Adding meaning to Indo-Aryan aspectual adverbials “then” and “again” (with comparison to Hungarian)

Benjamin Slade and Aniko Csirmaz

Dept. of Linguistics
University of Utah

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1. Aspectual particles

2. Phir/Pheri

3. Additive particles & phir/pheri


5. Historical developments

6. Other accounts

7. Conclusion & refs

8. Additional materials
   - Additional Hungarian Diachronic data
   - More on other treatments
Overview

- Discuss various meanings of Hindi *phir* & Nepali *pheri* ‘then’, ‘again’, [‘(concessive) still’]
- Propose a template definition shared by the meanings
- comparison with Hungarian (and beyond)
Hindi *phir*, Nepali *pheri*

**Hindi**

(1) Rām *phir* so gayā.  
Ram *then/again* sleep went  
“Ram slept *then/again*.”

**Nepali**

(2) Birendra *pheri* sutyo.  
Birendra *then/again* slept  
“Birendra slept *then/again*.”
Hindi  *phir bhī*, Nepali  *pheri pani*

### Hindi

(3) Shyām guṇḍā hai; **phir** bhī merā dost hai.
Shyam villain is, **then/again too** my friend is
“Shyam’s a villain; **still** ṣhīv he’s my friend.”

### Nepali

(4) **Pheri** pani timro tasbir ākha.mā āe.rahancha.
**then/again too** your image eye.in **come.continues**
“**Still** ṣhīv your image keeps coming into my eyes.”
1 Aspectual particles

2 Phir/Pheri

3 Additive particles & phir/pheri

4 Crosslinguistic comparisons - Hungarian &c.

5 Historical developments

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### Some Adverbials in Hindi & Nepali

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<td><code>pani</code></td>
<td>additive &amp; scalar(-additive) particle “also”/“even”</td>
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</table>
(Ordering) *phir/pheri* “then”

**Hindi**

(5) Rām-ne khānā khā liyā. Vah *phir* so gayā. Ram-*ERG* food eat took. He/she *then* sleep went

“Ram ate food. **Then** he slept.”

**Nepali**

(6) Birendra-le bhāt khā-i-diyo. U *pheri* sutyo. Birendra-*ERG* food eat-ABS-gave. He/she *then* slept

“Birendra ate food. **Then** he slept.”
(Ordering) phir/pheri “then” defined

**phir “then”**:  
\[ \exists t^* \left[ Q(e^*, t^*, \ldots) \& \right. \\
\left. Q(e^*, t^*, \ldots) \in FA(\mathcal{P}(e, t, \ldots)) \& \right. \\
\left. t^* \prec t \& \\
\left. t, t^* \in T \right] \]  

- **phir/pheri** combines with an ordered scale of times \( T \), a time \( t \), an eventuality \( e \), and a saturated predicate \( \mathcal{P} \), and asserts that there is a \( \mathcal{P} \) eventuality \( e \) at time \( t \).
- \( \mathcal{P} \) inherits the specifications of saturated predicate, so might appear in fuller form as e.g. `sleep(e^*, t^*, John) & in(e^*, kitchen)`.
- presupposes that there is another eventuality \( e^* \) of \( Q \) which occurs at time \( t^* \), and that \( t^* \) precedes \( t \).
- alternatives will vary depending on exactly what subconstituent is focussed (e.g. the VP); e.g. \( = \{ \text{John snored, John drooled, John walked about, John slept, \ldots} \} \).
(Ordering) *phir/pheri* “then” tree

```
  vP
   
then

vP

subevent

v

subject

v

subevent

V

object
```
Relational adverbials and focus

The focus alternatives are of course determined by what is focussed (see Rooth 1985, 1992)

E.g. John \([\text{woke up}]^F\), Then he \([\text{got dressed}]^F\), Then he \([\text{had a shower}]^F\), Then \([\text{Mary}]^F\) had one, . . .
(Repetitive) *phir/pheri* “again”

**Hindi**


“All Ram pushed the button. Nothing happened. He pushed the button again.”

