On ‘Argument Inversion’, Timing and Early Linearization: Deriving Flexibility of Word Order and Prosodically-licensed Optionality

LCAD 2020: LINEARISING CONSTITUENTS ACROSS DOMAINS

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The gist of the talk

Object Shift in Ukrainian

- non-V2, non-Scandinavian language
-pronouns and DPs/NPs all behave alike wrt OS
-PPs freely undergo OS

Interaction between Object Shift and Quantification in Ukrainian reveals properties which pose interesting new challenges for theories of linearization.

OS in Ukrainian shows shape preservation effects familiar from Scandinavian while not obeying the restrictions that Scandinavian OS in known for

(i.e., *Holmberg's Generalization* effects; *inverse Holmberg's Generalization* effects).

I will argue that a slight modification of Fox and Pesetsky's (2005) *Cyclic Linearization* can derive all the observed data, including the problematic cases of unshifted specific objects (= prosodically encoded specificity).

The analysis derives the generally flexible nature of (discourse-driven) verb movement in Ukrainian.

Object Shift in Scandinavian

Refers to the movement of unstressed pronouns or full DPs (Icelandic only) to a position outside the verb phrase (above negation, adjacent to T)

- generally believed to constitute A-movement
- interacts with information structural properties of the sentence
- PPs don't undergo OS (=>relation to case)
- pronouns and DPs do not behave alike wrt OS across Scandinavian
- seemingly optional but obligatory in contexts where it can apply (Diesing 1996)

OS in Scandinavian languages is known to obey a number of restrictions, the most important one for our purposes being:

- an object can undergo OS only if higher VP-internal material, including the verb has moved out as well (known as *Holmberg's Generalization*)

Quantifier Movement in Norwegian obeys *the inverse Holmberg's Generalization* (inability of the VP-internal material, including the verb, to precede a QP that has undergone QM, see Svenonius 2000).

Object Shift in Ukrainian

Postverbal objects are ambiguous between the specific and the non-specific interpretations:

(1) a. Divčynka dviči kynula mjačyk.
girlNOM twice threw ballACC
'The girl threw a (possibly different) ball twice.'

(2) a. Petryk dviči dav divčynci knyhu.
PeterNOM twice gave girlDAT bookACC
'Peter gave a girl some book or other on two different occasions.'

Object Shift leads to the loss of the non-specific interpretation:

(1) b. Divčynka mjačyk **dviči** kynula. ***OS with transitives***
girlNOM ballACC twice threw
'The girl threw a certain ball twice.'

(2) b. Petryk divčynci **dviči** dav knyhu. ***OS with ditransitives***
PeterNOM girlDAT twice gave bookACC
'Peter gave a certain girl some book or other on two occasions.'

(see also Mykhaylyk 2010; 2011; 2012; Mykhaylyk, R., R. Rodina & M. Anderssen 2013; Antonyuk S. & R. Mykhaylyk 2013))

The empirical focus of today's talk

The interaction between Object Shift and QP Scope
in Ukrainian *Spray-Load* Alternations

what we observe:

two types of order preservation effects

- one well familiar from the literature on Scandinavian languages
  => (the primary focus of the talk)
- the second is related to the generalization about QP scope preservation in OS contexts (Antonyuk & Mykhaylyk, accepted) which constitutes a very curious type of shape preservation effects that is arguably not unrelated to the first type.

English *Spray-Load* Alternation

Semantic properties of the English *Spray-Load* alternation (Kearns 2011: p.218-219):

(3) a. Jones loaded [the hay] onto the truck — ***the holism effect with DO***
#...and put the left-over hay in the barn.
…and there was still room for the piano.

b. Jones loaded [the truck] with the hay — ***the holism effect with DO***
#...and there was still room for the piano.
…and put the left-over hay in the barn.

(4) a. Jones loaded the truck with hay ***entails*** Jones loaded hay onto the truck.
b. Jones loaded the hay onto the truck ***does not entail*** Jones loaded the truck with hay.

