

ON THE CORRELATION BETWEEN A-TYPE SCRAMBLING AND LACK  
OF WEAK CROSSOVER EFFECTS

JACEK WITKOŚ

*Adam Mickiewicz University, Poznań*

ABSTRACT

This paper explores certain properties of word orders in Polish clauses with monotransitive verbs where the object is moved to the clause initial position across the subject. We briefly present two current accounts of such word orders in Russian (Baylin 2003 and Slioussar 2005, 2006) and conclude that both seem to capture certain properties of inverted constructions, though the genuine picture, at least for Polish, is still more complex. Most importantly, while OVS constructions unambiguously show that the movement of the object forms an A-type chain, OSV constructions are less straightforward, as the chain formed by the object can show both A-type and A-bar type properties. We propose a derivational account of this ambiguity and subsequently attempt to find a positive correlation between A-type properties of the fronting of the object and lack, or at least a strong suppression, of WCO effects in Polish.

1. Movement to the edge of IP as Generalised Inversion and Dislocation

In “scrambling” languages, including Polish, Russian and Japanese, the object need not stop at the left edge of the verbal projection but it can continue its movement further to the left edge of the clause. To see the mechanics of such movement, let us focus on the hypothesis of Generalised Inversion (GI) and Dislocation proposed for Russian in Baylin (2003) and adopted for Polish in Witkoś (2007). In the following sections we present additional empirical evidence that helps to evaluate this hypothesis and show the link between A-type scrambling and lack of WCO effects in Polish.

Baylin (2003) assumes that in the case of the linearizations where the object precedes the verb and the subject, it has been moved overtly to a specifier position in the IP area of the clause. We mostly agree with this conclusion and propose that this movement is driven by the [+EPP] feature of a functional head in

the IP area of the clausal structure. We take the following narrowly syntactic properties to characterise features of a “scrambling” language:

- 1) a. appearance of the [+EPP] features on assorted functional heads, *v*, Asp, T, Agr;
- b. appearance of a “generalized” EPP feature on Agr;
- c. amelioration of the “freezing” constraint of Chomsky (1998, 1999, 2001), whereby a nominal element with all its features checked can still participate in the checking of other attractors/probes;<sup>1</sup>
- d. the nominal element that is the first to reach the position of [spec, Agr] counts as occupying an A-position.

These properties allow for appropriate characterisation of scrambling in Polish. The assumption in (1a) credits the [+EPP] feature as the actual movement trigger. The property (1b), proposed for Russian in Babyonyshev (1996) and Baylin (2003) allows for the movement of PPs and AdvPs into [spec, Agr] in Slavic languages. Property (1d), assumed after Ura (2000) is meant to capture A-type position features of fronted objects, such as the extension of their binding domains.<sup>2</sup>

For regular SVO order, Baylin proposes that the subject is raised to [spec, Agr], the verb remains in *v* and the object occupies its base position:

- 2) [<sub>AgrsP</sub> NP<sub>s</sub> Agr [<sub>TP</sub> T [<sub>vP</sub> {NP<sub>s</sub>} v-V [<sub>VP...tV</sub> NP<sub>o</sub> ]]]]

In inverted constructions of the OVS type, he argues for overt placement of the subject in [spec, *v*], the raising of the verb to Agr and overt object movement to a higher specifier position ([spec, Agr]),

<sup>1</sup> Baylin’s analysis and ours include a step that contravenes the regularity, frequently formulated in Chomsky (1995, 1998, 1999), that a non-interrogative DP is “frozen in place” in its case position. In A-scrambling languages the object seems to be allowed to move further from its Case position and extend its A-chain. Chomsky’s probe/goal system explicitly prohibits a repeated participation of a nominal in operation Agree, once its case feature has been valued, the so called Inactivation Condition (Chomsky 1999: 4). Yet, a probe with an [+EPP] feature can freely access a nominal with valued case features, e.g. quirky subjects in Icelandic.

<sup>2</sup> In his discussion of Grammatical Function splitting, Ura (2000: 24) presents the following scenario of an object binding into the subject: “Now suppose that A enters into a  $\phi$ -checking relation with Infl and B enters into a EPP-checking relation with Infl. Then we expect that some GF-splitting occurs in this case if we assume, according to our hypothesis concerning GFs, that the ability to control a missing subject in a subordinate-adjunct clause results from a  $\phi$ -feature checking relation with Infl, and the ability to bind a (purely) subject-oriented reflexive results from an EPP-feature checking relation with Infl. That is to say, we expect that A, but not B has the ability to control, and that B, but not A, has the ability to bind a subject-oriented reflexive.”

3) [<sub>AgrsP</sub> NP<sub>o</sub> [v-V+T+Agr] [<sub>TP</sub> t<sub>T</sub> [<sub>VP</sub> NP<sub>s</sub> t<sub>v-V</sub> [<sub>VP</sub> t<sub>v</sub> {NP<sub>o</sub>} ..]]]]

Following Alexiadou and Agnostopoulou (1998), he assumes that Russian can have the EPP property of Agr, taken to require the presence of a (pro)nominal element in the minimal domain of Agr, satisfied in two alternative ways: either the subject is raised to [spec, Agr] or any other constituent is raised to [spec, Agr] (the so-called generalised EPP property), while strong pronominal features of the verb are raised to Agr. The movement of the object to the position of [spec, Agr] to satisfy its [+EPP] feature counts as an A-type movement and is similar to Inverse Constructions in other languages (like Icelandic) or Quotative Inversion in English (Collins 1997). As evidence for such a character of this movement operation, Baylin takes inverse binding, lack of Reconstruction and Principle C effects. Let us now illustrate these properties with Russian and Polish examples.

Inverse binding appears when an anaphoric element embedded in the Nominative is bound from a c-commanding A-position.

- 4) a. ??*Svoj dom byl u Petrovych*  
 NOM-self's house was at the Petrovs  
 'The Petrovs had their own house.'  
 b. *U Petrovych byl svoj dom*  
 at the Petrovs was NOM-self's house  
 'The Petrovs had their own house.'

The possessive anaphor cannot be bound in example (4a) but in example (4b) the fronted object can bind the possessive embedded in the Nominative DP.

Second, consider lack of Reconstruction and Condition C effects, first in Russian and next in Polish.<sup>3</sup>

- 5) a. *Znakomye Ivana<sub>1</sub> nravjatsja emu<sub>1</sub>*  
 NOM-friends of Ivan like DAT-him  
 'Friends of Ivan please him.'  
 b. \**Emu<sub>1</sub> nravjatsja znakomye Ivana<sub>1</sub>*  
 DAT-him like NOM-friends of Ivan  
 'Friends of Ivan please him.'
- 6) a. *Nowe książki o Janie<sub>1</sub> spodobaly się jemu<sub>1</sub> samemu*  
 NOM-new books about Jan liked self DAT-him himself  
 'New books about Jan pleased him himself.'

<sup>3</sup> The presence of the emphatic element *samemu*/(*him*)self facilitates the use of the strong version of the pronoun *jemu/him*. The more natural weak/clitic pronoun *mu/him* cannot be used in the clause-initial position.

- b. ??*Jemu<sub>1</sub> samemu spodobały się nowe książki o Janie<sub>1</sub>*  
 DAT-him himself liked self NOM-new books about Jan  
 ‘New books about Jan pleased him himself.’

Examples (5b), (6b) indicate that the process of object fronting does not undergo Reconstruction and the clause initial position of the object is of the A-type, as Principle C is violated only by A-type antecedents. In brief, Generalized Inversion involves A-type movement of the object (or another constituent) across the subject and overt verb positioning between the fronted constituent and the subject.