**Nepali**


“All Birendra pushed the button. Nothing happened. He pushed the button again.”
Repetitives

**phir (se), pheri:**

\[
\forall T \forall t \forall e \forall \mathcal{P} : \exists t^* \quad \exists e^* \quad \exists Q \quad \begin{bmatrix}
Q(e^*, t^*, \ldots) & \mathcal{Q}(e^*, t^*, \ldots) \in \mathcal{FA}(\mathcal{P}(e, t, \ldots)) & (t^* \prec t) \& \\
\end{bmatrix} \mathcal{P}(e, t, \ldots)
\]

- Identical to temporal ordering “then”, except that the time variable (rather than some other constituent) is under focus, and so the alternatives will vary in terms of temporal specification
- e.g. FAs might include \{John woke at \(t_1\), John woke at \(t_2\), John woke at \(t_3\), \ldots\}
(Repetitive) *phir*/pheri “then” trees 1

Again, repetitive

![Diagram of the sentence structure for *phir*/pheri](image)
(Repetitive) *phir/pheri* “then” trees 2

Again, restitutive

```
  vP
 / 
subevent vP
  |   
  subject v
   |   
v VP
   |   
again VP
  |   
  subevent VP
   |   
    V object
```
Generalised template for *phir*/*pheri*

Template

\[ \lambda S \lambda x \lambda e \lambda \mathcal{P} : \exists e^* \exists x^* \exists Q \left[ Q(e^*, x^*, \ldots) \in FA(\mathcal{P}(e, x, \ldots)) \land x^* R x \land x, x^* \in S \right] \mathcal{P}(e, x, \ldots) \]

- \( \mathcal{P}, \mathcal{Q} \) are (saturated) predicates
- \( x, x^* \) are scalar entities (times, degrees, &c.)
- \( e, e^* \) are eventuality variables
- \( R \) is a relation (e.g. \( <, >, \propto, \) &c.)
- \( S \) is a scale
- \( FA \) is a set of focus alternatives to \( \mathcal{P}(e, x) \) which differ in terms of variation of elements under focus, which may include times, degrees, or subconstituents &c. (assuming ‘transparency’ of the event variable)
Additive particles & *phir/pheri*

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Concessive “still”

Recall from above: for the “concessive still” sense, both Hindi & Nepali combine the temporal *phir/pheri* with a particle, Hindi *bhī*, Nepali *pani*

**Hindi**

(9) Shyām guṇḍā hai; *phir bhī* merā dost hai.
Shyam villain is, *then/again too* my friend is
“Shyam’s a villain; *still* he’s my friend.”

**Nepali**

(10) *Pheri pani* timro tasbir ākha.mā āe.rahancha.
*then/again too* your image eye.in come.continues
“*Still* your image keeps coming into my eyes.”
Additive particles in Hindi and Nepali

The particles which show up in the “concessive still” in Hindi & Nepali, bhī & pani, are members of the \( \mu \)-type (< Japanese \( mo \)) which appear in universal & conjunctive environments (see Szabolcsi 2010, 2015, Slade 2011, Mitrović 2014, amongst other; cf. Reichenbach 1947)

<table>
<thead>
<tr>
<th>( \mu )-series</th>
<th>Japanese</th>
<th>Dravidian</th>
<th>Sinhala</th>
<th>Nepali</th>
<th>Hindi</th>
<th>Hungarian</th>
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<tr>
<td>( \mu )-series</td>
<td>mo</td>
<td>um</td>
<td>t</td>
<td>pani</td>
<td>bhī</td>
<td>is, mind</td>
</tr>
</tbody>
</table>

**Table:** \( \mu \) series in select languages
Examples of *bhī* and *pani* as $\mu$

**Hindi**

(11) Rām *bhī* mar gayā
    Ram **also/even** die went
    “Ram died too.”/“Even Ram died.”

