Argument-Introducing Pluractionals: A New Way to Introduce Arguments

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"*Number is the most underestimated of the grammatical categories.*"
Greville Corbett, 2000

1. Introduction

- Heads that can add a participant to events: Voice, Appl, little-v (with Cause flavor), prepositions (Pylkkänen 2008, Harley 2013, Legate 2014, Wood & Marantz 2017)

- Topic: A head in Kyrgyz and Kazakh (Turkic) that can't be easily fit in this list

- Descriptively referred to as "assistives" (Nedjalkov 2003, also see Abduvaliev 2015)
- Marked by /-(I)ʃ/ on the verb
- The assistive introduces the assistee (always dative-marked)

(1) [ASSISTER Men] [ASSISTEE **Azim-ge**] balmuzdak-tɯ d͡ʒe-**ʃ**-ip ber-di-m.
[ASSISTER I] [ASSISTEE **Azim-DAT**] ice cream-ACC eat-**ASST**-APPL.H-PST-1SG
'I helped Azim eat the ice cream.'

- The assistee is an argument: (For the relevant data see Appendix-1)
  - is always recoverable upon omission (Rákosi 2003, 2008, Siloni 2012)
  - even when omitted, it can license cross-sentential anaphora
  - can be the pivot for clefts (in contrast to adjuncts) (Gribanova 2013, Akkuş 2021)

- The context that the assistive can be used is quite curious

(2a) Azim is a little child, he needs help eating his ice cream. Kany held his ice cream cone / Kany wiped his hands and mouth.
Kanɯ **Azim-ge** balmuzdak-tɯ d͡ʒe-**ʃ**-ip ber-di.
Kany **Azim-DAT** ice cream-ACC eat-**ASST**-APPL.H-3.SG.PST
'Kany helped Azim eat the ice cream.'

(2b) The ice cream is too big for Azim. Kany ate some of it.
Kanɯ **Azim-ge** balmuzdak-tɯ d͡ʒe-**ʃ**-ip ber-di.
Kany **Azim-DAT** ice cream-ACC eat-**ASST**-APPL.H-3SG.PST
'Kany helped Azim eat the ice cream.' ~ 'Kany and Azim ate the ice cream.'

Main claim: "Assistives" are a type of pluractionals (denote plurality of events), which can also introduce an Agent argument

2. The usual suspects

2.1 Cause

- Kyrgyz assistives do not have causative semantics
- I.e., no causing event present to combine with a noncausative predicate (following Pylkkänen's (2008: 83-84) definition of causatives

(3) Kany asked/made Azim clean the house, but she also offered to help him.

Kanɯ Azim-ge yj-dy tazala-**ʃ**-tɯ.
Kany Azim-DAT house-ACC clean-**ASST**-3SG.PST
Intended: 'Kany made Azim clean the house (and she also helped).'
Only available meaning: 'Kany helped Azim clean the house.'

2.2 Applicative

- Kyrgyz has low and high applicatives (McGinnis 2001, Pylkkänen 2008)
- In many languages, Kyrgyz including, the low and high applicative cannot co-occur (Marantz 1993, Peterson 2007, Nie 2020)

(4) * (Men) apam-**a** siŋdim-**e** tamak d͡ʒasa-**Ø**-**p ber**-di-m.
(I) my.mother-**DAT** sister-**DAT** food make-**APPL.L**-**APPL.H**-PST-1SG
Intended: 'I made food for my sister, for my mother.'

(5) * (Men) pro siŋdim-**e** tamak d͡ʒasa-**Ø**-**p ber**-di-m.
(I) pro sister-**DAT** food make-**APPL.L**-**APPL.H**-PST-1SG
Intended: 'I made food for my sister, for my mother.'

- **Prediction**: if the assistive is a type of applicative, it would be incompatible with other applicative(s)
→ This prediction is **not** borne out

(6) Men apam$_i$-a pro$_i$ yj-dy tazala-**ʃ**-**ɯp ber**-di-m.
I my.mother$_i$-DAT pro$_i$ house-ACC clean-**ASST**-**APPL.H**-PST-1SG
'I helped my mother$_i$ clean the house for her$_i$.'

(7) ?? Men apam-a siŋdim-e yj-dy tazala-**ʃ-ɯp ber**-di-m.
I my.mother-DAT my.sister-dat house-ACC clean-**ASST**-**APPL**-PST-1SG
'I helped my sister clean the house for my mother.'