(5) a. Jones loaded some hay on every truck. — (∃>∀), (∀>∃)
ambiguous scope

b. Jones loaded some truck with every type of hay. — (∃>∀), *(∀>∃)
(surface) scope freezing

Ukrainian *Spray-Load* Alternation

(6) a. Myhajlo zalyv pal'ne v bak. ***Holism effect, does not entail (6b)***
Michael filled gas_{ACC} into $tank_{GEN}$
'Michael filled gas into the tank.'

b. Myhajlo zalyv bak pal'nym. ***Holism effect, entails (6a)***
Michael filled $tank_{ACC}$ gas_{INSTR}
'Michael filled the tank with gas.'

Familiar scope ambiguity-scope freezing distribution pattern:

(7) a. Myhajlo zalyv [jakyjs' vyd pal'noho] [v kožen bak]. **(∃>∀), (∀>∃)**
Michael filled [[some type]$_{ACC}$ gas-$_{GEN}$] [$_{\mathbf{PP}}$ into [every tank]$_{GEN}$]
'Michael filled some type of gas into every tank.'

b. Myhajlo zalyv [jakyjs' bak] [kožnym vydom pal'noho]. (∃>∀), *(∀>∃)
Michael filled [some tank]$_{ACC}$ [[every type gas]$_{INSTR}$
'Michael filled some tank with every type of gas.'

Combining QP Scope and OS

OS of Direct Object QP in a scopally frozen sentence: scope unaffected (frozen)

(8) a. Myhajlo [jakyjs' bak] zalyv [kožnym vydom pal'noho]. **(∃>∀), *(∀>∃)**

Michael [some tank]ACC filled [[every type gas]INSTR

'Michael filled some specific tank with every type of gas.'

OS of both internal argument QPs in a scopally frozen sentence: scope unaffected (still frozen)

b. Myhajlo [jakyjs' bak] [kožnym vydom pal'noho] zalyv. **(∃>∀), *(∀>∃)**

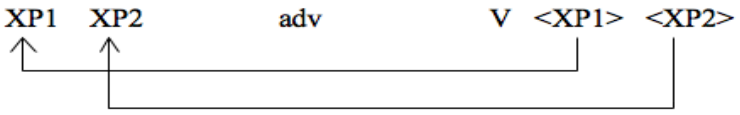
Michael [some tank]ACC [[every type gas]INSTR filled

'Michael filled some specific tank with every type of gas.'

Schematic representation:

(8a)

(8b)



Control: Object Scope wrt to Q adverbs

Shifted object(s) must take wide scope wrt to a quantificational adverb (here: dviči)

(9) a. Myhajlo [jakyjs' bak] **dviči** zalyv [kožnym vydom pal'noho].
Michael [some tank]$_{ACC}$ twice filled [every type gas]$_{INSTR}$
'Michael filled some specific tank on two occasions with every type of gas.'

(∃ > twice > ∀): There is a tank x such that Michael filled x on two occasions with every type of gas (that is, he mixed the different types of gas in x).

(∃ > ∀ > twice): There is a tank x such that for every type of gas y Michael filled x with y on two separate occasions (he didn't mix different types of gas).

b. Myhajlo [jakyjs' bak] [kožnym vydom pal'noho] **dviči** zalyv.
Michael [some tank]$_{ACC}$ [every type gas]$_{INSTR}$ twice filled
'Michael filled some specific tank with every type of gas twice.'

(∃ > ∀ > twice): There is a tank x, such that for every type of gas y, Michael filled x with y on two separate occasions (he didn't mix different types of gas).

***(∃>twice>∀):** no reading that asserts that Michael mixed the different types of gas.

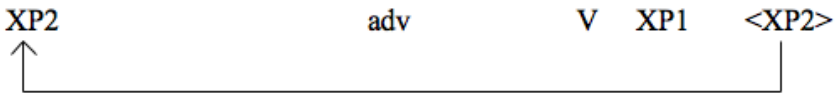
Unexpected: OS is possible in the inverted order

(10) a. Mykhailo [jakymos' vydom pal'noho] **dviči** zalyv [kožen bak]. **IO V DO**
Michael [some type gas]INSTR twice filled [every tank]ACC
= 'Michael filled every tank with some specific type of gas on two occasions'

b. Mykhailo [jakymos' vydom pal'noho] [kožen bak] **dviči** zalyv. **IO DO V**
Michael [some type gas]INSTR [every tank]ACC twice filled
= 'Michael filled each of the tanks with some specific type of gas on two occasions'