Baylin contrasts this construction with Dislocation, where the object moves around the subject but the verb does not intervene between them. The result of Dislocation is the OSV word order. This construction can be illustrated by the following Polish example:

- 7) [*Jemu<sub>1</sub> samemu*] [*nowe książki o Janie<sub>1</sub>*] *nawet się spodobały*  
 DAT-him himself NOM-new books about Jan even self liked  
 ‘New books about Jan even pleased him himself.’

Dislocation shows none of the properties typical of Generalized Inversion: the verb does not intervene between the fronted constituent and the Nominative subject, Principle C is not violated and the object reconstructs to a position c-commanded by the subject. Baylin takes Dislocation of the object to be a species of A'-movement caused by the information structure/topic-focus requirements of grammar.

Additionally, Baylin proposes a correlation between the OVS word order and bleeding of Weak Crossover (WCO) effects in Russian (see section seven for an expansion of this idea for Polish):

- 8) a. ??*ee<sub>1</sub> sobaka nravitsja kazhdoj devochke<sub>1</sub>*  
 NOM-her dog appeals DAT-every girl  
 ‘Her dog appeals to every girl.’  
 b. *kazhdoj devochke<sub>1</sub> nravitsja ee<sub>1</sub> sobaka*  
 DAT-every girl appeals NON-her dog

This expectation is only natural if GI involves A-movement, as NP-traces do not cause WCO effects.

Let us add at this point, that this type of scrambling shows properties of A'-movement in Polish, such as the licensing of parasitic gaps (Witkoś 1993; Bondaruk 1998). There seems to be a mild, yet detectable contrast between the parasitic gap in the dislocation-type scrambling and the Generalized Inversion-type scrambling. The former supports parasitic gaps more easily than the latter:

- 9) a. *Te ziemniaki Piotr najpierw obrał t [zanim ugotował pg]*  
 these potatoes Piotr first peeled before (he)cooked  
 ‘Piotr first peeled these potatoes before he cooked them.’  
 b. *??Te ziemniaki najpierw obrał Piotr t [zanim ugotował pg]*  
 these potatoes first peeled Piotr before (he)cooked
- 10) a. *?Te książki Jan wyrzucił t [nawet nie czytając pg]*  
 these books Jan threw out even not reading  
 ‘These books Jan threw out without reading (them).’  
 b. *??Te książki wyrzucił Jan t [nawet nie czytając pg]*  
 these books threw out Jan even not reading

Thus the two types of movement, frequently collapsed together under the name of scrambling show the following characteristics, GI in (11) and Dislocation in (12):

- 11) a. GI is A-movement;  
 b. GI affects binding domains (does not reconstruct);<sup>4</sup>  
 c. GI involves verb raising to Infl/Agr.
- 12) a. Dislocation is A'-movement;  
 b. Dislocation does not affect binding (reconstructs);  
 c. Dislocation involves no verb movement.

In what follows we limit our attention to clause-internal Generalized Inversion and Dislocation, rather than long-distance A-bar Dislocation.

## 2. A critical evaluation of GI and Dislocation

Baylin's theory of Russian scrambling and the neat division of object-first word orders into GI and Dislocation is questioned in Slioussar (2005, 2006). Slioussar points out a number of problems and inconsistencies that this division entails, of which we mention only a few.

First and foremost, she challenges certain judgments of the data and the sharp acceptability contrasts on which Baylin builds his theory. For instance, with reference to the inverse binding facts in (4) above, she indicates that the OSV word order, thus Dislocation, also facilitates binding into the Nominative subject:

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<sup>4</sup> As we show shortly, this condition on GI is too powerful to the extent to which there is reconstruction in A-chains. It will be shown that at least “shallow” reconstruction must be allowed in A-chains formed by GI.

- 13) *U Petrovych svoj dom byl*  
 at the Petrovs NOM-self's house was  
 'The Petrovs had their own house.'

This fact is problematic for the distinction between GI and Dislocation, as in the latter the object sits in an A-bar position.

Second, she observes that the correlation between the bleeding of the WCO effect and GI shown in example (8) is not as strong as expected, as Dislocation (OSV) applied to the same example can also bleed WCO:

- 14) *kazhdoj devochke<sub>1</sub> ee<sub>1</sub> sobaka nraivitsja*  
 DAT -every girl NOM-her dog appeals  
 'Her dog appeals to every girl.'

This is, again, unexpected, as A-bar movement should feed WCO effects.

Another problem concerns the relationship between information structure and GI; for Baylin only Dislocation is driven by the Topic/Focus partition. Yet, Slioussar points out that wide focus reading, as in an answer to the question: *What happened?* is unavailable with GI in (15b), while it is available with the regular SVO order in (15a):

- 15) a. *Ivan chitaet etu knigu*  
 NOM-Ivan reads ACC-this book  
 'Ivan is reading this book.'  
 b. *Etu knigu chitaet Ivan*  
 ACC-this book reads NOM-Ivan

One of the strongest objections raised by Slioussar (2006) against Baylin's proposals concerns the relationship between the type of object fronting operation and the movement of the verb. On the basis of corpus data she observes that in most cases either type of object fronting or the SVO order, the "low" adverb precedes the verb:

- 16) a. *Eto v'jushcheesja rastenie xorosho znali drevni rimljane*  
 ACC-this creeping plant well knew NOM-ancient Romans  
 'This creeping plant was well known to ancient Romans.'  
 b. *Zlodei xorosho znali povadki zivotnych*  
 NOM-malefactors well knew ACC-animals' habits  
 'The malefactors knew the animals' habits well.'

Now, under Baylin's hypothesis of GI, the movement of the object to [spec, Infl] is accompanied by the movement of the verb. The typical positioning of the "low" adverb in (16a) casts doubt on the raising of the verb in this case, as

the adverb should then appear on the right of the verb in most cases. Slioussar's original proposal of GI is inspired by the leftward movement scenario stemming from Kayne (1994) and Mueller (1996); the subject is always raised to [spec, T]; subsequently, the complement domain of T is raised to [spec, C] and the object is fronted from this higher position to a yet higher specifier position in the articulated left periphery. Thus the adverb – verb order is preserved, as the verb is never moved on its own.

We cannot discuss Slioussar's hypothesis in detail here for lack of space, let us only observe that in Polish the relative order between the "low" adverb and the verb seems free, so independent raising of the verb appears to be a viable option, at least in certain cases:

- 17) a. *Maria dobrze zna/zna dobrze Piotra*  
 NOM-Maria well knows/knows well ACC-Piotr  
 'Maria knows Piotr well.'  
 b. *Piotra dobrze zna/zna dobrze Maria*  
 ACC-Piotr well knows/knows well NOM-Maria

In further sections we attempt to show that both hypotheses, Baylin's and Slioussar's capture certain aspects of object fronting constructions in Polish and make an attempt at their reconciliation.

### 3. Further empirical evidence for GI from Inverse Binding in Polish

An empirical argument supporting the GI hypothesis comes from the following cases of inverse binding in Polish. The examples are constructed in such a way that the a-examples allow for only one interpretation of *sobie* 'each other', while the b-examples allow for two:<sup>5</sup>

- 18) a. [<sub>NP</sub> *nowe książki Kowalskich*<sub>1</sub> *o sobie*<sub>1/\*2</sub>] *spodobały się Nowakom*<sub>2</sub>  
 NOM-new books Kowalskis' about each other pleased DAT-Nowaks  
 'Kowalskis' new books about themselves/each other pleased the Nowaks.'