- The assistee is the Agent of (a subevent of) the base event (§3.2) – not reconcilable with Appl

2.3 Voice

- Voice-selecting adjuncts: (For more data see Appendix-2)
  - instrumentals (*with vacuum cleaner*) (Bruening 2013, Alexiadou et al. 2015, Legate et al. 2020)
  - comitatives (*with the neighbor*) (Bruening 2013, Alexiadou et al. 2015, Legate et al. 2020)
  - agent-oriented and mental-attitude adverbs (*patiently*) (Matsuoka 2013)

(8) Men koʃuna menen apam-a (koʃuna menen) yj-dy tazala-ʃ-tɯ-m.
I neighbor INSTR my.mother-DAT (neighbor INSTR) house-ACC clean-ASST-PST-1SG
Yes: '[I together with the neighbor] helped my mother clean the house.'
Not: *'I helped [my mother together the neighbor] clean the house.'

3. Participation requirement & 1st attempt at an analysis

3.1 The "Participation requirement"

> Both the assister and the assistee have to perform the event denoted by the base predicate

(9) Kanɯ Azim-ge t͡ʃurka-ʃ-tɯ.
Kany Azim-DAT run-ASST-3SG.PST
'Kany helped Azim run.'

(a) # Birok Azim t͡ʃurka-gan d͡ʒok.
but Azim run-PF NEG.3SG
'But Azim didn't run.'

(b) # Birok Kanɯ t͡ʃurka-gan d͡ʒok.
but Kany run-PF NEG.3SG
'But Kany didn't run.'

- ♦ "Helping" contributions where the assister does not perform the base event are disallowed

(10a) Kany helped Azim, a young toddler, run by holding his hand, catching him when he was about to fall.
(10b) Kany was cheering for Azim giving him moral support while he was running.
(10c) Kany is a running coach, and she helped Azim to learn new techniques (i.e., gave advice).

Kanɯ Azim-ge t͡ʃurka-ʃ-tɯ.
Kany Azim-DAT run-ASST-3SG.PST
'Kany helped Azim run.'

- ♦ Adding some nuance: The assister & assistee are allowed to perform subevents that are not in the denotation of the base predicate, iff those subevents are part of a scenario (Link 1987, Krifka 1992)
  - Scenarios: Events that do not strictly obey the *mapping to objects* principle (Krifka 1992, 1998)
  - E.g., Scenario: *doing the dishes* (in Kyrgyz lit. 'wash the dishes')
  - Subevent: *washing the dishes* (satisfies the denotation of the predicate
  - Subevent: *drying the dishes*, *filling up the sink*, etc. (do not satisfy the denotation of the predicate)

- ♦ For *some* speakers, the assister or the assistee can perform an event that is part of the scenario, but doesn't satisfy the predicate's denotation

(11) There were dishes to be washed. We ran out of warm water, so I boiled water on the stove and poured it into the sink. My mom did the dishes. (I didn't wash any dishes.)

% (Men) apam-a idiʃ-ter-di d͡ʒu:-ʃ-tu-m.
(I) my.mother-DAT dish-PL-ACC wash-ASST-PST-1SG
'I helped my mother do the dishes.'

- ♦ Importantly, assistives are out if the participants are intended to perform events that can't be conceptualized as part of a scenario

(12a) I occupied my baby sister while my mother was doing the dishes.
(12b) I explained to my mother how to do the dishes. (I.e., I gave advice.)
(12c) I entertained my mother while she was doing the dishes.

(Men) apam-a idiʃ-ter-di d͡ʒu:-ʃ-tu-m.
(I) my.mother-DAT dish-PL-ACC wash-ASST-PST-1SG
'I helped my mother do the dishes.'

3.2 Accounting for the "Participation requirement:" 1st attempt

- ♦ Descriptive characterization: The assister and the assistee have to perform subevents of the event denoted by the base predicate
- ♦ More formally: The assister and the assistee are Agents of the subevents the base predicate

  - **Assisters** are Agents; non-agentive causers (*wind*) and instrumentals (*hammer*) are disallowed as assisters

(13) **Kanɯ** / ***ʃamal** / ***balta** Azim-ge tereze-ler-di sɯndɯr-ɯʃ-tɯ.
Kany / *wind / *hammer Azim-DAT window- PL-ACC break-ASST-3PST
'Kany / *The wind/ *The hammer helped Azim break the window.'