Schematic representation:

(10a)



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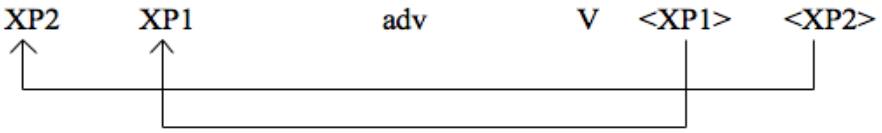


Argument Inversion

Antonyuk&Mykhaylyk (accepted) tie the possibility of OS occurring in this inverted order of arguments to the possibility of 'Argument Inversion' in the postverbal field:

(11) a.	Mykhailo	zalyv	[jakymos' vydom pal'noho]	[kožen bak].	**V IO DO**
	Michael	filled	[some type gas]INSTR	[every tank]ACC	
	Lit: 'Michael filled with some type of gas every tank.'				(∃>∀), (∀>∃)
b.	Mykhailo	zalyv	[jakyjs' bak]	[kožnym vydom pal'nogo].	**V DO IO**
	Michael	filled	[some tank]ACC	[every type of gas]INSTR	
	Lit: 'Michael filled some tank with every type of gas.'				(∃>∀), *(∀>∃)

Argument Inversion

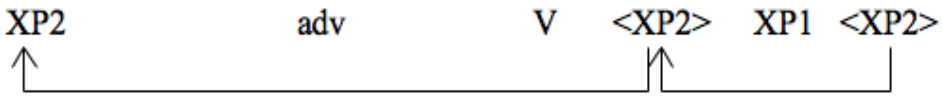
Availability of AI in the postverbal field allows for OS to proceed in a Superiority-observing manner:

(12) a. Mykhailo [jakymos' vydom pal'noho] zalyv [kožen bak]. **IO V DO (← V IO DO)**
Michael [some type gas]INSTR filled [every tank]ACC
Lit: 'Michael with some type of gas filled every tank.' **(∃>∀)**, ?(∀>∃)

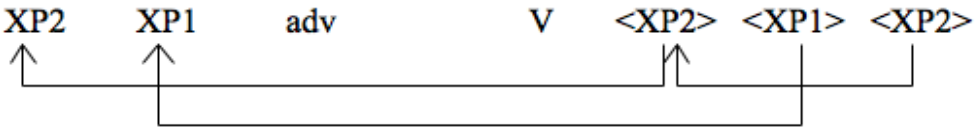
b. Mykhailo [jakyjs' bak] zalyv [kožnym vydom pal'nogo]. **DO V IO (← V DO IO)**
Michael [some tank]ACC filled [every type of gas]INSTR
'Michael filled some specific tank with every type of gas' (∃>∀), *(∀>∃)

Schematic representation:

(12a)



(12b)



The OS-QP Scope Generalization

The generalization (Antonyuk & Mykhaylyk, accepted):

(13) **OS always preserves the scope relations established in the post-verbal field (**scope frozen sentences remain frozen post- OS, and scopally ambiguous sentences remain scope ambiguous), meaning **OS itself neither disrupts established scope freezing relations nor leads to new instances of scope freezing.**

(14)

OBJECT SHIFT	POSTVERBAL FIELD
XP_{ACC} (ambiguous, surface scope bias)	LOCATIVE FRAME XP_{ACC} >> PP (ambiguous)
XP_{ACC} >>PP (ambiguous)	
XP_{ACC} (surface frozen)	'WITH' FRAME XP_{ACC} >> XP_{INSTR} (surface frozen)
XP_{ACC} >> XP_{INSTR} (surface frozen)	

Taking Stock

- **OS in Ukrainian disambiguates the structure** (ambiguous between the specific and the non-specific interpretation inside the VP) in favor of the specific/partitive interpretation

- Argument Inversion (AI) allows for two possible orders of internal arguments inside the VP

- OS preserves the structural relations that exist in the postverbal field (=shape/order preservation effects)
  - the two orders of arguments in the postverbal field can each serve as input to Object Shift

- OS in Ukrainian preserves the scope relations available/established postverbally (=another type of shape preservation effect that's also due to AI)

- Ukrainian OS does not obey *Holmberg's Generalization*.