<sup>5</sup> In (18)-(20) the additional binding relation in the b-examples seems parasitic on the first one. Contrastive pairs of the non-binding SVO and the binding OVS word orders do not provide a crystal clear contrast, although they reflect strong preferences:

- i) ??W końcu [<sub>NP</sub> *stos pocztówek od siebie*<sub>1</sub> (*nawzajem*)] *zasypał chłopców*<sub>1</sub>  
 in end NOM-pile (of) postcards from each other buried ACC-boys  
 ii) ?W końcu *chłopców*<sub>1</sub> *zasypał* [<sub>NP</sub> *stos pocztówek od siebie*<sub>1</sub> (*nawzajem*)]  
 in end ACC-boys buried NOM-pile (of) postcards from each other  
 'In the end a pile of postcards from each other buried the boys.'

- b. *Nowakom<sub>2</sub> spodobały się* [<sub>NP</sub> *nowe książki Kowalskich<sub>1</sub> o sobie<sub>1/2</sub>*]  
 DAT-Nowaks liked NOM-new books Kowalskis' about each other  
 'The Nowaks liked Kowalskis' new books about themselves/each other.'
- 19) a. [<sub>NP</sub> *nowe książki Kowalskich<sub>1</sub> o sobie<sub>1/\*2</sub>*] *przeraziły Nowaków<sub>2</sub>*  
 NOM-new books Kowalskis' about each other frightened ACC-Nowaks  
 'New Kowalskis' books about themselves/each other frightened the Nowaks.'
- b. *Nowaków<sub>2</sub> przeraziły* [<sub>NP</sub> *nowe książki Kowalskich<sub>1</sub> o sobie<sub>1/2</sub>*]  
 ACC-Nowaks frightened NOM-new books Kowalskis' about each other  
 'New Kowalskis' books about themselves/each other frightened the Nowaks.'
- 20) a. [<sub>NP</sub> *stos książek Kowalskich<sub>1</sub> o sobie<sub>1/\*2</sub>*] *zasypał Nowaków<sub>2</sub>*  
 NOM-pile (of) books Kowalskis' about each other buried ACC-Nowaks  
 'A pile of Kowalskis' books about themselves/each other buried the Nowaks.'
- b. *?Nowaków<sub>2</sub> zasypał* [<sub>NP</sub> *stos książek Kowalskich<sub>1</sub> o sobie<sub>1/2</sub>*]  
 ACC-Nowaks buried NOM-pile (of) books Kowalskis' about each other  
 'A pile of Kowalskis' books about themselves/each other buried the Nowaks.'

In examples (18a), (19a) and (20a) the anaphoric pronoun can be bound only by the complex NP-internal binder (so the books could only concern the Kowalskis and be written by the the Kowalskis), whereas in examples (18b), (19b) and (20b), the anaphoric pronoun can be bound by both the NP-internal binder and the fronted object (so the books could be about either the Kowalskis or the Nowaks, as Polish anaphoric binding is insensitive to the Specified Subject Condition). This effect is especially strong in examples (18)-(19).

In all fairness it must be said that the effect of the extension of the binding domain of the object can be also observed in OSV orders corresponding to (18)-(20) above, though the relevant readings need to be slightly forced:

- 21) *?Nowakom<sub>2</sub>* [<sub>NP</sub> *nowe książki Kowalskich<sub>1</sub> o sobie<sub>1/2</sub>*] *spodobały się już dawno*  
 DAT-Nowaks NOM-new books Kowalskis' about each other liked long time ago  
 'The Nowaks got to like Kowalskis' new books about themselves/each other long time ago.'



This fact seems to corroborate Slioussar's doubts about the unequivocal split between A/A-bar properties of fronted objects in OVS and OSV.

#### 4. On the position of the subject in OVS structures

It appears that there is some doubt concerning the position of the subject in the OVS order. Baylin claims that in this construction the subject never leaves vP. However, we believe that this claim finds no support when certain A-binding facts are taken into consideration. An interesting problem appears when the postverbal subject in OVS binds into a high adjunct, a constituent it probably does not c-command from [spec, v]. On Baylin's theory the subject can bind only through feature raising or Agree from T; we propose that in OVS orders the subject is in fact in a higher position, in [spec, T], and binds into the adjunct from there. The gist of the problem is as follows: can covert movement/Agree establish new binding domains or is this option reserved for overt movement only. We believe the latter to be a preferable option and find three arguments in favour of this view.

First, on a more general note, binding through feature movement is questioned as a viable theoretical option. Following a heated debate in the literature (Chomsky 1995; Cardinaletti 1997; Lasnik 1999 a, b; Bošković 1997; Branigan 1999), it is generally assumed that subjects in [spec, Infl/T] show essentially three properties: full agreement with the verb, control into the adjunct and binding, while subjects in [spec, v], linked to the position of [spec, T] only through feature movement, show defective behaviour with respect to at least one of these properties.

Chomsky (1995: 272-76) proposed that LF feature raising could produce interesting consequences for anaphoric binding, as the set of formal features (FF) moving in LF to adjoin to relevant functional head positions contains case and [+φ] features and for all intents and purposes has properties of A-movement. As empirical support for this claim, he used examples of the following type:

- 22) a. *the DA [proved [the defendants<sub>1</sub> to be guilty] during each other<sub>1</sub>'s trails]*  
 b. *\*the DA [proved [that the defendants<sub>1</sub> were guilty] during each other<sub>1</sub>'s trails]*  
 c. *the DA [accused the defendants<sub>1</sub> during each other<sub>1</sub>'s trials]*  
 d. *there arrived (last night) three men<sub>1</sub> [without PRO<sub>1</sub> identifying themselves]*

He argued that the licit cases of binding and control in LF are a consequence of feature raising for case checking reasons. As soon as this motivation for feature movement is lost, as in (22b), binding from a higher position is not licensed.

This idea of feature binding runs against the fairly unexpected contrast between (23a) and (23b):

- 23) a. *\*there seem to each other [t to have been many linguists given good job offers]*  
 b. *Many linguists seem to each other to have been given good job offers*

In order to address this issue, Chomsky assumed that following LF cliticisation of the anaphor to T ( $\alpha$ ) and feature movement of the subject to T, they find themselves in a configuration of mutual c-command, insufficient for both binding and exclusion of Principle C effects:

- 24) [<sub>Infl</sub> Infl [<sub>FF</sub> (linguists)] [ $\alpha$ ]]

This configuration does not arise where the binder is in [spec,T], as in (23b).

However, Lasnik (1999a, b) and Lasnik and Hendricks (2003), question the account of feature binding by pointing out, that illicit binding in (24) below is unexpected in the light of the example (22a):

- 25) *\*The DA proved [there to have been two men at the scene] during each other's trials*

The raising of features of *two men* to the matrix v for Case checking (or Agree from v), should establish a licit binding configuration, assuming that *each other* does not move out of the adjunct island in LF. Lasnik proposes to account for this fact by assuming that object raising (and Object Shift in general) takes place in overt syntax in English, following Johnson (1991) and Koizumi (1995).<sup>6</sup>

We refer to the idea that A-binders occupy Case positions in their A-chains and that feature binding is impossible, as Lasnik's Generalisation:<sup>7</sup>

- 26) LF/feature movement of the antecedent XP does not extend its binding domain.