  - **Assistees** can't be Patients (see (14)); non-agentive causers (*wind*) and instrumentals (*hammer*) are also disallowed as assistees; **Assistees are Agents** as well

(14) * Kanɯ **Azim-ge** d͡ʒan-ɯʃ-tɯ. (assistee is **Patient**)
Kany **Azim-DAT** burn(intr)-ASST-3SG.PST
'Kany helped **Azim** burn(intr).'

(15) Kanɯ **Azim-ge** œz-yn d͡ʒan-dɯr-ɯʃ-tɯ. (assistee is **Agent**)
Kany **Azim-DAT** self-3POSS.ACC burn-CAUS-ASST-3SG.PST
'Kany helped **Azim** burn himself.'

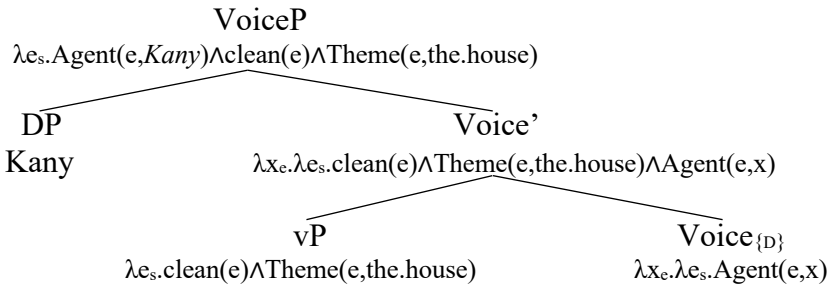
(16) Kanɯ **Azim-ge** / ***ʃamal-ga** / ***balta-ga** vaza-nɯ sɯndɯr-**ɯʃ**-tɯ.
Kany **Azim-DAT** / ***wind-DAT** / ***hammer-DAT** vase-ACC break-**ASST**-3PST
'Kany helped Azim / *the wind/ *the hammer break the vase.'

- ♦ Modelling two Agents by a compositional analysis poses some challenges…

- ♦ Representing that the **assister is the Agent** of (the subevents of) the predicate (Kratzer 1996, inter alia)

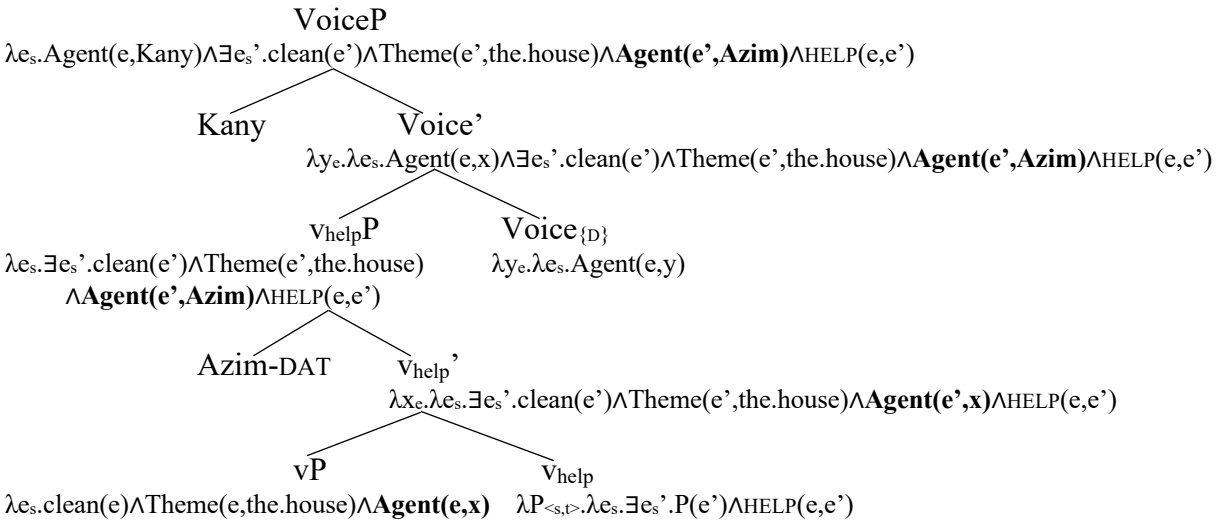
(17) Kanɯ Azim-ge yj-dy tazala-ʃ-tɯ
Kany Azim-DAT house-ACC clean-ASST-3PST
'Kany helped Azim clean the house.'