Getting started…

Antonyuk & Mykhaylyk (accepted) adopt a slightly modified version of Fox & Pesetsky's (2005) Cyclic Linearization framework.

In this talk I argue that an additional modification of Fox & Pesetsky (2005) allows us to expand the empirical coverage in terms of the linearization of word order possibilities that go beyond OS and derive the overall flexibility of word order in Ukrainian.

Cyclic Linearization: Fox & Pesetsky (2005)

F&P (2005) propose a framework for linearization in which syntactic material is linearized immediately upon Spell Out of each Spell-Out Domain.

The relative order of VP-internal material established by Spell-Out of the initial Spell Out Domain (D1) must be maintained or achieved by Spell Out of subsequent Domains (D2, D3…).

Movement through the edge of each Spell-Out Domain is the only way for Domain-internal material to undergo movement without creating a Linearization conflict.

OS in Scandinavian is proposed to be the kind of movement that cannot pass through the edge, => an object can move out of the VP (= D1 in Scandinavian) only if the verb has moved out as well, maintaining the V > O Linearization throughout the derivation.

Holmberg's Generalization effects are thus argued to be due to the object(s) being linearized after the verb at the Spell Out of D1 (VP) due to their inability to move through the edge, and this order then has to be maintained throughout the derivation.

Cyclic Linearization: the Ukrainian OS Data

Similarities wrt to Scandinavian OS allow for a somewhat similar treatment of Ukrainian OS within Cyclic Linearization:

- Subject not linearized wrt the verb;
- Object(s) not linearized wrt to Subject

  => same Spell-Out Domains as in Scandinavian (VP & CP, but crucially not vP)

Differences:

- no *Holmberg's Generalization* effects (the object is free to move across the verb or another object)

  => OS in Ukrainian must be able to move through the edge of Spell-Out Domains (unlike OS in Scandinavian Ls).

While this is the core of what's needed to account for the key similarities and differences between Ukrainian and Scandinavian OS, by itself these ingredients are insufficient to rule out some unattested cases and will in fact produce some incorrect results in cases of prosodic repair of sentences with unshifted specific objects.

Roadmap for the rest of the talk

- Argument Inversion – what is it?
- Evidence that VP must be the initial Spell-Out Domain;
- More data to rule out/account for:
    - Lack of the *inverse Holmberg's Generalization* effects;
    - Optionality of Ukrainian OS: the problem of unshifted objects for linearization;

Conclusions:

a successful linearization account of Ukrainian OS must derive the shape preservation effects exhibited by the objects when they shift, the freedom of verb movement wrt to the shifted objects, as well as wrt the unshifted objects in cases of prosodic recontouring.

Proposal (a preview):

the only way to derive all of the above is to introduce ***timing*** of verb movement into the linearization calculation: the absolute freedom of the verb (lack of any *inverse Holmberg's Generalization* effects) can be derived if the verb is not included into the linearization statement due to having undergone head raising prior to Spell Out of D1.

Argument Inversion

Overall agreement (including recent literature on Russian) that VP-internal argument permutation (AI) is A-movement:

AI leads to new Binding Relations (fashioned after examples in Asarina (2005))

(15) a.	Dol'a	podaruvala	nas$_{\mathbf{i}}$	[odyn odnomu]$_{\mathbf{i}}$
	Destiny$_{\text{NOM}}$	gifted	us$_{\text{ACC}}$	one another$_{\text{DAT}}$
	'Destiny gifted us to each other'			
b.	?Dol'a	podaruvala	nam$_{\mathbf{i}}$	[odyn odnoho]$_{\mathbf{i}}$
	Destiny$_{\text{NOM}}$	gifted	us$_{\text{DAT}}$	one another$_{\text{ACC}}$
	'Destiny gifted us with each other'			

Bailyn (2012) takes Russian counterpart examples to constitute evidence of ACC >> DAT base-generated order; with the opposite order (15b) derived via A-movement.