(12) Rām *bhī* Shyām *bhī* . . .
    Ram **also** Shyam **also** . . .
    “Both Ram and Shyam”

**Nepali**

(13) Rām *pani* marya
    Ram **even/also** died
    “Ram died too.”/“Even Ram died.”

(14) Rām *pani* Shyām *pani* . . .
    Ram **also** Shyam **also** . . .
    “Both Ram **and** Shyam”
Examples of \textit{bhī} and \textit{pani} as \(\mu\) (cont.)

**Hindi**

(15) Koī bhī nahī āyā.
Someone also/even not came.
“No-one came.”

(16) Jo bhī laṛkī vahā kharī hai, vah merī dost hogī
REL.PRO also/even girl there standing is, he/she my friend be.FUT
“Which\textit{ever} girl is standing there will be my friend.”

**Nepali**

(17) Ma kahile pani raksi piūdina
I sometimes even/also alcohol drink.NEG
“I never drink alcohol.”

(18) Jo āe pani huncha
who.REL.PRO came even/also is
“Who\textit{ever} comes, it is all right.”
‘Concessive/adversative’ phir bhī/pheri pani

Concessive

\[ \exists e^* \exists Q \lambda S \lambda w \lambda e \lambda P: \begin{cases} \exists e' \\
\exists R \\
\exists W^{cg} \subseteq W \\
\end{cases} \rightsquigarrow \begin{align*}
R(e',w,...) & \land \\
Q(e^*,...) & \in FA(P(e,...)) \land \\
\Sigma(\{\Lambda(w')| R(e^*,w') \land P(e,w') \land w' \in W^{cg}\}) < \\
\Sigma(\{\Lambda(w'')| R(e^*,w'') \land Q(e,w'') \land w'' \in W^{cg}\}) \land \\
\Sigma(\{\Lambda(w''')| R(e^*,w''') \land Q(e,w''') \land w''' \in W^{cg}\}) \in S \\
\end{align*} \]

- \( W^{cg} \) is the set of world consistent with the common ground
- because VERUM is focussed, \( FA(P(e)) = \{P(e), \neg P(e)\} \)
- \( \Lambda(w') \) = likelihood of \( w' \)
- \( \Sigma(\{\Lambda(w')| \ldots \}) \) is the aggregate of the likelihood of every world in a particular set. Thus both the number of worlds in the set and the individual likelihood of each particular world affects the result.
- \( S \) is an ordering of real numbers
- So here the overall likeliness of the worlds in which both the presupposed ‘frame-setting’ eventuality and the eventuality in question both occur is lower than the overall likeliness of the worlds in which the ‘frame-setting’ eventuality occurs but the eventuality in question does not
Concessive tree
Concessive

- This sense is rather different from the “templatic” *phir*/*pheri*
- Unsurprising given the additional element *bhī, pani*
- The additive *bhī/pani* seems to correlate with the additional presupposition of a “framing” eventuality
- Also note the complexity of scalar elements (summation of likelihood over sets of worlds)
Aspectual particles

*Phir*/*Pheri*

Additive particles & *phir*/*pheri*

Crosslinguistic comparisons - Hungarian & c.

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Comparison of (a subset of) Hungarian, Hindi, Nepali temporal adverbials

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Repetitives in Hungarian

- The Hungarian repetitives are etymologically connected to *még* via *meg*:

(19) Feri *megint / ismét* ivott egy pálinkát.
    F-NOM *again / again* drank one palinka-ACC
    ‘Feri drank a palinka again.’
Concessive *mégis*

- Concessive interpretation

(20) Bár fogyókúrázott, Feri mégis evett zsíroskenyeret.  
    though diet.V.PAST,3SG F-NOM still ate lard-ADJ.bread-ACC

‘Even though he was on a diet, Feri still ate some bread with lard.’
Additives in Hungarian

- Like Hindi *phir bhī*, Nepali *pheri pani*, Hungarian *mégis* contains an additive particle

(21) János is jött.
J. also came.
“John came too.”