(18)



- Representing that the **assistee is the Agent** of (the subevents of) the predicate
  - Only one VoiceP, the assistee can't be introduced by Voice
  - Suppose that the assistee is introduced in the specifier of a little-vP projection, v with the flavor of help, v_{help} in (19), à la vP with Cause flavor (Folli & Harley 2005, Harley 2013) [will be discarded]
  - Suppose that the assistee manages to get Agent-role in this position via an operation similar to vP-Coercion (Myler & Mali 2021: 27), which allows to add $\lambda x_e.\lambda e_s$[Agent(e,x)] to the denotation of the base vP at LF (shown in bold in (19))

(19)



→ Problem: Now the assistee is the Agent of the base event, the assister is the Agent of the helping event but not the base event
→ "Joint action" can't be modelled this way

- Note: Assistives are *not* bi-eventive (→ there is just one vP in the structure, the base event's vP)
- *Again* (von Stechow 1996, Fabricius-Hansen 2001, Beck 2005, inter alia) and manner adverbs (Horvath & Siloni 2011) are event modifiers, they show ambiguity if there are two events (vPs) in the structure

- ♦ No ambiguity with *again* or *quickly* in assistives

4. Assistives as Pluractionals

4.1 Event plurality

(20) Kanɯ Azim-ge t͡ʃurka-ʃ-tɯ.
Kany Azim-DAT run-ASST-3SG.PST
'Kany helped Azim run.'

(a) # Birok Azim t͡ʃurka-gan d͡ʒok.
but Azim run-PF NEG.3SG
'But Azim didn't run.'

(b) # Birok Kanɯ t͡ʃurka-gan d͡ʒok.
but Kany run-PF NEG.3SG
'But Kany didn't run.'

→ **Plurality of events**: 1. Kany ran. 2. Azim ran.

- ♦ The assistive-pluractional **does not directly denote the plurality of events** (i.e., it's not phrasal cumulativity (Kratzer 2013))
- ♦ If this was the case, we would predict that the assistive could be used in contexts (21ab)

(21a) Kany ran next to Azim, cheering for him.
(21b) Kany taught Azim how to run by showing him how to run. (They ran side by side.)

Kanɯ Azim-ge t͡ʃurka-ʃ-tɯ.
Kany Azim-DAT run-ASST-3SG.PST
'Kany helped Azim run.'

- ♦ The assistive does not simply denote event plurality
(20) ⇏ 'Kany and Azim ran.'

- ♦ Rather, the event plurality denoted by the assistive is defined some other way

- ♦ **Preview of the proposal**: the pluractional breaks the (internal) argument and the event argument in subparts, and then manipulates the thematic role function in such a way that it maps each unique event part to a unique argument part

(22) Azim had to run 10 kms. There was an option that someone else could run some of the distance for him. Kany ran 3 kms in his stead.

Kanɯ Azim-ge t͡ʃurka-ʃ-tɯ.
Kany Azim-DAT run-ASST-3SG.PST
'Kany helped Azim run.'

4.2 Pluractionals

- Predicates marked with a pluractional can only be used truthfully in plural-event contexts (Cusic 1981, Xrakovskij 1997, Lasersohn 1995, Garrett 2001, Wood 2007, Henderson 2012)
- Linguistic work on pluractionals has been greatly influenced by the notion that there are systematic parallelisms between the nominal and the verbal denotations

- There are different types of pluractionals:
  - Frequentative in (23)
  - Repetitive in (24)
  - Distributive pluractional in (25)

(23) X-i-tzuy-**ulöj**. (KAQCHIKEL, Henderson 2012: 2)
com-A1s-sit-**löj**
'I sat many times.'

(24) X-in-Ø-tzuy-**utzu'**. (KAQCHIKEL, Henderson 2012: 2)
com-E1s-A3s-sit-**Ca'**
'I made the motion of sitting there repeatedly.'

(25) X-in-Ø-tzuy-**ula'**. (KAQCHIKEL, Henderson 2012: 2)
com-E1s-A3s-sit-**la'**
'I sat in various places.'