Dyakonova (2009) argued for the opposite conclusion. Both agree, however, on the A-nature of the movement implicated in deriving the alternative order.

Argument Inversion

The scope freezing diagnostic (Antonyuk 2015; see esp. Antonyuk 2020) unambiguously points to ACC>>DAT as the base-generated order:

(16) a. Dol'a podaruvala jakus' nejnovirnu podorož kožnij divčyni
Destiny$_{NOM}$ gifted some incredible travel$_{ACC}$ every girl$_{DAT}$
'Destiny gifted some incredible travel to every girl' **(∃>∀), (∀>∃)**

b. Dol'a podaruvala jakijs' divčyni kožnu nejmovirnu podorož
Destiny$_{NOM}$ gifted some girl$_{DAT}$ every incredible travel$_{ACC}$
'Destiny gifted some girl with every incredible adventure' **(∃>∀), *(∀>∃)**

AI: new Information Structural Partitioning

(17) a.	Marijka	podaruvala	knyhu	divčyntsi	base:	V DP_{ACC} DP_{DAT}
	MaryNOM	present-PST.FEM	bookACC	girlDAT		
	'Mary presented the book to a little girl'					
b.	Marijka	podaruvala	divčyntsi	knyhu.		
	MaryNOM	present-PST.FEM	girlDAT	bookACC		
	'Mary presented the girl with a book'					

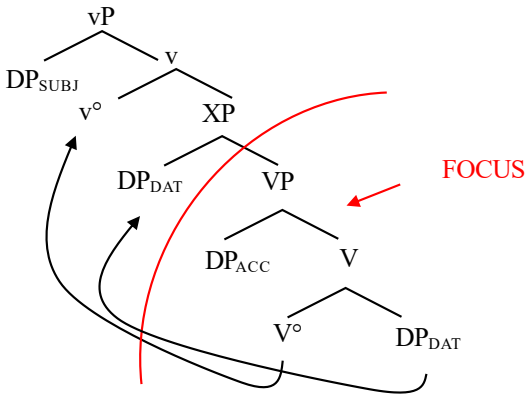
(18) a.	Marijka	zasadyla	ljubystkom	pole.	base:	V DP_{INSTR} DP_{ACC}
	MaryNOM	planted	lovage-INSTR	fieldACC		
	'Mary planted lovage in the field'					
b.	Marijka	zasadyla	pole	ljubystkom.		
	MaryNOM	planted	fieldACC	lovage-INSTR		
	'Mary planted the field with lovage'					

(19) a.	Marijka	zaprosyla	koleh	na večirku	base:	V NP_{ACC} PP
	MaryNOM	invited	colleaguesACC.PL	on partyPREP		
	'Mary invited her colleagues to a party'					
b.	Marijka	zaprosyla	na večirku	koleh.		
	MaryNOM	invited	on partyPREP	colleaguesACC.PL		
	'Mary invited colleagues to the party'					

AI: new Information Structural Partitioning

The result of AI in (17b):

(20)



17b. Marijka podaruvala divčyntsi knyhu.
MaryNOM present-PST.FEM girlDAT bookACC
'Mary presented the girl with a book'

VP as the (initial) Spell Out Domain

Anagnostopoulou (2005) uses data from QFloat in Scandinavian to argue that VP (rather than vP) must indeed be the relevant Spell-Out Domain.

Ukrainian OS similarly targets a position above the Quantifier, floated by the Subject:

(21)	Divčata	knyhu	**(vsi)**	dviči	**(vsi)**	pročytaly.
	Girls-NOM	book-ACC	all	twice	all	read-PAST.PL
	'All the girls have read the/this book'					

Ukrainian also routinely employs OVS order, which in Fox & Pesetsky's terms again means that vP cannot be the relevant Domain of Spell Out:

	O		V	IO	S
(22) a.	Tsju knyhu	bahato rokiv tomu	podaruvala	meni	moja babusja.
	This book-ACC	many years ago	present-PST.FEM	meDAT	my grandmother-NOM
	'This book was gifted to me many years ago by my grandmother'				
b.	Tsju knyhu	meni	bahato rokiv tomu	podaruvala	moja babusja.
	This book-ACC	meDAT	many years ago	present-PST.FEM	my grandmotherNOM
	'This book was gifted to me many years ago by my grandmother'				

