been found out, in particular, that language-specific grammatical morphemes (grams, for short) come to existence along the restricted number of *paths of diachronic development*[1].

Martin Haspelmath (1998:48), relying on Bybee et al. (1994), explains the habitual-future polysemy by assuming the following path of diachronic development[2] for present and future grams:

PRESENT   PRESENT
PROGRESSIVE   HABITUAL

FUTURE

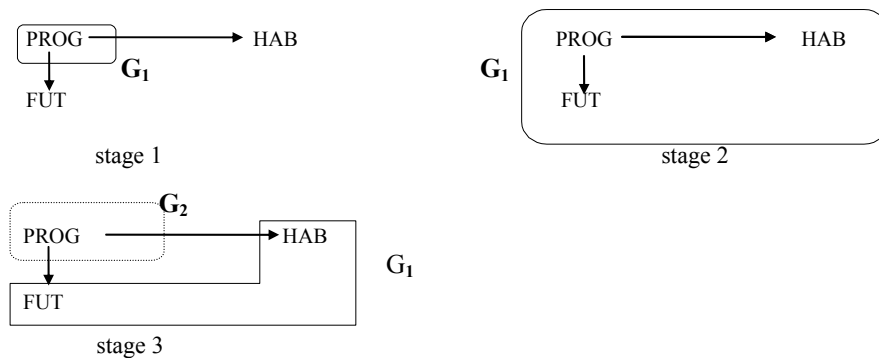*Figure 1. Grammaticalization path of present-future grams*

Figure 2. Diachronic development of grams displaying habitual-future polysemy

[1] In the present study, as in Bybee and Dahl (1989), Bybee et al. (1994), and Dahl (2000), the notion of grammatical morpheme comprises various morphosyntactic carriers of grammatical meaning: bound morphemes proper, auxiliaries, particles, etc.

[2] Paths of diachronic development, or grammaticalization paths are represented as oriented graphs. Nodes of such graphs are most commonly thought of as *cross-linguistic gram types*, that is, as clusters of semantic properties that tend to be expressed grammatically in genetically and areally unrelated languages and possess their typical morphosyntactic means of expression. See Bybee, Dahl (1989), Heine et al. (1991), Traugott, Heine (1991), Bybee et al. (1994), Rissanen et al. (1997), Ramat, Hopper (1998), Dahl (2000a) for details about current versions of the grammaticalization theory. Below nodes in grammaticalization paths come in SMALL CAPITALS.

How exactly the grammatical morpheme develops is shown in Figure 2. Assume that we have a gram G_1 which is associated with the present progressive meaning (stage 1). According to Figure 1, for G_1 there are three possibilities: to accommodate *present habitual* uses, yielding a *general present* gram, to accommodate *future* uses, or both. This scenario allows language specific grams comprising all possible combinations of meanings: 'progressive', 'future', 'habitual', 'progressive + future', 'progressive + habitual', 'progressive + habitual + future' (stage 2). A gram associated with the 'future + habitual' cluster can only appear as a by-product of the development of another gram: if a gram G_1 covers all the three meanings, and then a new progressive gram G_2 appears, forcing the older G_1 out of progressive contexts, the resulting range of meanings of G_1 will be 'habitual' and 'future' (stage 3).

Apparently, this theory makes correct predictions about the attested distribution of language-specific grams: one not infrequently finds grams which are ambiguous between general present and future meanings (Uralic languages are especially rich in such grams), as well as 'habitual + future' grams. A number of illustrations are given in Haspelmath's paper, more examples from Dravidian and Indo-Iranian languages are cited in Bhat (1999). Nakh-Daghestanian habituals discussed below also fall under this type of grammatical polysemy. A lot of questions remain, however.

Haspelmath's account crucially relies on three assumptions about what is a *possible grammaticalization path*. First, grammaticalization paths can branch. Second, if a gram has reached a branching node A (stage 1 in Figure 2), it can further develop along both branches B_1 and B_2 (stage 2). Third, it is not necessary for a gram to retain uses corresponding to the node A (stage 3).

Of these assumptions, only the first one seems to be uncontroversial: cases where the same gram develops along different paths in different languages are in fact well documented; for example, the Slavic perfect has yielded a past perfective gram in Russian, but an indirect evidence gram in Bulgarian[3].

Admitting the other two assumptions causes serious complications, however. It is definitely not correct that *any* gram at *any* path can develop along two branches simultaneously, as gram G at stage 2 in Figure 2 does. Even if branching should be allowed at the cross-linguistic level (in a language X a gram A can evolve into a gram B_1, and in a language Y a gram A can evolve into a gram B_2), this does not necessarily imply that the same branching should exist in any single language: (sub)paths A → B_1 and A → B_2 can be mutually exclusive and thus unavailable for one and the same language-specific gram. For instance, a perfect gram can yield either a perfective/past or an indirect evidence gram, and no language is attested in which evolution of the perfect proceeded in both directions.