<sup>6</sup> Lasnik also considers more evidence pointing to LF as the locus of A-binding from (Uriagereka 1988):

- i) There arrived two knights on each other's horses  
 ii) I saw two men on each other's birthdays  
 iii) I [<sub>VP</sub> saw [<sub>AgroP</sub> two men t<sub>saw</sub> [<sub>VP</sub> t<sub>saw</sub> t<sub>two men</sub> ] [on each other's birthdays]]]]

He argues that these two constructions can be dealt with in Chomsky's and his analyses. In the latter, the object in (ii) moves overtly to a position c-commanding the adjunct, (iii), and in (i) the associate of *there* moves overtly to a corresponding position outside VP, where it has its Partitive Case licensed.

<sup>7</sup> This is a paraphrase of the conclusion reached in Lasnik (1999: 186-189).

Another general argument against A-type movement in LF, and a possible subsequent expansion of its binding domain is found in Den Dikken (1995) and Bošković (1997) among others:

- 27) a. *There may be someone in the room*  
 b. *Someone may be in the room*  
 c. *\*There seem to his lawyer to have been some defendant at the scene of the crime*  
 d. *Some defendant seems to his lawyer to have been at the scene of the crime*  
 e. *\*There seems to himself to be someone in the garden*  
 f. *Someone seems to himself to be in the garden*

For example, in (27a), *someone* scopes under the modal, in (27c) *some defendant* cannot c-command and bind the pronominal variable and in (27e) *someone* cannot bind the reflexive pronoun. These effects are unexpected if LF movement had status paramount to overt A-type movement.<sup>8</sup> Let us conclude the preceding discussion with a conclusion that the overt position of the binder determines its binding scope; in other terms LF movement does not alter the binding domain of the element affected by LF movement.

A further empirical argument, in keeping with the assumption only overt movement extends the binding domain of the antecedent, can be made from an extension applied to examples (18)-(20). The analysis conducted thus far leads us to expect that the subject occupies its canonical position in overt syntax in these constructions. The possessive anaphor in Polish is strongly Nominative subject-oriented (Kardela 1985; Willim 1989; Reinders-Machowska 1991; Przepiórkowski 1998). Now, consider cases where the fronted object in the GI construction binds into the subject which can still bind the possessive anaphor:

- 28) *Nowakom<sub>2</sub> spodobały się [NP książki Kowalskich<sub>1</sub> o sobie<sub>1/2</sub>]<sub>3</sub> z powodu ich<sub>3</sub>/swojej<sub>3</sub> brutalnej szczerości*  
 DAT-Nowaks liked NOM-books Kowalskis' about each other because of self's brutal honesty  
 'The Nowaks liked Kowalskis' books about themselves/each other because of their brutal honesty.'

<sup>8</sup> See Den Dikken (1995) and Bošković (1997) for further illustrations. Boeckx (2000), in his attempt at developing the ideas of Bošković and Takahashi (1998), defends the feature binding account using the notion of head binding (Richards 1993), where features of heads selecting arguments act as proxy bindees for them. However, it is difficult to see how inverse binding can be treated in this account, if the object is always selected below the subject.

- 29) *Nowaków<sub>2</sub> przeraziły [NP książki Kowalskich<sub>1</sub> o sobie<sub>1/2</sub>]<sub>3</sub> z powodu ich<sub>3</sub>/swojej<sub>3</sub> brutalnej szczerości*  
 ACC-Nowaks frightened NOM-books Kowalskis' about each other because of self's brutal honesty  
 'Kowalskis' books about themselves/each other frightened the Nowaks because of their brutal honesty.'

To the extent, to which the relevant reading of these examples can be accessed, they are acceptable with the coindexation indicated above (where the books are brutally honest). This shows that the object binds into the subject from the top position in its A-chain and the subject also binds into the adjunct from the top position in its A-chain.<sup>9</sup> The last three examples confirm the proposals in Ura (2000), concerning the possible spreading of the grammatical functions of the subject between two constituents, depending on which reaches the canonical overt subject position first. Typically, the element that reaches this position in overt syntax is a legitimate A-binder and the element that reaches this position in covert syntax is a legitimate controller. The Polish examples in (28)-(29) seem to indicate, that if the language has morphologically "split" Infl, the two available subject positions ([spec, Agr] and [spec, T]) can house legitimate binders. It can be argued that Infl in Polish is "split". Conveniently, Polish appears to show the hallmarks of a "split" IP which facilitates the extra A-type position in the Inf area (Thrainsson 1996, 2003; Tajsner 1998; Witkoś 1998):

- 30) a. *[[[zaspa ]<sub>V</sub> t] ]<sub>T</sub> am] Agr*  
 overslept – past – 1p.sg.fem  
 b. *[[[zaspa ]<sub>V</sub> t] ]<sub>T</sub> eś] Agr*  
 overslept – past – 2p.sg.masc  
 c. *[[[zaspa ]<sub>V</sub> t] ]<sub>T</sub> ø] Agr*  
 overslept – past – 3p.sg.masc  
 d. *[[by] ]<sub>T</sub> śmy] Agr ... [zaspali]<sub>V</sub>*  
 would – 1p.pl. oversleep – masc

<sup>9</sup> Examples (28)-(29) have yet another type of significance as well. Throughout, we have been assuming Lasnik's Generalisation, one of its consequences is that the Nominative subject in (28)-(29) must be placed in [spec, T] and c-command the adjunct. Since adverbial clauses of reason are regarded as "high" adjuncts, the constructions in (28)-(29) cannot be regarded as base derived Dative subject/Nominative object type of construction, as in Icelandic (from Holmberg – Hroarsdotir 2003: 999):

- i) Henni líkuðu hestar  
 DAT-her liked NOM-horses  
 'She liked horses.'  
 ii)  $[_{TP} NP_S T [_{VP} \{NP_S\} v [_{VP} V NP_{OB}]]]$   
 We thus propose that adverbs of reason are merged higher than [spec, v] but lower than [spec, T].

- e.  $[[by]_T \acute{s}cie]_{Agr} \dots [zaspaly]_V$   
would – 2p.pl. oversleep – fem
- f.  $[[by]_T \emptyset]_{Agr} \dots [zaspali]_V$   
would – 3p.pl. oversleep – masc

As we can see the person, number and agreement suffixes are not fused with the tense, (30a)-(30c), or conditional, (30d)-(30f) markers.<sup>10</sup>

As it happens, the postverbal Nominative subject in Polish in transitive constructions, and most unaccusative constructions, seems to be able to license all the three relations: agreement, control and anaphoric binding.<sup>11</sup> Thus it seems reasonable to assume that the postverbal Nominative subjects in the b-examples in (18)-(20) and (28)-(29) are in [spec, T], rather than in [spec, v] or some other “low” position. In certain constructions with default and defective agreement the subject can remain within VP at Spell-out, while in constructions with full agreement, the subject is in [spec, T] both in overt syntax and in LF.

In this context Polish provides a testing ground for our claim that LF movement does not alter the binding domain. There are constructions with unaccusative verbs and postverbal subjects which show either default or defective subject agreement and this property seems to positively correlate with defective binding and control by the (logical) subjects. For example the copula shows full agreement and binding in the affirmative form but default agreement and “sloppy” (pronominal and anaphoric) binding in the negative form:

- 31) a. *Tam w towarzystwie swoich<sub>1</sub> przyjaciół była Maria<sub>1</sub>*  
there in company (of) self’s friends 3SG.FEM.-was NOM-Maria  
‘There was Maria in the company of her friends.’
- b. *Tam w towarzystwie ??swoich<sub>1</sub>/jej<sub>1</sub> przyjaciół nie było Marii<sub>1</sub>*  
there in company (of) self’s friends not 3P.SG.NEUT.-was GEN-Maria

<sup>10</sup> Thrainsson (1996, 2003) proposes that articulated verbal morphology, where different affixes mark tense and agreement, can be taken as indication of “split” Infl. Due to language specific problems with the so-called “mobile inflection” (Embick 1995; Borsley – Rivero 1994; Tajsner 1998 and Witkoś 1998) past forms of verbs in Polish may not be a good example of distinct morphological marking for tense and agreement. Yet, the unincorporated pattern of the conditional shows that one functional head representing the conditional is concatenated with another functional head marking agreement for person and number.