(22) János is (és) Mari is ...
J. also (and) M. also ...
“Both John and Mary”
Scalar additive

Scalar component from ‘még’, additive from ‘is’.

(23) Mindenki zsíroskenyeret kért. Még Feri *(is) 
    everyone-NOM lard-ADJ.bread-ACC asked. still F-NOM too
    zsíroskenyeret kért.
    lard-ADJ.bread-ACC asked

‘Everyone asked for some bread with lard. Even Feri asked for some bread with lard.’
Another ordering relation in Hungarian

- Hungarian *még* has (amongst other uses) a temporal ordering use, which interestingly is the inverse of the relation in the Indo-Aryan ordering *phir*, *pheri*

- Event $e$ associated with $\mathcal{P}$ precedes another event $e^*$

(24) **Még épített egy házat** (mielőtt meg halt)

still built one house-acc before meg died

‘He built a house (before he died)’
Hungarian inverse ordering

$mé\check{E}$ "(inverse) then; before that":

$$\lambda T \lambda t \lambda e \lambda P : \exists t^* \left[ \begin{array}{c} \exists e^* \left[ Q(e^*, t^*, \ldots) \right] \\
\exists Q \left[ Q(e^*, t^*, \ldots) \in FA(P(e, t, \ldots)) \right] \\
t^* \succ t \& \\
t, t^* \in T \end{array} \right]. P(e, t, \ldots)$$

- FAs, e.g. = \{He built a cabin, He sneezed, He walked about, He died\ldots\}
Other *stills* in Hungarian

**Comparative**

(25) Ez egy nagy labda. (Az nagyobb.) És az még nagyobb.  
this one big ball that bigger and that still bigger  
‘This is a big ball. (That one is bigger.) And that one is still bigger.’

**S-marginality [standard-marginality] (vs. “comparative” C-marginality)**

(26) Sopron még Magyarországon van.  
Sopron-nom still Hungary-on is  
‘Sopron is still in Hungary.’ (‘true’ marginality)

(27) Ez a ruha drága. Az a ruha is / #még drága.  
this the dress expensive that the dress too / still expensive  
‘This dress is expensive. That dress is expensive too / still expensive.’ (comparative marginality, only ok if temporal még)
## Comparison of Hungarian, Hindi, Nepali, German

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<td>—</td>
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*B Slade & A Csirmaz (Uni. of Utah)*

Indo-Aryan aspectual adverbs

ICHL23(LVLC) : San Antonio
1. Aspectual particles

2. *Phir/Pheri*

3. Additive particles & *phir/pheri*


5. **Historical developments**

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Historical developments

Hindi

- Hindi *phir* “then, again” is related to Hindi *phirna* “to turn”, which derives from a reconstructed Old Indo-Aryan *phirati* “moves, wanders, turns”, cp. Prakrit *phiraï* “goes, returns” (Turner 1966: #9078)

Kutchi Gujarati (Patel-Grosz & Beck 2014)

- *Pacho* “again (repet. & restit.) & back” < OIA. *paśca-* “hinder part” (much like English *back*) [Turner 1966: #7990]

- cp. Hindi *vāpas* “back” (no repetitive senses (yet)), loanword from Persian, with the *pās* part being cognate with *paśca-* [Platts 1884:1171]

Cp. English *again*

*Again* originally meant “back, in the opposite direction” OE *ongean*: “He sceaf ā mid ām scylde, ǣt se sceaf tobaērst, and ǣt spere sprengde, ǣt hit sprang *ongean*.” [“He shoved then with shield so the shaft burst — the spear broke and sprang *back*.”] (*Battle of Maldon* 137)
Historical developments

Sanskrit *punar api*

Nepali *pani*

derives from Sanskrit *punar api* “even again; again too; moreover; also” (Turner 1966:§8274)