Therefore, additional phenomenon-specific mechanisms are called for to explain why a gram reaching a branching node does not always develop in more than one

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[3] Strictly speaking, allowing nodes on GPs to branch is not theoretically unproblematic. It appears, in fact, that some nodes are branching while others are not, while the path formalism in itself does not disallow any node to branch. Accordingly, some additional machinery is necessary to explain this fact.

direction. For this reason, assuming for a language specific gram the possibility of development in multiple directions inevitably weakens the restrictive power of the theory.

Under the third assumption, the restrictiveness of the theory decreases to nothing, as a gram is allowed to be associated with *any* unrelated nodes on different branches of a grammaticalization path provided that these nodes are connected to some 'ancestor' node. Accordingly, having found a gram expressing meanings m_1 and m_2, one need not be interested in discovering how these meanings are related: it is enough to postulate a common ancestor meaning m_0.

These problems could have been ignored if the theory had provided the full empirical coverage of the data. But this is not the case. In what follows, I will discuss the material from three Nakh-Daghestanian (East North Caucasian) languages and show that this data are problematic for the theory represented in Figures 1-2. In these languages, habitual-future grams exhibit lexical restrictions which are not predicted by the theory. The range of future uses of these grams is not predicted either.

2. HABITUALS, FUTURE, AND INDIVIDUAL LEVEL / STAGE LEVEL DISTINCTION

2.1. Meaning of habituals

Partial verbal paradigms of Godoberi, Bagwalal, and Karata are represented in Table 1. These languages resemble each other as to the structure of the paradigm and the inventory of inflectional affixes. Each language has a present habitual gram marked by shading in Table 1.

Table 1. Main present and future forms in Godoberi, Bagwalal, and Karata (the verb 'plough')

	Godoberi	Bagwalal	Karata
Present (=Imperfective converb + present auxiliary)	b-eL'-ata-da	b-eL'-irā-X ek'̣a	b-eL'L'-ida ida
Present Habitual	b-eL'-ida	b-eL'-ir-ō-b	b-eL'L'-ida
Inflectional Future	b-eL'-i-s̄u	b-eL'-a-s̄	b-eL'L'-a-s̄
Periphrastic Future (=Future participle + present auxiliary)	b-eL'-i-Li-bu-da	b-eL'-ā-ł-o-b ek'̣a	—
Negative Future	—	b-eL'-irā-č'e	—

(2) shows the Present Habitual[4] of the verb *b-eL'i* 'plough'. (2) indicates that the situation 'My father ploughs the field' obtains regularly, and the sentence refers to

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[4] I follow Comrie (1976) in capitalizing labels for language-specific grams.

the unspecified number of repetitions of this situation. The progressive reading of (2) is not available.

(2)   im-o-l   Xure   **b-eL'-ida**   **KARATA**
              father-OBL-ERG   field   **N-plough-HAB**
              1. *'(My) father **is ploughing** the field'
              2. '(My) father **ploughs** the field {regularly}'

Another kind of interpretation of the Present Habituals is demonstrated by (3):

(3)   im-o-wa   ʕali   **w-iʔ-ida**   **KARATA**
              father-OBL-DAT   Ali   **M-know-HAB**
              '(My) father **knows** Ali'

(3) shows that the Present Habitual of the verb 'know' refers to a single continuous situation, and not to a set of repeating situations, as in (2).

Apparently, the contrast between verbs like 'plough' and 'like' can be easily interpreted in terms of the celebrated stative/dynamic distinction. However, (4) shows that there are stative verbs which pattern with 'plough', but not with 'know':

(4)   im-o-wa   ʕali   **haʔ-ĩda**.   **KARATA**
              father-OBL-DAT   Ali   **see-HAB**
              (My) father **sees** Ali {from time to time || *continuously}.

In (4), the same interpretation as in (2) obtains: the proposition 'my father sees Ali' is true at some time intervals and false at others; the sentence can only mean that my father sees Ali from time to time. Unlike the English Simple Present, the Present Habitual in Karata cannot be used if somebody *sees* something uninterruptedly, although, as in English it can be used if somebody *knows* something[5].