<sup>11</sup> If one adopts the Probe/Goal system of Chomsky (1999, 1998/2000, 2001), Lasnik’s Generalization, as applied to the facts of Polish, can be expressed as the following observation: only the subject NP that fully values the probe T and satisfies of all its features, including EPP, becomes a legitimate binder.

Defective agreement shows in constructions discussed for Russian in Babyonyshev (1996). The so called “conjunction agreement” is found with coordinated subjects of unaccusative verbs only in the postverbal position. Here, control and binding seem defective, at least in Polish:

- 32) a. *Do pokoju weszli Maria i Piotr*  
 into room 3PL.-came NOM-Maria and Piotr  
 ‘Maria and Piotr came into the room.’
- b. *Maria i Piotr weszli do pokoju*  
 NOM-Maria and Piotr 3PL.-came into room  
 ‘Maria and Piotr came into the room.’
- c. *Do pokoju weszła Maria i Piotr*  
 into room 3SG.FEM-came NOM-Maria and Piotr  
 ‘Maria and Piotr came into the room.’
- d. *\*Maria i Piotr weszła do pokoju*  
 NOM-Maria and Piotr 3SG.-came into room
- e. *??Za swoimi<sub>1</sub> przyjaciółmi do pokoju weszła [Maria<sub>1</sub> i Piotr]<sub>2</sub>*  
 behind self’s friends into room 3SG.FEM.-came NOM-Maria and Piotr  
 ‘Following her friends into the room came Maria and Piotr.’
- f. *Za swoimi<sub>2</sub> przyjaciółmi do pokoju weszli [Maria<sub>1</sub> i Piotr]<sub>2</sub>*  
 behind self’s friends into room 3PL.-came NOM-Maria and Piotr  
 ‘Following her friends into the room came Maria and Piotr.’
- g. *\*Do pokoju weszła [Maria<sub>1</sub> i Piotr]<sub>2</sub> [CP żeby PRO\*<sub>1</sub>/\*<sub>2</sub> nam się pokazać]*  
 into room 3SG.FEM-came NOM-Maria and Piotr so-that DAT-us REFL (to) show
- h. *Do pokoju weszli [Maria<sub>1</sub> i Piotr]<sub>2</sub> [CP żeby PRO\*<sub>1</sub>/\*<sub>2</sub> nam się pokazać]*  
 into room 3PL.-came NOM-Maria and Piotr so-that DAT-us REFL (to) show  
 ‘Maria and Piotr came into the room to show themselves to us.’

Babyonyshev analyses these cases as involving LF raising of the features of the coordinate subject to T. As (32d) indicates, this pattern of defective agreement is impossible with preverbal coordinate subjects. Assuming that example (32d) shows the case of overt movement to the subject position and example (32a) only its covert equivalent, Babyonyshev claims that LF movement is not subject to Subjacency and the Coordinate Island Constraint and the leftmost conjunct asymmetrically c-commands the rightmost one and is thus closer for feature attraction and feature movement triggering agreement. It appears that such con-

structions exemplify genuine postverbal subjects in situ, where the postverbal position correlates with negative binding capacity and quirky agreement. Hence other cases with agreeing and binding postverbal subjects in examples (18)-(20) and (28)-(29) above warrant an alternative analysis, where a sequence of subsequent movement operations creates only the illusion of the VP-internal subject position, whereas in fact the subject is placed in [spec, Infl/T].

### 5. GI and covert A-type movement

An interesting alternative proposal concerning Polish is put forward in Tajsner (1998), where covert movement is said to alter binding relations. In this system the overt examples of inverted constructions in (33) have their corresponding LF representations in (34):

- 33) a.  $[_{AgrP} [_{AgrP} \textit{kobiety}_1 \textit{przedstawili} [_{VP} \textit{mężczyźni}_2 \textit{sobie nawzajem}_{1/2}]]]$   
ACC-women introduced NOM-men DAT-each other  
b.  $[_{AgrP} [_{AgrP} \textit{sobie nawzajem}_{*1/2} \textit{przedstawili} [_{VP} \textit{mężczyźni}_2 \textit{kobiety}_1]]]$   
DAT-each other introduced NOM-men ACC-women
- 34) a.  $[_{AgrP} \textit{mężczyźni}_2 [_{AgrP} \textit{kobiety}_1 \textit{przedstawili} [_{VP} t_2 \textit{sobie nawzajem}_{1/2}]]]$   
NOM-men ACC-women introduced DAT-each other  
b.  $[_{AgrP} \textit{mężczyźni}_2 [_{AgrP} \textit{sobie nawzajem}_{*1/2} [_{VP} t_2 \textit{przedstawili} \textit{kobiety}_1]]]$   
NOM-men DAT-each other ACC-women introduced

In LF the subject is raised from its VP-internal position to the specifier position of the outer AgrP projection and assumes a superior position over the inverted object. This results in a representation, where the anaphoric pronoun is c-commanded by both potential binders in (34a) and only by one in example (34b).

Examples (33) and (35) below, where the reflexive pronoun appears in the clause initial position, seem to provide support for the covert antecedent raising approach:

- 35) a.  $[_{AgrP} \textit{Siebie widział} [_{VP} \textit{Janek w telewizji}]]]$   
ACC-himself saw NOM-Janek on tv  
b.  $[_{AgrP} \textit{Janek} [_{AgrP} \textit{siebie widział} [_{VP} \{\textit{Janek}\} \textit{w telewizji}]]]]]$   
NOM-Janek saw ACC-himself on tv

Example (35a) is analyzed in Tajsner (1998: 128-29) as involving LF raising of the subject to a c-commanding position, the recursive [spec, Agr]. This particular option is unavailable in our analysis.

Yet, for both (33) and (35), there is an available alternative, i.e. the reconstruction of the fronted reflexive pronoun to a lower position. In the minimalist parlance reconstruction is taken to imply interpreting one of the lower copies of a given expression in its chain.

As postulated in the literature (Belletti – Rizzi 1988; Lebaux 1998) Binding Principles need not be observed at the same point in the derivation; while Principle A can be satisfied at any point in the derivation, Principle C is much more restrictive. At the same time, the facts concerning the “reluctance” of reconstruction in A-chains indicate, that reconstruction in these chains may also be subject to an Economy condition:

36) The Anti-Preference Principle:

In order to successfully interpret A-chains begin by interpreting the head of the chain and next access copies minimally c-commanded by it.

In the concrete case of structure (35), the set of available copies is as follows:<sup>12</sup>

37) *Siebie widział Janek* [<sub>VP</sub> {*siebie*} [<sub>VP</sub> {*Janek*} {*siebie*} w telewizji]]

The reflexive pronoun is interpreted through reconstruction to its copy in [spec, v], as this option satisfies the Anti-Reconstruction Principle: the reflexive is c-commanded by a coindexed binder with minimum reconstruction.<sup>13</sup> Invoking reconstruction to deal with example (35) opens the possibility that examples (18)-(20) could also be treated as results of reconstruction. Note, however, that the Anti-Preference Principle explains why the correlation between interpretation and word order holds in this case: the reconstruction of the overt word order through copies in lower positions is non-minimal, hence prohibited if the more economic option of receiving a convergent interpretive option without Reconstruction (and thus optimal satisfaction of the Anti-Preference Principle) is possible.<sup>14</sup>

<sup>12</sup> For examples (33)-(34) Witkoś (2007) proposes an account of binding relations between two objects in double object constructions. See section eight for an illustration.