Sanskrit *punar api*

(28) kṣipto 'yaṁ mandarādriḥ *punar api* bhavatā veṣṭyatāṁ
thrown this Mandara *again even/also* lord.INSTR suitable-be-whirled
vāsuke 'bdhāu
Vasuki.VOC ocean.LOC

“Let this Mount Mandara, thrown into the ocean, *again* be twirled by thee, O Vasuki.” [*Caṇḍīśataka of Bāṇa* 59.1]
Historical developments

**Sanskrit púnar**

Skt. **púnar** polysemous consistent with templatic analysis:

(29) hitváya avadyám púnar ástam á ihi abandon.CONV imperfection.ACC again home.ACC to come.IMPV

“Having cast off imperfection, come home **again**.” [Rgveda X.14.8c]

(30) Punar āgamyā niṣadhān nale sarvām nyavedayat again/back come.CONV Nishadha Nala.LOC all.ACC know.CAUS.IMPF.PAST.3SG

“Having returned back to Nishadha, [the goose] made all known to Nala.” [Nala I.32]

(31) śṛṇu punaḥ listen.IMPV again/back

“Listen still/further!”


“**Moreover** (?), Nala with Damayanti, like immortals, was always wandering about for pleasure in pleasant forests and groves.” [Nala V.44]

(33) arthaiḥ saṁcayavān arthān prāpnoti kiyad adbhutam, wealth.INSTR accumulated-wealth-person wealth.ACC obtains little wonder, mayā punar vinā eva arthāṁ lakṣmīḥ āsāditā purā me.INSTR still without EMPH wealth Laxmi sit.CAUS.IMPF.FEM formerly

“It is little wonder that someone who has inherited wealth should obtain wealth by using wealth; **still** I achieved prosperity long ago without any wealth to start with.”
Old English

Old English *eft*

Similar “polysemy” is also found in earlier English *eft*:

(34) Efterward me ssel þerne mete *eft* chyewe ase þe oxe þet...
  afterward one shall this food *again* chew as the ox that...
  “Afterward one shall chew this food *again* like the ox
  that. . . (CMAYENBL111.2146 — from Gergel et al. 2016)
  [repetitive reading]

(35) þone mon *eft* on Cent forbærnde.
  that. ACC man *afterwards* in Kent *burned*.
  “That man was afterwards burned in Kent.” [Anglo-Saxon Chron.
  ann. 685 (Parker MS.) ]
Origins of Repetitives in Hungarian

- Hungarian *még* appears in a number of different senses (temporal “still”, additive “still”, &c.)

- *még* derives from the particle *meg* (Zaicz 2006), which could mean “again”:

  (36) (Müncheni kódex, 1466)

  \[\text{és tőn } \text{meg } \text{úgy} \]
  \[\text{and did } \text{again } \text{like.that} \]
  \[\text{“and he did again like that” (?)} \]

- Both *megint*, *ismét* are derived from *meg*
  (with an additional additive for *ismét*)

- *Meg* originally had the interpretation of ‘back’ (Zaicz 2006)

  (37) ‘Back’ (Müncheni kódex, 1466)

  \[\text{ne mennének } \text{meg } \text{Heródeshez, más úton fordulának } \text{meg } \text{ő} \]
  \[\text{not went.3PL } \text{meg } \text{Herod-TO} \text{ different road-ON turned.3PL } \text{meg} \text{ they} \]
  \[\text{országukba} \]
  \[\text{country.POS.3PL-TO} \]
  \[\text{“They didn’t return to Herod, they returned on a different road to their} \]
  \[\text{country.”} \]
Further echoes of additives:

- Even in German, the form *noch* “still” historically contains an additive particle (as Hungarian *is*, Hindi *bhī*, Nepali *pani*):
  - German *noch* < PGmc. *nuh* < PIE *nū-* “now” plus the PIE additive particle *-kwe* (Pokorny 1959)
1. Aspectual particles