In the same way, nominal clauses in (5a-b) differ as to whether a single continuous situation or an unspecified number of situations is referred to:

(5)   a. maHammad   učitel   **w-uk'-ida**   **GODOBERI**
              Mohammed   teacher   **M-be-HAB**
               'Mohammed **is** a teacher'

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[5] Henk Verkuyl (p.c.) has pointed out that a lot observations have been made that 'see' has also nonstative properties or, at least, nonstative uses (Gruber 1967, Verkuyl 1972, among others). In fact, sentences like *I saw him when I went down to make myself a cup of tea* arguably have eventive reading (≈'catch sight'), and sentences like *John saw/heard for hours that De Gaulle had died* are analyses in Verkuyl (1972) as terminative. However, following Dowty (1979:114) who analyzes **see** (x,y) as stative and **look** (x, y) as dynamic (DO (x, [**see** (x, y)])), I assume at least in cases like 'x sees y' where both x and y are individuals it is uncotroversial to suggest that 'see' is stative.

    b. maHammad   anži-La   ***w-uk'-ida***   **GODOBERI**
        Mohammed   Anzhi-LOC   **M-be-HAB**
       1. 'Mohammed **regularly visits** Anzhi';
       2. *'Mohammed **is** in Anzhi'

Therefore, I suggest that here we are dealing not with the stative/dynamic contrast, but with the contrast of *individual-level* and *stage-level* predicates.

    ILPs, both nominal (such as 'be a teacher' from (5a)) and verbal (such as 'know' from (3)), denote temporally stable and essential properties which cannot be removed, at least without changing the qualities of an individual. SLPs, in contrast, refer to transitory and accidental properties, as, for example, 'be in Anzhi' from (5b) or 'plough a field' from (2). The ILP/SLP opposition has been recognized by Gregory Carlson (1977) after Milsark (1974). Carlson (1977), Diesing (1988), Kratzer (1995), Chierchia (1995), among many others, identify a number of peculiarities of ILPs as compared to SLPs[6].

    The difference between ILPs, such as 'know Ali', and SLPs, such as 'plough a field', is normally visible outside the tense-aspect domain. We see, however, that it is exactly this difference that affects the interpretation of the Present Habitual in (2)-(5). Thus, both (5a) and (5b) are stative, but whereas (5a) contains the ILP 'be a teacher', with the interpretation being similar to (3), in (5b) the SLP 'be in Anzhi' occurs, and (5b) resembles (2). Therefore, the borderline is drawn within the group of stative predicates, separating stage level statives from individual level statives.

2.2. Modal and future uses of habituals

The fullest spectrum of semantic possibilities comes with (6)-(9), which are non-elicited sentences from Bagwalal:

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[6] Thus, ILPs are not allowed in small clause complements of perception verbs, cf. *John saw Mary talk to Bill* vs. **John saw Mary love Bill*; they are odd in existential *there*-sentences, cf. *There are firemen available* vs. **There are firemen altruistic*. The range of possible readings of nominal arguments is wider with SLPs than with ILPs: the bare plural subject of *Firemen are available* can have both specific ('there are some firemen') and generic ('all firemen') readings, while the subject of *Firemen are altruistic* has the generic reading only. Another subject effect is observed in NPs containing weak quantifiers: *many firemen* in *Many firemen are available* allows for both existential ('there are firemen'), and partitive ('many of the firemen') readings, but for *Many firemen are altruistic* only a partitive reading is appropriate. Clauses containing ILPs show restrictions as to the adverbial modification, cf. **When Mary knows French, she knows it well* and **Mary knows French in her room*. ILPs exhibit lifetime effects: *Carthage was in Africa* implies that Carthage does not exist anymore. The SLP/ILP distinction is cross-linguistically relevant: for example, Finch (2001) observes that the distribution of the copula in Benghali obeys the following generalization: the overt copula indicates the stage level reading; the zero copula favours the individual level reading, but allows for the stage level reading too.

(6)   men   hanč'u-b Xabar   ***b-as-in-ō-b***
          you.ERG   false-N   tale   **N-tell-IPFV-HAB-N**
          {Two friends are going to deceive a woman telling her that they are magicians. You must talk to her, one of them said,} 'you **are an expert in telling** false tales'

(7)   hešta-ji-Re   in-šu-b   mašina   ***b-ič'-ir-ù-b***, —   heL'i
          how-Q-PTCL   LOG-OBL-GEN.N   car   **N-break-IPFV-HAB-N**   say
          o-šu-r,   —   c'inu-b   mašina-Re   a-b!
          that-OBL-ERG   new-N   car-PTCL   this-N
          'How **can** my car **break**, he said, it's a new car!'