- The main insight of Henderson (2012): Pluractionals do not directly require the event argument to be plural, rather they create a restriction on the spatiotemporal trace or θ-role function of the event that can only be satisfied by non-singular events
- E.g., *-la'* in (25) manipulates the predicate's theta-role function: it decomposes the event into atomic event parts, and requires these plural atomic events to be mapped to atomic individuals by the relevant theta-role function
- The analysis of Kyrgyz pluractionals is going to build on Henderson's analysis of Kaqchikel *-la'* pluractionals

4.3 Assistives as pluractionals

- Let's take (26) as our model example

(26) Kanɯ Azim-ge yj-dy tazala-ʃ-tɯ
Kany Azim-DAT house-ACC clean-ASST-3PST
'Kany helped Azim clean the house.'

- The divides the *cleaning* event into *cleaning* subevents, and the internal argument, *house*, to proper parts
- Then it manipulates the thematic role function in such a way that it maps each unique event part to a unique argument part
- These subevents are grouped in two sets of events
- The assister, *Kany*, and the assistee, *Azim*, are Agents of event set-1 and event set-2, respectively

(27) Denotation of the assistive (1st version)
$\lambda V_{<s,t>}\lambda e_s,e_s'\exists e_s'',x_e,x_e',x_e''$ [e,e'$<_E$e''(V(e'')) ∧ x,x'$<_P$x'' ∧ θ(e'',x'') ∧ θ(e,x) ∧ θ(e',x')]

Prediction1: the assistive is disallowed with verbs lacking an internal argument, as there is no argument to divide into subparts and then to map them to event parts
→ This prediction is borne out

- Activities such as *run*, *swim*, *drive* etc., are only compatible with the assistive if they take a path argument (10 kms in (28))

(28) Azim had to run 10 kms. There was an option that someone else could run some of the distance for him. Kany ran 3 kms in his stead.

Kanɯ Azim-ge t͡ʃurka-ʃ-tɯ.
Kany Azim-DAT run-ASST-3SG.PST
'Kany helped Azim run.'

4.4 Incrementality

- Proposed analysis: Each unique event part is mapped to a unique argument part
- Defining the assistive in such a way presupposes another property of the base predicate: the thematic-relation defined in the base predicate has to be incremental (as in Krifka 1998) for the assistive to be able to manipulate it

- Incremental relation between an argument and event: *clean the house*
- Non-incremental relation between an argument and event: *push the cart* (Krifka 1998, Ramchand 2008, i.a.)

Prediction2: If the analysis is on the right track, the assistive is only available with predicates that have an incremental relation between the event and internal argument
→ This prediction is borne out

INCREMENTAL		NON-INCREMENTAL	
WITH A PATH ARGUMENT		*d͡ʒakʃu kær-yʃ- 'help like' *tyʃyn-yʃ- 'help understand'	*æl-yʃ- 'help die' *magazin-ge kir-iʃ- 'help enter the store'
syz-yʃ- 'help swim' *maʃina ajda-ʃ-* 'help drive' *korzina tyrt-yʃ-* 'help push the cart'	*yj-dy tazala-ʃ-* 'help clean the house' *darak-tu kes-iʃ-* 'help cut down the tree' *idiʃ-ter-di d͡ʒu:-ʃ-* 'help do the dishes'		