2. *Phir*/*Pheri*

3. Additive particles & *phir/pheri*


5. Historical developments

6. Other accounts

7. Conclusion & refs

8. Additional materials
   - Additional Hungarian Diachronic data
   - More on other treatments
Other accounts

- Michaelis 1993, Ippolito 2007, Beck 2016 on various senses of *still* (among others)
- Focus of papers: no morphological relevance, no templatic definition
- Concern (Michaelis 1993): aspectual restrictions
- Morphological facts (also later), role of additive particles
Other accounts: abutment

- Abutment in temporal interpretation
- For others, abutment survives in other interpretations, e.g. the marginality sense
- No necessary abutment relation (e.g. comparative, C-marginality, perhaps also just an implicature in S-marginality)
Beck 2016: temporal implicature with temporal *still*

*It’s still raining* implicates that it won’t be raining in the future (Beck)

*This dress is still expensive*: no necessary entailment, presupposition or entailment that it will be cheaper at a later time
1. Aspectual particles
2. Phir/Pheri
3. Additive particles & phir/pheri
5. Historical developments
6. Other accounts
7. Conclusion & refs
8. Additional materials
   - Additional Hungarian Diachronic data
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## Temporal Adverbials - Different Scales, Relations, Foci

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale</th>
<th>Relation</th>
<th>Focus</th>
<th>Identity of Scale/Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>“temporal” STILL</td>
<td>time</td>
<td>∞</td>
<td>time</td>
<td>yes</td>
</tr>
<tr>
<td>“temporal additive”</td>
<td>time</td>
<td>≺</td>
<td>time</td>
<td>yes</td>
</tr>
<tr>
<td>STILL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“marginality” STILL</td>
<td>degrees</td>
<td>≿</td>
<td>individuals</td>
<td>no</td>
</tr>
<tr>
<td>“concessive” STILL</td>
<td>likelihood</td>
<td>&lt;</td>
<td>verum</td>
<td>no</td>
</tr>
<tr>
<td>AGAIN</td>
<td>time</td>
<td>≺</td>
<td>time</td>
<td>yes</td>
</tr>
<tr>
<td>THEN</td>
<td>time</td>
<td>≺</td>
<td>non-time element</td>
<td>no</td>
</tr>
</tbody>
</table>
Summary

- templatic relation between various senses of temporal/relational adverbs
- overtly manifested in morphology in some languages
- use of templatic definitions elsewhere
  - P elements fluid between spatial, temporal realms, &c., e.g.:
    - “30 and above”, “above average”, “X is above Y” (in hierarchy/organisation), “see above” (ordering in a text), &c.
    - “under the table”, “under 30 inches”, “under 2 hours”, “under contract”, &c.
- can explain historical relationships (e.g. in Hungarian), or morphologically-connected paradigms of adverbs
Remaining problems

- more fully work out syntax and compositional account
- e.g. explain precise contribution of additives in forming “concessive STILL”
  - for bhī/pani, ambiguous between additive, and scalar-additive, possible explanation is clearer (scalar additives typical rank according to likelihood)
  - but Hungarian is seems to be a plain additive (unless it was similarly ambiguous at an earlier stage)
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Hungarian Generative Diachronic Syntax (http://corpus.nytdud.hu/hgds-dev/en-intro.html)
1. Aspectual particles

2. *Phir/Pheri*

3. Additive particles & *phir/pheri*


5. Historical developments

6. Other accounts

7. Conclusion & refs

8. **Additional materials**
   - Additional Hungarian Diachronic data
   - More on other treatments
Temporal/aspectual STILL tree

AspP

Temporal.still

AspP

event

AspP

Imperf

vP

subevent

vP

subject

v

VP

subevent

VP

V

object
meg as repetitive

(38) (Müncheni kódex, 1466)

és tőn meg úgy
and did again like.that

“and he did again like that” (?)

(39) (Szabolcs Viadala 1476)

nagy bús jonnhal meg-visszatérének
big sad -with again-back.returned

“they returned again with big sad ?”