<sup>13</sup> Observe that any other arrangement of reflexive binding in this case is non-minimal, as it would require the reconstruction of *siebie/self* to the vP-internal position or the subject to the vP-internal position. An alternative to the idea that reconstruction takes place within A-chains could be the adoption of the derivational mode of the satisfaction of the Binding Principle A, as in Grewendorf and Sabel (1999).

<sup>14</sup> Some evidence for the A-movement status of clause-internal scrambling comes from typical properties of optional reconstruction in regular A-chains. Consider the phenomenon of Quantifier Lowering (QL), responsible for inverse scope possibility in the following construction (Fox 1999: 160):

- i) [at least one soldier] seems to Napoleon [t to be likely to die in every battle]
- ii) [someone from New York] is very likely [t to win the lottery]
- iii) [at least one soldier] seems to himself [t to be likely to die in every battle]
- iv) [someone from David's<sub>1</sub> city] seems to him<sub>1</sub> [t to be very likely [t to win the lottery]]



Tajsnér's proposal of covert movement is by no means the only alternative. An inspiring solution to the dilemma posed by "shallow" Reconstruction is put forward in Bošković and Takahashi (1998) and Bošković (2002). They chiefly consider cases of long scrambling across the clausal boundary in Japanese and revamp the idea of base generation of scrambled constituents in a minimalist guise. They argue for base generation of scrambled phrases in the position visible in overt syntax and its subsequent LF lowering into a position where both case and theta role are licensed. As for short scrambling in the VP area, Bošković and Takahashi (1998), following Saito (1992) and Tada (1993), assume that the scrambled element is base generated in its overt position and no LF lowering takes place in this case. Additionally, in Japanese but not in Slavic, scrambling to the edge of IP does not reconstruct: it changes binding domains, (38), and affects quantifier scope, (39):

- 38) [*Mary to Pam*]-ni [*otagai-no hahaoya*]-ga t *atta*  
 DAT-Mary and Pam GEN-each other NOM-mother met  
 'Mary and Pam, each other's mothers met.'  
 39) *Daremo-ni dareka-ga t atta*  
 DAT-everyone NOM-someone met  
 'Everyone, someone met.'

Bošković and Takahashi (1998: 361, fn. 20) quote the following example from Serbo-Croatian as evidence for obligatory lowering in the Slavic-type short scrambling to IP:

- 40) [*Marka i Petra*] [*protivnici (\*jedan drugoga)*] *postuju*  
 ACC-Marko and Petr NOM-opponents GEN-each other respect  
 'Marko and Peter, opponents of each other respect.'

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Examples (i) and (ii) allow for two scopal relations between the quantifiers: one > every and every > one. But the other examples allow only for the interpretation in which the existential quantifier takes scope over the universal quantifier. This contrast indicates that the two scope options in sentences (i) and (ii) do not come result from the raising of the universal quantifier to adjoin to the matrix clause, because this option is open in all the cases. The QL hypothesis seems to have the right answer: the existential quantifier can lower into its embedded subject position in LF in (i) and (ii) but in the other examples it cannot, as it is trapped in the matrix subject position as a binder of an anaphor or a bound pronoun. Another recent argument in favour of at least partial reconstruction and scattered deletion in A-chains is provided in Boeckx (2001), where it is observed that although the universal quantifier scopes above embedded negation, the relative clause [who shows up] has an interpretation showing future tense, typical of embedding under *be likely*:

- v) [everyone who shows up] is likely [ t not to be a psycholinguist]  
 vi) [everyone \_\_\_\_\_ ] is likely [ { \_\_\_\_ who shows up } not to be a psycholinguist]  
 (LF)

The Polish equivalent to this example is also ungrammatical, yet at least three comments must be made at this point, one concerns the word order and the other the type of anaphor involved in this example. First, this construction clearly shows the hallmarks of Dislocation with the OSV order and, as a type of A-bar movement, it is therefore ambiguous and can involve reconstruction; second, the anaphor involved is a possessive anaphor and these are strictly Nominative subject oriented in Polish; third, as the examples in (18)-(20) show short scrambling in Polish does extend the binding domain, contra their assumptions. Additionally, all the critical remarks toward the LF “lowering” option for long scrambling in Russian from Baylin (2001) are confirmed by Polish data.

## 6. Partial conclusions

Let us sum up what has been established so far. We assume, after Witkoś (2007), that Polish shows a base VP internal order of arguments, where the indirect object (marked for dative) precedes the direct object (marked for Accusative) and any nominal object (marked for Accusative) precedes any PP complement of the verb. Reverse order of complements results from overt A-movement triggered to satisfy a generalized [+EPP] feature of the Agr and *v* heads. Polish Generalized Inversion construction is also a consequence of A-movement of a non-subject to satisfy the generalized [+EPP] property of the topmost Agr head in the clause. Schematically, the GI construction takes the following form:

- 41)  $[_{AgrsP} NP_O Agr-T-v-V [_{TP} NP_S t_T [_{VP} \{NP_s\} t_v \dots \{NP_o\} ]]]$

The object overtly moves into the specifier position of the Agr projection and the subject remains in a lower position. The movement of the verb is not as relevant to this pattern as in Baylin’s original proposal.<sup>15</sup> The facts discussed in Slioussar (2005, 2006) and the Polish data reviewed above indicate that the affinity between the OVS and the OSV word orders is closer than Baylin’s original proposal would have led us to believe. Many options are open to us at this point but we would like to follow this path: the OSV order can have two alternative derivations. One is quite straightforward and boils down to Baylin’s Dislocation. The other one includes a step similar to GI and is more complex and less economical. We propose to call it GI/Dislocation.

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<sup>15</sup> This position requires a modification of the correlation between overt verb raising and postverbal subjects, prominent in Alexiadou and Agnostopoulou’s (1998) theory of Null Subject Languages.

Assume that verb movement is irrelevant for the difference between A and A'-type scrambling, as indicated by Polish examples in (17) and the key property of languages allowing for A-type scrambling is the presence of the "extra strong" EPP property on the functional projection corresponding to T in Chomsky (1993). Alternatively, T could be treated as endowed with a [+multiple] EPP property ([+mEPP]), using the terminology from Hiraiwa (2001). The derivation of some OSV constructions involves the following steps:

- 42) a.  $[_{VP} \text{Obj} [_{v'} \text{Sub} [_{v'} V_{+mEPP} [_{VP} \dots \{\text{Obj}\}]]]]]$   
 b.  $[_{TP} \text{Obj} [_{T'} \text{Subj } T_{+mEPP} [_{VP} \{\text{Obj}\} [_{v'} \{\text{Sub}\} [_{v'} V_{+mEPP} [_{VP} \dots \{\text{Obj}\}]]]]]]]$   
 c.  $[_{FP} \text{Obj } F [_{AgrP} \{\text{Obj}\} \text{Agr} [_{TP} \{\text{Obj}\} [_{T'} \text{Subj } T_{+mEPP} [_{VP} \{\text{Obj}\} [_{v'} \{\text{Sub}\} [_{v'} V_{+mEPP} [_{VP} \dots \{\text{Obj}\}]]]]]]]]]$

In (42a) a regular vP is formed with v forcing the creation of two specifiers due to an extra EPP feature. At the next derivational step  $T_{+mEPP}$  is merged in and also forces the creation of two specifiers which can have A-properties.<sup>16</sup> At the subsequent step Agr is merged in and forces the movement of the object to its specifier position, as in a typical GI construction. Finally, head F, corresponding to any A-bar type head from the left periphery of the clause attracts the object.