Table 1: Assistives and incrementality

- For additional evidence see §5.3 on morpheme syncretism

5. Introducing the assistee

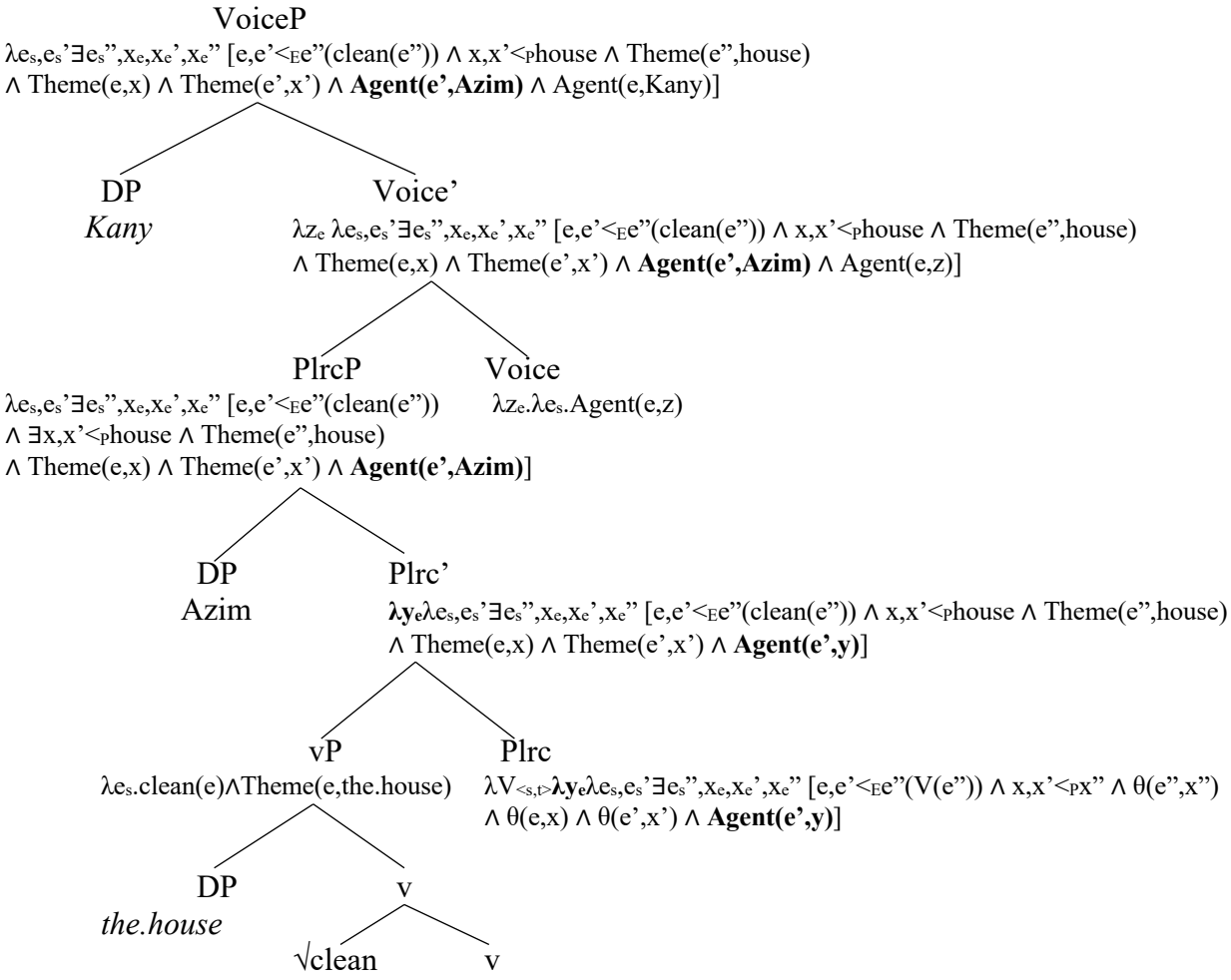
Desideratum: We want to explain:
- The assistee is Agent (of a subevent)
- The assistee is not introduced by Cause, Appl, or Voice (§2)

5.1 Analysis

- Proposal: The pluractional can assign Agent thematic-role

(29) Denotation of the assistive (almost final version)
$\lambda V_{<s,t>}\mathbf{\lambda y_e}\lambda e_s,e_s'\exists e_s'',x_e,x_e',x_e''$ [e,e'<$_E$e''(V(e'')) ∧ x,x'<$_P$x'' ∧ θ(e'',x'') ∧ θ(e,x) ∧ θ(e',x') ∧ **Agent(e',y)**]

(30)



5.2 A small addition

- The assistee has to do work than the assister

(31) Azim cleaned more than half of the house, Kany cleaned the rest. (Azim > Kany)
Kanɯ Azim-ge yj-dy tazala-ʃ-tɯ
Kany Azim-DAT house-ACC clean-ASST-3PST
'Kany helped Azim clean the house.'

(32) Azim cleaned half of the house, Kany cleaned the other half. (Azim = Kany)
?? Kanɯ Azim-ge yj-dy tazala-ʃ-tɯ
Kany Azim-DAT house-ACC clean-ASST-3PST
'Kany helped Azim clean the house.'