Norwegian and Swedish Ditransitives

Anagnostopoulou (2005) discusses data from Swedish and Norwegian ditransitives that bear striking similarities to Ukrainian data. In these languages the DO is shown to undergo OS across the IO (taken to be generated higher). The proposal:

(23) a. $[_{\text{Domain B}}$ V $[_{\text{Domain A}}$ DO IO t_{DO}]]

b. $[_{\text{Domain B}}$ V DO $[_{\text{Domain A}}$ t_{DO} IO t_{DO}]]

Domain A = Small Clause (movement through the edge is allowed)

Domain B = VP (movement through the edge is not allowed, per F&P)

Back to Ukrainian: towards the account

The proposal (first pass): Ukrainian OS shares the same Spell Out Domains with Scandinavian Ls (thus (SC), VP, CP) but must always pass through the edge:

(24) a. $[_{\text{Domain B}}$ O2 V $[_{\text{Domain A}}$ t_{O2} O1 t_{O2}]] or

b. $[_{\text{Domain B}}$ O2 O1 V $[_{\text{Domain A}}$ t_{O2} t_{O1} t_{O2}]]

(24) derives the lack of *Holmberg's Generalization* effects with Ukrainian OS.

Problem: 'as is' this proposal incorrectly predicts *inverse Holmberg's Generalization* effects (see Svenonius 2000 on Norwegian Quantifier Movement), namely the verb being now obligatorily linearized after the object that has gone through the edge.

Ukrainian: towards the account

Ukrainian, however, shows no *inverse Holmberg's Generalization* effects: the verb appears to be unconstrained relative to the object(s).

The task then is to derive the freedom of OS wrt the verb *and* the freedom of the verb wrt the shifted or unshifted objects (more on the latter below).

Is deriving the freedom of verb movement needed though? The answer would presumably be a "no" in accounts which assume that the verb in (East) Slavic doesn't move out of the vP.

Assuming such accounts were correct and that this translated into scenarios where the verb is trivially linearized after the object(s) in OS contexts, there would still be cases that would present a problem for the account in (24).

Problematic cases to account for…

"Optionality" of OS: an object that must be interpreted as specific may be left *in situ* in Ukrainian.

In such cases the specific semantic interpretation will be signaled via obligatory prosodic recontouring (Antonyuk & Mykhaylyk 2013: the *in situ* object(s) will be destressed and the main pitch accent will be assigned to the verb).

Prosodic recontouring is obligatory in such cases: failing to signal the specificity semantics prosodically will result in ungrammaticality (=> what is optional is only *the means* by which the semantics is signaled, via syntax or via prosodic repair).

I argue that every instance of prosodically encoded specificity will lead to problems for linearization on an account such as (24).

Prosodic repair and linearization

Problems posed by ditransitives:

Context: *Mary spent all her free time this Spring at her grandmother's cottage, helping out and tending to the garden, which required a lot of attention. Mary doesn't mind, however, since she loves working in the garden and she wanted to make it a nice place to spend time in for her grandmother and herself. Now, she feels quite proud of the results of her efforts:*

(25)	Marijka	zasaDYla	(tsei) sad	KVItamy.
	MaryNOM	za-planted	this garden.ACC	flowers-INSTR
	'Mary planted the garden with flowers'			

The scope freezing diagnostics suggests the base order is INSTR>>ACC (Group 2 ditransitives in Antonyuk 2015; 2020 classification):

(26)	Marijka	za-sadyla	jakyjs' sad	kožnym vydom kvitiv
	MaryNOM	za-planted	some garden.ACC	[every kind flowers]INSTR
	'Mary planted some garden with every kind of flowers'			**(∃>∀), *(∀>∃)**

Prosodic repair and linearization

This suggests the following derivation for (25):

(27) a. $[_{VP}$ XP2 XP1 V t_{XP2}] where XP2=NP_{ACC} and XP1=NP_{INSTR}

b. $[_{CP}$ V $[_{VP}$ XP2 XP1 t_V t_{XP2}]]

(28) Linearization: VP: XP2 > V, XP1>V; XP2 > XP1,
CP: ***V > XP2**, ***V > XP1**, XP2>XP1

(25) (repeated):

Marijka	zasaDYla	(tsei) sad	KVItamy.
MaryNOM	za-plant-PST.FEM	this garden.ACC	flowers-INSTR

'Mary planted the garden with flowers'

Prosodic repair and linearization

Problems posed by ditransitives (cont'd):

On Anagnostopoulou's (2005) treatment in which the two objects form a Small Clause initial Spell-Out Domain to the exclusion of the verb, the above data are not problematic.