(8)   ga?i   b-is-a-nā,   o-ru-r   mē
          traffic.police   HPL-find-POT-COND   that-OBL-ERG   you
          aštrafawat   ***ǯē-r-ō-w***
          fine   **do-IPFV-HAB-M**
          'If (you) meet {lit. find} traffic police, they **will possibly fine** you'

(9)   men-da   č'eXila w-uk'a-w-lā   ***w-et-ir-ō-w***
          you-PTCL   hayloft M-be-PART.M-like   **M-think-IPFV-HAB-M**
          aram-u-r
          people-OBL-ERG
          {The speaker noticed that straw stuck to the hearer's clothes. — You must tidy yourself up, or} 'people **will decide** that you have been at the hayloft'

Of these four sentences, only (6) can be said to express habitual meaning. But even in (6) the claim is made not about a habitual situation itself, but rather about the ability of an individual to perform situations of this kind. (7)-(9) has nothing to do with habituality: (7) questions the possibility of a situation 'the car breaks', and (8)-(9) are predictions about possible events in the future. In all the four sentences, a modal meaning of possibility is present. (6) involves *ability,* or *participant-internal possibility* that characterizes an individual's capacities (the terms are coined by Bybee et al. 1994, van der Auwera and Plungian 1998 respectively). (7) refers to a sort of possibility that describes general knowledge of the world ("new cars do not break") rather than knowledge of properties of a particular car, that is, to a *root possibility,* or *participant-external possibility*. In (8)-(9) we are dealing with epistemic possibility, where a situation is subject to epistemic evaluation. Crucially, in (8)-(9) the situations referred to are located in the future, whereas the present reading is totally inappropriate. Consider also (10):

(10)   ʕali-r   hunša   ***b-eL'i-r-ō-b***
           Ali-ERG   field   **N-plough-IPFV-HAB-N**
           1. 'Ali will possibly **plough** the field'
           2. *'**Maybe**, Ali **is ploughing** the field'

Habituals from stative SLPs share with habituals from dynamic SLPs this range of interpretations. (11) demonstrates the Present Habitual of the verb 'see':

(11)   ʕali-ba   mahammad   **hā-nō-w**
          Ali-AFF   Mohammed   **see-IPFV-HAB-M**
          1. 'Ali **(frequently) meets** Mohammed' <habitual proper>;
          2. 'Ali **is able to see** Mohammed' {e.g. after his sight has been
              recovered} <ability>;
          3. 'Ali **will possibly see** Mohammed' <epistemic possibility>

Crucially, no modal/future readings are available for ILPs. Consider (12):

(12)   ʕali-ba   ʕurus   mis'   **b-ī-r-ō-b**
          Ali-AFF   Russian   language   **N-know-IPFV-HAB-M**
          1. 'Ali **knows** Russian';
          2. *'Ali **can know** Russian';
          3. *'Ali **will possibly know** Russian'

Therefore, asymmetry between ILPs and SLPs extends to the whole range of interpretations of the Present Habitual, not only with properly habitual uses of this gram. In Andic languages, only SLPs exhibit habitual-future polysemy, while ILPs fail to produce future time reference.

      Another crucial observation concerns the range of future uses of the Present Habitual. Consider (13):

(13)   š̥ala   ʕali-r   hunša   **b-eL'i-r-ō-b**
          tomorrow   Ali-ERG   field   **N-plough-IPFV-HAB-N**
          1. *{Take your car away from this field!} 'Ali **will plough** the field
              tomorrow' <intentional>;
          2. *'Ali **is going to plough** the field tomorrow' {he is preparing his
              tractor} <prospective>;
          3. *{According to the timetable,} 'Ali **ploughs** the field tomorrow'
              <scheduled>

(13) demonstrates that the range of future uses of the Present Habitual is considerably restricted: it can only occur in *predictive* contexts (cf. also (8)-(9) above), and is completely inappropriate in *prospective, intentional, and scheduled future* contexts[7]:

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[7] These uses of future grams are discussed extensively in typological literature. I do not go into further details here, and refer the reader to the relevant parts in Ultan (1978), Comrie (1985), Dahl (1985), Bybee et al. (1991), Bybee et al. (1994), Dahl (2000b).

2.3. Negative future in Bagwalal

In Bagwalal, the majority of verbal forms have negative counterparts. But the structure of polarity oppositions is different for ILPs and SLPs, as represented in Figure 3.

	affirmative		*negative*
Present Habitual	ek̥-un-ō-b	———————	ek̥ã-č'-u-b
Inflectional Future	ek̥-ã-s̄	———————	**ek-unā-č'e**
Periphrastic Future	ek̥-ã-ł-o-b ek̥'a	____	ek̥-ã-ł-o-b weč'e

Figure 3. Present Habitual, Inflectional Future, Periphrastic Future, and their negative counterparts (ek̥ã 'eat', SLP).

	affirmative		*negative*
Present Habitual	bī-r-ō-b	——————————	**bī-rā-č'e**
Inflectional Future	bij-a-s̄		
Periphrastic Future	bij-ā-ł-o-b ek̥'a		bij-ā-ł-o-b weč'e

Figure 4. Present Habitual, Inflectional Future, Periphrastic Future, and their negative counterparts (b-ija 'know', ILP).