(33) Azim cleaned less than half of the house, Kany cleaned the rest. (Azim < Kany)
?? Kanɯ Azim-ge yj-dy tazala-ʃ-tɯ
Kany Azim-DAT house-ACC clean-ASST-3PST
'Kany helped Azim clean the house.'

(34) Denotation of the assistive (final version)
$\lambda V_{<s,t>}\lambda y_e\lambda e_s,e_s'\exists e_s'',x_e,x_e',x_e''$ [e,e'<$_E$e''(V(e'')) ∧ x,x'<$_P$x'' ∧ |**x'**| > |**x**| ∧ θ(e'',x'') ∧ θ(e,x) ∧ θ(e',x') ∧ Agent(e',y)]

5.3 Extending the analysis

- The Vocabulary Item *-(I)ʃ* is also used in a construction that is descriptively called "reciprocal"

(35) Kanɯ Azim menen œb-**yʃ**-ty.
Kany Azim INSTR kiss-**REC**-3SG.PST
'Kany and Azim kissed each other.'

- The instrumental-marked DP is an argument (bearing the Agent role) (for cross-linguistic discussion see Rákosi 2003, 2008, Siloni 2012)

- A modified version of the proposed analysis could work for these morphological reciprocals

- Explains the syncretism between reciprocal and (more canonical) pluractional morphology

Turkish:

"reciprocals"		(more canonical) pluractionals	
(36a)	öp-**üş**- kiss-**REC** 'kiss each other'	(37a)	koş-**uş**- run-**PLRC** 'run around, run together, rush about'
(36b)	döv-**üş**- fight-**REC** 'fight each other'	(37b)	uç-**uş**- fly-**PLRC** 'to fly together (in an unorganized way)'

6. Conclusions

- The assistive can be analyzed as a type of pluractional
- This pluractional breaks the (internal) argument and the event argument in subparts, and then manipulates the thematic role function in such a way that it maps each unique argument part to a unique event part
- This pluractional can add an Agent thematic role to the one of the sets of subevents, thus it can introduce the assistee

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Appendix

Appendix-1

(A1) What did you do yesterday?
(Men) **pro** yj-dy tazala-**ʃ**-tɯ-m.
(I) **pro** house-ACC clean-**ASST**-PST-1SG
Intended: 'I helped **someone** clean the house.'
Only available meaning: 'I helped **him/her/them** clean the house.'

(A2) A: - I helped my mother yesterday.
B: - What did you do? / How did you help her?
A:
pro$_i$ (Yj-dy) tazala-**ʃ**-tɯ-m. **pro**$_i$ Kœp iʃ-i bar eken.
pro$_i$ (house-ACC) clean-**ASST**-PST-1SG **pro**$_i$ many work-3POSS COP 3.SG.EVID
'I helped her (=my mother) clean (the house). She (=my mother) had a lot to do.'

(A3) [Siŋdim yj-dy tazala-ʃ-kan] (kiʃi) **apam** bol-gon.
[my.sister house-ACC clean-ASST-NF] (person) **my.mother** COP-3SG.PRF
'It was my mother to whom my sister helped clean the house.'

Appendix-2

(A4) (Men) apa-m-a pɨl'esos menen yj-dy tazala-ʃ-tɯ-m.
(I) mother-1SG.POSS-DAT vacuum with house-ACC clean-ASST-PST-1SG
Yes: 'I, with the vacuum cleaner, helped my mother clean the house.'
Not: *'I helped my mother clean the house with the vacuum cleaner (my mother used the vacuum cleaner).'

(A5) Men t͡ʃɯdamdu:luk menen apa-m-a (t͡ʃɯdamdu:luk menen) yj-dy tazala-ʃ-tɯ-m.
I patience with mother-1SG.POSS-DAT (patience with) house-ACC clean-ASST-PST-1SG
Yes: 'I patiently helped my mother clean the house.' (I was patient.)
Not: *'I helped my mother patiently clean the house.' (My mother was patient.)

Appendix-3

Low ◄——————► **High**			
vP	assistive		✓
Appl.LowP	assistive		?
CauseP	assistive		*
Voice$_{PASS}$P	assistive		*
	assistive	CauseP	?
	assistive	Appl.HighP	✓
	assistive	Voice$_{PASS}$P	✓

Table A1: Combination of the assistive and other verbal projections