(29) a. $[_{VP}$ V $[_{SC}$ XP_2 XP1 t_{XP2}]]

b. $[_{CP}$ V $[_{VP}$ t_V $[_{SC}$ XP_2 XP1 t_{XP2}]]]

(30) Linearization: SC: XP2 > XP1.

VP: V > XP2, V > XP1.

CP: V > XP2, V > XP1.

It appears then that optional OS with Ukrainian ditransitives provides support for the Anagnostopoulou's (2005)-style analysis in terms of an initial SC Domain.

Prosodic repair and linearization

However, there is evidence this solution won't be sufficient.

Further Problems of linearization (prosodic repair of transitives):

DO at the edge of the VP Spell-Out Domain that must be interpreted as specific may stay *in situ* (specificity semantics is conveyed prosodically):

(31) Marijka pročy**TA**la (tu) knyhu.
Mary$_{NOM}$ read-$_{PST.FEM}$ (that)$_{ACC.FEM}$ book$_{ACC.FEM}$
'Mary read the book'

(32) $[_{CP}$ V $[_{VP}$ DO t_V (t_{DO})]]

(33) Linearization statements: VP domain: DO > V; CP domain: *V > DO.

Prosodic repair and linearization: the solution

To recap, a successful linearization account of Ukrainian OS and its prosodically realized alternative must meet the following requirements:

- Object XPs must be linearized wrt to each other (the shape preservation data)
- Object XPs must be free wrt to the verb (no *Holmberg's Generalization* effects)
- Verb must be free with respect to the Objects (no *inverse Holmberg's Generalization* effects - prosodic recontouring data)

An analysis in the spirit of Anagnostopoulou (2005) which posits the existence of a Small Clause Spell-Out Domain that excludes the verb can account for most of the data but still faces problems with cases of prosodic repair in simple transitives.

(34) My proposal (final version):

- obligatory movement through the edge of Spell-Out Domains, and
- ***timing*** of verb movement (the verb must undergo head raising prior to the Spell-Out and linearization of the VP domain, which will ensure that the verb is not linearized wrt to the Object XPs).

The Problematic Cases Again

(25) Marijka zasaDYla (tsei) sad KVItamy.
Mary$_{NOM}$ za-planted this garden.$_{ACC}$ flowers-$_{INSTR}$
'Mary planted the garden with flowers'

(35) a. $[_{VP}$ XP2 XP1 <V> t_{XP2}] where XP2=XP$_{ACC}$ and XP1=XP$_{INSTR}$
b. $[_{CP}$ V $[_{VP}$ XP2 XP1 <t_V> t_{XP2}]]

(36) Linearization: VP: XP2 > XP1;
CP: V> XP2, V>XP1, XP2>XP1

This proposal in effect derives a highly flexible system as far as syntactic movement of VP-internal material is concerned while still deriving the shape preservation effects observed with OS, the correct result.

Consequences of the proposal

The proposal correctly derives the extremely flexible nature of verb movement in Ukrainian (which is arguably fully divorced from movement to Tense and is governed by the verb's status wrt discourse-givenness, see Antonyuk (in preparation)).

Ščo Marijka robyt' zranku? What does Mary do in the morning?

(37) Marijka **švydko** gotuje #(švydko) jaješnju, pje kavu i bižyt' na robotu. **SAdvVO**

Mary$_{NOM}$ quickly cooks (quickly) scrambled eggs$_{ACC}$ drinks coffee and runs on work

'Mary quickly cooks scrambled eggs, drinks coffee and hurries off to work'

Ščo #(može) Marijka (može) prygotuvaty švydko?What can Mary cook quickly?