As Figures 3-4 show, for SLPs, the form of the Negative Future (suffix -*č'e*) is a negative counterpart of the Inflectional Future, but for ILPs it functions as a counterpart of the Present Habitual. Accordingly, with SLPs the Negative Future indicates future time reference (FTR), while with ILPs — present time reference (PTR). Consider first the dynamic SLP 'eat', both affirmative and negative:

(14) a. den   beq   *ek̥-un-ō-b*
          I.ERG   apricot   **eat-IPFV-HAB-N**
          'I **eat** apricots' <Present Habitual>
       b. den   beq   *ek̥ã-č'-u-b*
          I.ERG   apricot   **eat-NEG-HAB-N**
          'I **do not eat** apricots' <Negative Present Habitual>
       c. den   beq   *ek̥-unā-č'e*
          I.ERG   apricot   **eat-IPFV-FUT.NEG**
          'I **won't eat** apricots' <Negative Future>

(14a) shows the Present Habitual of 'eat', and its negative counterpart occurs in (14b). The Negative Future, demonstrated by (14c), displays FTR, and can be thus regarded as an item that forms a polarity opposition with the Inflectional Future *ek̥ãs̄* 'will eat'. (Apart from the Inflectional Future, as Figure 3-4 indicate, in

Bagwalal there is a Periphrastic Future, also indicating FTR, which possesses its own negative counterpart: *ek₀-ã̃-ł-o-b ek̥'a* 'will eat' vs. *ek₀-ã̃-ł-o-b weč'e* 'wont' eat'. The Inflectional and Periphrastic Future are synonymous.)

With ILPs, the system is organized in a different way, the Negative Future functioning as a counterpart of the Present Habitual. Consider (15a-c):

(15) a. ʕali-ba ʕurus mis'   ***b-ī-r-ō-b***
      Ali-AFF Russian language **N-know-IPFV-HAB-N**
      'Ali **knows** Russian' <Present Habitual>

    b. *ʕali-ba ʕurus mis'   ***b-ija-č'-u-b***
      Ali-AFF Russian language **N-know-NEG-HAB-N**
      'Ali **doesn't know** Russian' <Negative Present Habitual>

    c. ʕali-ba ʕurus mis'   ***b-ī-rā-č'e***
      Ali-AFF Russian language **N-know-IPFV-FUT.NEG**
      1. 'Ali **doesn't know** Russian' <Negative Future >;
      2. *'Ali **won't know** Russian'

(15a) corresponds to (14a): here the Present Habitual of 'know' is represented. As for the negative variant, in (15b), unlike in (14b), the Negative Present Habitual is inappropriate. (15c), then, indicates that the Negative Future functions as a negative counterpart of the Present Habitual; here it displays PTR but not FTR. (As Figure 4 suggests, the Negative Periphrastic Future *b-ij-ā-ł-o-b weč'e* 'won't know' functions as a negative counterpart of two future forms.)

Stative SLPs again, as in the case discussed in 2.2, pattern with dynamic SLPs rather than with stative ILPs. As (16a-b) show, the Negative Future combined with the verb 'hear' is interpreted in the same way as the Negative Future of 'eat' in (14c), that is, as referring to the future. For 'don't hear', as in (14b), the Negative Present Habitual is used.

(16) a. di-ba   hessa-ł̄ haš̥' ***ãh-inā-č'e***.
      I.OBL-AFF river-GEN sound **hear-IPFV-FUT.NEG**
      'I **won't hear** the noise of the river.'

    b. angi hessa-ł̄ haš̥' ***ãhã-č'-u-b*** ‖*ãh-inā-č'e.*
      here river-GEN sound **hear-NEG-HAB-N** **hear-IPFV-FUT.NEG**
      'Here one **cannot hear** the noice of the river.'

Let us take stock of what has been observed so far. In Andic languages, there are two instances of present-future ambiguity. First, the Present Habitual can refer to situations in the future; such uses are predictive, they obligatorily involve some sort of epistemic evaluation, and they are only allowed for SLPs. Second, the Negative Future in Bagwalal has both present and future readings, but these readings exhibit

complementary distribution, relevant lexical classes again being SLPs and ILPs: the former have FTR, the latter are associated with PTR.