(40) esmég (Jakob kódex, 1440)

adjad esmeg (=ismét) ennekem
give.IMP again me

“give it to me again”
Other repetitives

(41) *ismét* (Müncheni kódex, 1466)

*ismét* mondom tinektek
*ismét* say.1sg you.pl-to

‘I say to you again’

(42) *megint* (Jordánszky kódex, 1516-19)

és ki szent, szenteltessék *megint*
and who saint blessed.imp *megint*

‘and that who is a saint should be blessed again’
Még as STILL

(43) Temporal még (Bécsi kódex, 1430-60)

Még negyven napok vannak
még forty days are

‘There are still forty days’

(44) Concessive mégis (Bod kódex, first half of 16th c)

de mégis többet akar vala bírnia
but mégis more-acc want had have.inf

‘but still he wanted to have more’
Additives

(45) Additive (Birk kódex, 1474)

Ő rajta is könyörültök
he on is mercy.V.2pl
‘You(pl) have mercy on him as well’

(46) Scalar additive (Müncheni kódex, 1466)

még ti is értelem nélkül vagytok-e
még you.pl is reason without are.2pl Q
‘Whether even you are without reason’

(47) Additive (Birk kódex, 1474)

ne csak szátok étket, de meg fületek is bevegye
not only mouth.poss.2pl food-acc but meg ear.poss.2pl too in.take.imp
hallgassa istennek igéjét hear.imp god-dat word.poss.acc
‘Let not only your mouth take in food, but also your ears take in and hear
God’s word’
Michaelis (1993)
- Examines three senses of English *still* with reference to diachronic development (temporal, marginality, concessive)
- Posits for each of the 3 that *still* denotes the existence of effectively identical elements at two contiguous scalar loci
- The more advanced locus is asserted, the less advanced presupposed
- Scales may differ (times, worlds, rankings along property scale)
- **Nb:** problematic claim about homogeneity of CONTIGUITY requirement
Misc. Remarks on Previous Accounts (cont.)

- Ippolito (2007)
  - Examines English *still* and *already*, discussing aspectual/temporal, marginality, concessive uses (relating these to additive particles, scalar particles, and exclusive particles), also investigating *again*
  - Also notes focussing of time variable for (temporal) *still* & *again*
  - Complex interactions of adverbials with aspectual heads
  - In some cases definitions perhaps overspecified
    - Concessive *still*: requires worlds considered to be maximally similar to evaluation world
    - Argues that concessive involves presupposition that the set of worlds in which the framing proposition (*John studied all night*) and the proposition at issue (*(*still*) he failed the exam*) are both true are less likely the worlds in which the framing proposition is not true but the proposition at issue is true - which seems incorrect
Beck (2016)

- Focuses on German noch & English still, in various senses, including temporal, marginal, and various “discourse”-related (though not concessive)
- Also posits common core/template, but which like Michaelis’s problematically posits CONTIGUITY (=abutment) for all senses
- Also explores implicatures
  - Beck suggests that temporal noch/still carries implicature that $\mathcal{P}$ will hold in future (explain oddity of John’s still dead)
  - In actuality, implicature seems to involve $\mathcal{P}$ being true in some accessible world (John is still annoying)
Vietnamese

(48)  Tan  thì thâm chí 1.7m cõng nhay qua
Tan.TOP,1 PRT SCAL 1.7m ADD jump
‘Tan can even jump 1.7m.’ [Zimmermann 2017: 141]

- thâm chí...cõng is reminiscent of the még...is of Hungarian
- Zimmerman (2017) argues that thâm chí is a scalar(-additive) particle and cõng is an additive
- However, the contexts for the Vietnamese examples seem to largely involve a contrastive topic in addition to the scalar-additive and thus apparently differ from Hungarian
- Further, Zimmermann (2017: 140) notes that cõng sometimes also appears to bear a scalar reading even without the scalar thâm chí