(38) Marijka ##(švydko) gotuje **švydko** lyše jaješnju. **SVAdvO**

Mary$_{NOM}$ quickly cooks quickly only scrambled eggs$_{ACC}$

'Mary cooks only scrambled eggs quickly'

Ščo trapylosja zranku? What happened this morning?

(39) Marijka **švydko** prygotuvala #(švydko) jaješnju (i pišla get'). **SAdvVO**

Mary$_{NOM}$ quickly cooked (quickly) scrambled eggs$_{ACC}$ (and left)

Consequences of the proposal

Ščo trapylosja zranku? What happened this morning?

(40)	###/*Jaješnju	švydko prygotuvala	Marijka.	**OAdvVS**
	Scrambled $eggs_{ACC}$	quickly cooked	$Mary_{NOM}$	

Xto prygotuvav jaješnju sjogodni zranku? Who made scrambled eggs this morning?

(41)	Jaješnju	prygotuvala	Marijka.	**OVS**
	Scrambled $eggs_{ACC}$	cooked	$Mary_{NOM}$	
(42)	###/*Marijka prygotuvala jaješnju.			**SVO**

Ščo vidomo pro tsju kvitku? What is known about this flower?

(43)	Tsju kvitku	dobre znaly	##(dobre)	drevni greky.	**OAdvVS**
	This $flower_{ACC}$	well knew	well	ancient Greeks	
	'This flower was well known to an. Greeks'				
(44)	###/*Drevni greky dobre znaly tsju kvitku				**SAdvVO**

Xto znaje ščos' pro tsju kvitku? Who knows anything about this flower?

(45)	Tsji kvitku ##(dobre)	znaly dobre	lyše drevni greky	**OVAdvS**
	This $flower_{ACC}$ (well)	knew well	only ancient Greeks	

THANK YOU!

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Appendix: The OS-QP Scope Generalization Data

The generalization (Antonyuk & Mykhaylyk, accepted):

(1) **OS always preserves the scope relations established in the post-verbal field (**scope frozen sentences remain frozen post- OS, and scopally ambiguous sentences remain scope ambiguous), meaning

OS itself neither disrupts established scope freezing relations nor leads to new instances of scope freezing.

The generalization holds for the locative frame as well:

(2) Myhajlo zalyv [jakyjs' vyd pal'noho] [v kožen bak]. **V DO PP**
Michael filled [some type]ACC gas-GEN [**PP** into [every tank]ACC]
'Michael filled some type of gas into every tank.' (∃>∀), (∀>∃)

(3) a. Myhajlo [jakyjs' vyd pal'noho] zalyv [v kožen bak]. **D O V PP ←**
Michael [some type]ACC gas-GEN poured [**PP** into [every tank]GEN]
'Michael some type of gas poured in every tank.' **(∃>∀)**, (∀>∃)

b. Myhajlo [jakyjs' vyd pal'noho] [v kožen bak] zalyv. **DO PP V ←**
Michael [some type]ACC gas-GEN [**PP** into [every tank]ACC] poured
'Michael some type of gas in every tank poured.' (∃>∀), (∀>∃)

AI and the OS-QP Scope Generalization Data

The locative frame allows Argument Inversion in the postverbal field as well:

(4) Myhajlo zalyv [v jakyjs' bak] [kožen vyd pal'noho]. **V DO PP**
Michael filled [in some tank] [every type gas]
Lit: 'Michael filled into some tank (or other) every type of gas' (∃>∀), ?(∀>∃)

This order then allows for OS to apply to the two internal arguments while preserving this inverted order of arguments:

(5) a. Myhajlo [v jakyjs' bak] zalyv [kožen vyd pal'noho]. **DO V PP**
Michael [in some tank] filled [every type gas]
Lit: 'Michael filled into some specific tank every type of gas' **(∃>∀)**, ?(∀>∃)

b. Myhajlo [v jakyjs' bak] [kožen vyd pal'noho] zalyv. **DO PP V**
Michael [in some tank] [every type gas] filled
Lit: 'Michael filled into some specific tank every type of gas' **(∃>∀)**, ?(∀>∃)