3. FROM PRESENT TO FUTURE: DISCERNING THE PATH OF DIACHRONIC DEVELOPMENT

3.1. Problems for the future-from-progressive theory

Andic data reveal two problems for the diachronic explanation represented in Figures 1 and 2.

First, if future uses develop out of progressive uses, as Figures 1-2 suggest, why does the relevant lexical restriction concern the ILP/SLP distinction rather than the stative/dynamic distinction? In fact, the progressive, an alleged source for grams expressing FTR, is incompatible with all *stative predicates*, not only with individual-level statives, cf. *He is knowing German* and *He is seeing John*. Accordingly, if the Figures 1 and 2 are correct, we can expect that lexical restrictions on the distribution of a gram ambiguous between PTR and FTR, if any, can be formulated in terms of the stative/dynamic rather than the ILP/SLP opposition.

Second, if future uses develop out of progressive uses, why it is that only a predictive interpretation is available for the Present Habitual in examples (8)-(10)? The theory represented in Figures 1 and 2 predicts the existence of language-specific grams that show 'progressive' + 'future' clustering. Yet, such clustering is not attested, provided that by 'future' we mean a gram indicating merely FTR and not one of the more specific meanings, 'predictive', 'intentional', 'prospective', and 'scheduled future'. Moreover, cross-linguistically, 'progressive' tends to combine with the 'scheduled future', which occurs in sentences like *I am leaving tomorrow*[8]. According to Vet's (1994) insightful analysis, the 'scheduled future' emerges when a certain situation occurs prior to the moment of speech, and the speaker is entitled to assume that it has to result in an asserted future situation. This enables the speaker to refer to the future situation as if it were ongoing at the moment of speech: *I am leaving tomorrow* is felicitous if, for instance, I have already bought a ticket. But, to the best of my knowledge, progressive grams are not used in predictive contexts, cf. *What happens if I eat this mushroom? — You **will die** || *are dying* (Dahl's (1985) TMAQ #81). Only general imperfective, and not merely progressive, grams are attested that comprise FTR not restricted to 'scheduled' contexts, in particular, involving the predictive future.

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[8] The *going to* construction (as in *He is going to read this paper tomorrow*) is not a counterexample. As discussed extensively in Bybee et al. 1991, this construction constitutes a separate gram in itself (one of the so called GO-future type), and cannot be regarded as an instance of the progressive.

3.2. Outline of the alternative analysis: habituals to futures via possibility

If the above observations are correct, they cast serious doubt on the analysis in Figures 1-2. Given the fact that predictive uses are only possible for the present imperfective ('present progressive' + 'present habitual') but not for the pure progressive, we find that an implicational relation holds between the 'habitual' and 'predictive': if a present gram does not express the 'habitual', it does not express the 'predictive' either. Therefore, expressing 'habitual' meaning appears to be an enabling condition for the creation of a true present-future gram associated with the whole domain of FTR. This provides justification for linking 'habitual' directly to 'predictive' on the grammaticalization path, as represented in (17).

(17)   PROGRESSIVE ➔ HABITUAL ➔ PREDICTIVE FUTURE ➔
                                            ➔ PROSPECTIVE/INTENTIONAL FUTURE

Such an analysis seems to be less problematic than that in Figures 1-2. First, it does not require branching paths, nor any vague assumptions about how a legal branching path should look. Second, it correctly disallows both 'progressive' + 'predictive future' and, consequently, 'progressive' + 'general future' clustering[9]. Third, it explains in a more straightforward fashion habitual-future polysemy, as 'habitual' and 'future' meanings are now adjacent on the path. Moreover, it makes explicit the fact that a gram whose evolution is directed from the habitual meaning to the meaning of FTR acquires predictive uses before the other future uses. This seems to be exactly the case with habituals in Andic languages, discussed in section 2.1. Finally, direct connection between HABITUAL and PREDICTIVE FUTURE correctly relates lexical restrictions on the habitual to lexical restrictions on futures. Whatever restrictions of the former are, restrictions on the latter are expected to be derivable from them. In Andic languages, interpretation of habituals in their habitual proper uses is sensitive to SLP/ILP distinction, and the same is true of their future uses. Meaning of the Negative Future is also conditioned by the membership of a predicate in ILP or SLP class.

   The PROGRESSIVE → HABITUAL part of the path represented in (17) has been discussed and exemplified in Bybee et al. (1994:140-152), and I do not have anythihg to add to their generalizations. Another part of the path, HABITUAL → PREDICTIVE, should be discussed in more detail. In particular, we have to explain how exactly the development from habitual to predictive future proceeds, and how the SLPSLP/ILP distinction is involved in this development.