The derivation in (42) shows a hybrid nature of Dislocation and GI but sufficiently differs from both: unlike GI it involves the extra level of structure in the form of FP and lacks verb raising to Agr, and in contrast to Dislocation, it includes  $T_{+mEPP}$ . The complexity of this derivation, however, can lead to the difficulty with its tracking by the parser, hence lower acceptability scores for OSV word orders in the tests discussed by Baylin. The options of both GI and GI/Dislocation seem to open the way for amelioration of WCO effects in Polish.

#### 7. Generalised Inversion, GI/Dislocation and lack of Weak Crossover Effects

The outline of the GI and GI/Dislocation structures in Polish presented so far leads to a straightforward prediction concerning Weak Crossover Effects (WCO): if GI is A-type movement, robust amelioration of WCO effects is expected with OVS word orders.

In way of a brief introduction to the problem, consider the configuration of a Weak Crossover Principle violation:

- 43)  $*[ \dots \text{QP} \dots [\text{pron}_i \dots] \dots \text{t}_i \dots ]$

<sup>16</sup> We assume that multiple specifiers of the T head cannot be involved in any binding relations, as they are in a configuration of mutual c-command, which leads to "lethal ambiguity" (McGinnis 1998, 2004).

WCO, regulated for example by the “Leftness Condition” (a pronoun cannot be coindexed with a variable on its right) of Wasow (1972), Postal (1973, 1997), Chomsky (1976, 1981, 1982), Hornstein (1995) or the Bijection Principle of Koopman and Sportiche (1982), distinguishes between the ungrammatical (44), representing the configuration in (43), and the grammatical (45):

- 44) a. \**Who<sub>i</sub> did his<sub>i</sub> mother see t<sub>i</sub>*  
 b. \**His<sub>i</sub> mother saw someone<sub>i</sub>*  
 45) a. *Who<sub>i</sub> t<sub>i</sub> saw his<sub>i</sub> mother*  
 b. *Someone<sub>i</sub> saw his<sub>i</sub> mother*

At the same time, English seems to allow for the use of pronouns in cataphoric configurations, thus the pre-movement configuration cannot be blamed for the ungrammaticality of (44).<sup>17</sup>

- 46) a. *His<sub>i</sub> mother loves John<sub>i</sub>*  
 b. *His<sub>i</sub> mother’s statement indicates that Althea had attacked Carl<sub>i</sub>*

Certainly, any closer inspection of such examples hinges, among others, on the status of the trace *t*. If *t* is a variable, a WCO effect should ensue, though in raising constructions, involving a similar configuration, no WCO effect is visible:

- 47) a. *Who t seems to [his mother] [t to have arrived]*  
 b. *Someone seems to [his mother] [t to have arrived]*

The trace left behind by the raising subject is coindexed with the pronoun to its left but it does not count for the calculation of the WCO effect. NP-traces do not produce WCO effects and A-chains can span coindexed pronouns.

Now, consider the following examples in Polish which show effects of amelioration of WCO in (48b), (49b) and (50b) with the OVS word order, and a perceptibly degraded status in (48a) and (49a), with the OSV word order:

- 48) a. *?[Którego chłopca]<sub>i</sub> [jego<sub>i</sub> matka] zawałala t<sub>i</sub>* OSV  
 ACC-which boy NOM-his mother called  
 b. *[Którego chłopca]<sub>i</sub> zawałala [jego<sub>i</sub> matka] t<sub>i</sub>* OVS  
 ACC-which boy called NON-his mother  
 ‘Which boy did his mother call?’

<sup>17</sup> These examples come from Chomsky (1976), Lasnik and Stowell (1991), Postal (1997) and Safir (2002). It is important that the name in (46a) be unfocussed.

- 49) a. *?Kogo<sub>1</sub> [jego<sub>1</sub> matka] zawałala t<sub>1</sub>* OSV  
ACC-who NOM-his mother called
- b. *Kogo<sub>1</sub> zawałala [jego<sub>1</sub> matka]* OVS  
ACC-who called NOM-his mother  
'Who did his mother call?'
- 50) a. *Piotra<sub>1</sub> [jego<sub>1</sub> matka] zawałala t<sub>1</sub> już trzy razy* OSV  
ACC-Piotr NOM-his mother called already three times
- b. *Piotra<sub>1</sub> już trzy razy zawałala t<sub>1</sub> [jego<sub>1</sub> matka]* OVS  
ACC-Piotr called already three times NOM-his mother  
'His mother has already called Piotr three times.'

Two observations warrant the claim that we seem to be dealing with genuine WCO effects in (48a) and (49a). One is the fact that no other principle of grammar but WCO, or its close cognate, should prohibit this particular interpretation indicated, and the second is the possibility of constructing acceptable examples equivalent to (46) in Polish.

The complicating factor here is the reluctance on the part of Polish grammar to allow a coindexed pronoun to precede its antecedent. In a way, Polish seems to shun cataphoric relations. This problem is frequently solved through the GI-type scrambling of the object to the clause initial position:

- 51) a. *\*?[Jego<sub>1</sub> mama] kocha Piotra<sub>1</sub>*  
NOM-his mom loves ACC-Piotr
- b. *Piotra<sub>1</sub> kocha [jego<sub>1</sub> mama]*  
ACC-Piotr loves NOM-his mom  
'Piotr is loved by his mom.'

Yet, the aversion to cataphoric word orders can be considerably ameliorated when the pronoun is more deeply embedded in the subject, as in the English example (46b).<sup>18</sup>

- 52) a. *?[Ta jego<sub>1</sub> zwariowana siostra] naprawdę kocha Piotra<sub>1</sub>*  
NOM-this his crazy sister really loves ACC-Piotr  
'This crazy sister of his really loves Piotr.'
- b. *?[Stos nowych zdjęć [jego<sub>1</sub> mamy] w czerwonym kapeluszu] właśnie zasypał Piotra*  
NOM-pile new pictures his mom's in hat just buried ACC-Piotr  
'A pile of new pictures of his mother in a hat has just spilled over Piotr.'

<sup>18</sup> The difficulty with accessing the relevant coindexation can be related to the following grammar-internal contradiction: if the possessive is bound by the subject it should appear in the form of a reflexive possessive but reflexive possessives are strictly oriented toward Nominative binders.

- c. *[nawet jego<sub>1</sub> własna mama] nie lubi Piotra<sub>1</sub>*  
 NOM-even his own mother not likes ACC-Piotr  
 ‘Even his own mother does not like Peter.’

It seems that a type of “insulation effect” is involved in these cases.<sup>19</sup> The examples reviewed above indicate that the contrast between (48a) and (49a) on the one hand and (48b) and (49b) on the other, cannot be due to the prohibition against any odd cataphoric relation but due to a genuine WCO effect, similar to the one in English. Also, note that the degraded constructions in (48a) and (49a) do not involve cataphoric relations. On the basis of the examples above we shall assume that, at least for some speakers, Polish does show the WCO effect but it is generally masked by the aversion to “pronoun first” word orders. Assume that the grammar of Polish includes the following principle:<sup>20</sup>

53) Backward Pronominalisation Constraint (BPC):

(Pol) \* ... [NP pron<sub>i</sub> N] ... > ... NP<sub>i</sub> ...