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[9] Under this analysis, scheduled future is separated from other future meanings and may be treated as a contextual effect on present grams triggered by a certain configuration of a relevant piece of discourse (see Vet 1994 for more details). Separation of the scheduled future can be justified by the fact that there are no documented cases where 'scheduled future' is generalized to more general future meaning.

SLP/ILP distinction has been subject to various studies[10]. The analysis that seems to be directly relevant for the issue under discussion is offered by Krifka et al. (1995:32), who capture an essential characteristic of habitual sentences formed from SLPs (e.g. *He speaks German*), namely, that they express *generalizations over episodic situations*: GEN[…s…;…](Restrictor[…s…]; Matrix[…s…]). For Krifka et al. 1995, an expression Q[...x...;...](Restrictor[...x...]; Matrix[...{x}...]) is a generalization over x iff it allows models in which more than one value can be assigned to x such that ∃[Restrictor[...x...]] is true (where ∃ binds all free variables except x); any generalization says that if an entity has certain characteristics (specified by the Restrictor), then it also has certain other properties (specified by the Matrix) to a certain degree; the degree is determined by the quantifier. Discussing the semantics of the generic operator, Krifka at al. (1995:22) observe that a possible requirement could be that whenever a habitual statement holds, there are *several* times at which a corresponding episodic statement holds. Although this generalization does not account for all generic sentences (e.g., *This machine crashes oranges* can be true without any single episodic situation in which the machine crushes oranges), it captures an important intuition behind sentences like *He ploughs his field* or *He visits New York*. Evidently, these sentences cannot be true unless there are occasions at which the participant is ploughing the field or at which his actual location is New York.

This strongly suggests that habituals from SLPs are related to the plurality of episodic situations. In its essential part, this analysis of habituality accords with one offered by Henk Verkuyl (1993: 325-327, 1995), who assumes that habituality involves *unbounded pluralization of temporal intervals* associated with corresponding episodic clauses.

Unlike SLPs, ILPs like *know German* are not generalizations over episodic situations described by the same lexical item: no episodic situation can be referred to as *knowing German*. Accordingly, ILPs are not related to the plurality of episodic situations.

Given this difference, it is possible to formulate a hypothesis of how modal and future uses develop from habitual ones. I suggest that in this development, the mechanism of pragmatic inference is involved, and that the shift from the habitual meaning to the meaning of possibility essentially relies on the following principle:

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[10] Carlson (1977) suggests that semantic theory should assume a sortal distinction between two types of entities — individuals and stages, and whereas ILPs apply to individuals, SLPs applies to stages. Kratzer (1995) analyzes this contrast in terms of argument structure. She assumes that SLPs possess a Davidsonian argument, supplying a variable that ranges over events, while ILPs lack this argument. Alternatively, Chierchia (1995) suggests that both types of predicates have an event argument, but the peculiarity of ILPs is that the corresponding variable must be obligatorily bound by the generic operator, and ILPs can be thus characterized as inherent generics. Diesing 1988, 1992 provides a purely syntactic account for the ILP/SLP distinction: she assumes that subjects of SLPs are generated within the VP, while subjects of ILPs originate in the Spec IP position. Manninen (2001) offers a feature-based analysis, involving two binary features [αhabitual] and [αevent], which is compatible with the minimalist framework. Recently, Jäger (to appear) has argued that ILP/SLP distinction is not a uniform binary contrast but rather a collection of related but different distinctions.

(18)   If x performs p regularly (that is, there is a plurality of p(…x…)), then
            x is *able* to perform p.

Indeed, general knowledge of the world implies that ability to do something is a
prerequisite for doing something on a regular basis, and information concerning
regularity can be easily reanalyzed as indicating ability. In fact, in the null context, a
statement like *He speaks German* is likely to be interpreted as describing one's
capacity rather than the very fact that one happens to demonstrate this capacity
regularly.

    As soon as the ability use of a habitual gram is established, this gram can enter
the path of diachronic development of modals expressing possibility, that is, acquire
meanings of 'root possibility' and 'epistemic possibility' as represented in (19).

(19)   ABILITY ➔ ROOT POSSIBILITY ➔ EPISTEMIC POSSIBILITY (Bybee et al.
            1994:199)

(19) predicts exactly the range of interpretations demonstrated in (6)-(9) above: (6)
involves ability, (7) is interpreted as root possibility, and (8)-(9) are both instances
of epistemic possibility.

    Epistemic modals, then, regularly produce a gram expressing FTR (Bybee et al
(1994:266), van der Auwera, Plungian (1998:98)). As Bybee et al. (1994:207)
observe, «when no other tense indicator is present, the possibility and probability
markers make FTR ... In a few cases, the expression of simple future is another use
of the epistemic marker.» This suggestion receives support from well documented
cases where possibility is closely associated with FTR. Bybee et al. (1994:208) cites
a few languages (Island Carib, Nakanai, Trukese, Chepang, Cantonese) where grams
are attested that express both of these meanings. In particular, examples from
Cantonese (Bybee et al. (1994:265)) involve polysemy very close to that in
Bagwalal: 'I may be going to Japan next week' vs. 'he can cook very well'.
Consider also (20)-(22) from Mandarin Chinese (Ching-hsiu Chang (2001:64-66))
showing the distribution of the particle *hui*, which corresponds precisely to the
distribution of Andic habituals, discussed above:

(20)   a. Ren   jie   hui   si.
            Human.beings   all   *hui*   die
            'All human beings are mortal.' <ILP, present time reference>
        b. Ta mei-tian zao-shang dou   hui qu gong-yuan   san-bu.
            He everyday morning   usually *hui* go park   walk
            'He usually goes to the park for a walk every morning.' <SLP,
            habitual, present time reference>

(21)   Ren   hui   shuo   hua.
         People   *hui*   speak   language
         'People can speak.' <SLP, ability, present time reference>
(22)   Ming-tian   hui   xia-yu.
         Tomorrow   *hui*   rain
         'It will rain tomorrow.<SLP, future time reference, predictive>

Therefore, a habitual gram that enters the path represented in (19) can end up expressing FTR. At earlier stages, FTR is restricted to predictive contexts, more closely associated with epistemic possibility, but later it readily extends to other future contexts as well. The complete path of diachronic development is shown in (23).

(23)   PROG → HABITUAL   → ABIL → ROOT POSS → EPIST POSS →
                             → PREDICT FUT   →   PROSP/INT FUT

Crucially, (18) is valid only for generalizations over episodic situations like *speak German*: from a statement about an unspecified number of episodic situations one deduces a statement about a possibility of a single episodic situation. This is not a possible option, however, when we are dealing with a statement about a situation like *know German*, which is not associated with multiple episodic situations; in this case (18) is irrelevant.

Accordingly, the modal grammaticalization path represented in (19) is only available for habituals from SLPs. In contrast, habituals from ILPs have no chance to enter this path[11]. In Mandarin Chinese, according to Ching-hsiu Chang 2001:67, the situation is absolutely the same: «Among the three <uses of *hui*>, only the predictive *hui* is required to take the stage-level predicate ... <Other uses...> are more flexible that they can take either individual-level predicates or stage-level predicates...»

Therefore, as far as the development of habituals is concerned, SLPs precede the ILPs; if the latter acquire modal and future uses at all, it happens at later stages of development, when these uses become conventionalized with SLPs and can extend to ILPs by analogy. This explains both the lack of modal and future readings of the positive habituals discussed in section 2.2. and the asymmetry in the distribution of the Negative Future in Bagwalal in section 2.3.

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[11] Of course, modal uses may have their own lexical restrictions; for instance, modals applied to non-agentive predicates typically fail to produce the ability reading. Yet, these are restrictions on grams that *have already entered* modal path. For habituals from ILPs, in contrast, this path is merely invisible.

4. CONCLUSION

The tentative analysis outlined above needs, of course, further elaboration and refinement as well as more cross-linguistic justification. First, within grammaticalization theory many assumptions about the structure of grammaticalization paths and properties of nodes on these paths remain implicit, and this study does not attempt to overcome this weakness. Secondly, we lack sufficient cross-linguistic data about the meaning and the distribution of habitual, modal, and future language-specific grams and, especially, about the lexical restrictions on these grams. Yet, I believe that the Nakh-Daghestanian material discussed above allows us to identify a plausible path of diachronic evolution of habitual grams and to reveal the significance of the SLP/ILP contrast in the development of grammatical systems of which these grams are part.

5. ACKNOWLEDGMENTS

6. ABBREVIATIONS

AD localization 'near, close to the landmark', **AFF** affective, **COND** conditional, **DAT** dative, **ERG** ergative, **FUT.NEG** negative future, **GEN** genitive, **HAB** habitual, **HPL** class of human beings (=M & F), **INF** infinitive, **IPFV** imperfective, **LOC** locative, **LOG** logophoric, **M** masculine, **N** neuter, **NEG** negation, **OBL** oblique, **PART** participle, **POT** potential, **PTCL** particle, **Q** question.

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