A pronoun cannot almost c-command the A-position of its nominal antecedent (A almost c-commands B if A c-commands B or the projection C that dominates A c-commands B; Hornstein 1995: 108)

Amelioration of the BPC can be achieved either through the insulation of the pronoun (... [NP<sub>2</sub> [NP<sub>1</sub> pron<sub>i</sub> N]] ... > ... NP<sub>1</sub> ...) or through A-type scrambling of the nominal antecedent across the subject.

The assumption that (48a) and (49a) display mild WCO effects in Polish is the first step to recognising the remedy to WCO effects: an NP-raising operation that moves the offending element (QP) to a position c-commanding the pronoun. A possibility that emerges from the discussion of the facts so far involves an A-type position c-commanding the subject into which the object can move, thus nullifying the WCO effect.

Let us make the following two assumptions: first, pronominal variable binding is a type of binding of the pronominal variable by a copy/trace placed in an A-type position under the configuration of (almost) c-command, as proposed in Hornstein (1995); second, binding may take place at any point in the derivation, or apply to any copy within the A-type chain. The latter position is advocated for anaphoric binding in Belletti and Rizzi (1988) and Lebaux (1998). We as-

<sup>19</sup> This term is defined in Kuno (1997) in the context of the amelioration of Condition C effects in Wh-constructions in English:

i) ?[how many pictures of [[John's<sub>1</sub>] fiancée]] did he<sub>1</sub> send to NYT

ii) [[which psychiatrist's] [evaluation of [[John's<sub>1</sub>] mental state]]] did he<sub>1</sub> try to get expunged from the trial records

<sup>20</sup> A similar principle is proposed for English in Safir (2002).

sume that there is symmetry in the mode of satisfaction of the binding requirement in multiple copy chains between pronominal and anaphoric bindees. Consider the set of relevant copies in example (48b):

- 54) [<sub>CP</sub> *którego chłopca*<sub>1</sub> [<sub>AgrP</sub> {*którego chłopca*} *wołała* [<sub>TP</sub> {*którego chłopca*} [<sub>T'</sub> *jego*<sub>1</sub> *matka* [<sub>vP</sub> {*którego chłopca*} ...]]]]]

The A-type chain of the object *którego chłopca/which boy* includes the following links: a VP-internal theta position (not shown here), a [spec, vP] case position, a [spec, T] position, forced by the considerations of Equidistance, and another position in [spec, AgrP].<sup>21</sup> The last position is the extra extension to A-chains that languages allowing for GI have at their disposal. This is also the position from which the pronominal variable can be bound without violating the Leftness Condition or the BPC. As example (54) shows, the top A-chain copy of the object in [spec, Agr] c-commands the pronoun embedded within the subject.

The more degraded examples showing the OSV word order can be derived in two alternative ways: Dislocation and GI/Dislocation. The former is the more general option widely available in the languages of the world at the courtesy of UG, whereas the latter is more marked and less widespread. Let us illustrate both options starting with GI/Dislocation:

- 55) [<sub>CP</sub> *którego chłopca*<sub>1</sub> C [<sub>AgrP</sub> {*którego chłopca*} Agr [<sub>TP</sub> {*którego chłopca*} [<sub>T'</sub> *jego*<sub>1</sub> *matka* T [<sub>vP</sub> {*którego chłopca*} *wołała* ...]]]]]]]

The difference between GI and GI/Dislocation lies in the overt positioning of the verb, which does not move up to Agr but remains in a lower position, for instance v. Crucially, the object is first scrambled through A-type movement to [spec, Agr] before targeting the A-bar position of [spec, C].

Plain Dislocation runs along slightly different lines:

- 56) [<sub>CP</sub> *którego chłopca*<sub>1</sub> [<sub>AgrP</sub> *jego*<sub>1</sub> *matka* Agr [<sub>TP</sub> T [<sub>vP</sub> {*którego chłopca*} *wołała* ...]]]]]

<sup>21</sup> There is evidence that Wh-movement and scrambling are not incompatible in Polish (i), as they seem to be in German (ii), Mueller (1996: 13):

- i) ?*Którego wczoraj* [*t chłopca*<sub>1</sub>] *zawołała jego*<sub>1</sub> *matka t*  
ACC-which yesterday ACC-boy called NOM-his mother  
'Which boy did his mother call yesterday?'
- ii) \**Worüber hat* [*ein Buch t*] *keiner gelesen*  
about what has a book no one read
- iii) *Worüber hat* *keiner* [*ein Buch t*] *gelesen*  
about what has no one a book read

The subject moves as high as [spec, Agr], the verb remains in a low position and the object moves to [spec, C] from its case position in [spec, v], without the stopover in any A-position that c-commands the subject. Consequently, this derivation is bound to cause a WCO effect. We submit that the degraded status of OSV word orders is due to the fact that the two derivations cause interference for the parsing process and thus lead to more hesitation among speakers in their judgment of the WCO effects. The derivations in (55) and (56) do not compete in the minimalist sense, as each starts from a different Initial Numeration; the difference being the feature make-up of the functional head T ([+mEPP] and [+v] or not). They do, however, produce an identical final PF output.<sup>22</sup> On the other hand, the derivation of the OVS word order through Generalised Inversion is unambiguous in this respect. Hence for some speakers of Polish (and probably Russian, Czech and other Slavic languages) the OSV word order does not bleed WCO as easily as the OVS word order in relevant contexts.<sup>23</sup>

#### 8. On Reconstruction effects

Once this mode of cancellation of WCO effects in Polish through GI and extended A-chains is acknowledged, the following logical query comes to mind: if the A-chain of the object can nest, rather than cross, the A-chain of the subject, are Principle C effects ever to be expected in Polish Wh-constructions? Consider a typical subject raising construction in English:

- 57) a. *John<sub>i</sub> seems to himself<sub>i</sub> [<sub>i</sub>{John<sub>i</sub>} to be a genius]*  
 b. *\*It seems to him<sub>i</sub> [that John<sub>i</sub> is a genius]*

The crucial fact for our analysis is that the indirect object of *seem* can c-command the embedded subject position from within its PP and this is apparently the reason for the ungrammaticality of (57b), as commonly assumed, for example in Hornstein (1995), Kitahara (1997) and Epstein et al. (1998). Why is there no Principle C violation in (57a), where at a stage of the derivation prior to movement, the illicit configuration from (57b) emerges as well? The answer

<sup>22</sup> Chomsky (1995) proposes that a strong feature should be postulated only when it makes a difference at an interface. Although [+mEPP] on T does not lead to a different PF output, it makes a difference at the LF interface, as the WCO effect washes away.

<sup>23</sup> In this article we cannot consider the issue of how the information structure of the clause influences the bleeding of WCO effects for lack of space. The avenue which seems worth exploring is the idea that in the OSV order the thematic component of the clause is excessively voluminous. Specifically, both the object and the subject are part of the thematic area. In the OVS order, the subject is (a part of) the default focus. In line with current minimalist tradition (e.g. Chomsky 1999), we take the information structure component to be read off the configurations generated by narrow syntax.



is that A-type movement of *John*, which establishes binding domains, removes *John* from the c-domain of *himself*. Thus the difference between (57a) and (57b) is that in the former the A-chain of *John* nests the illicit binder, whereas in the latter the A-chain of *John* does not extend beyond the c-domain of the pronoun.

With these observations in mind, let us focus on the following interrogative, assuming that GI takes place prior to Wh-movement:

- 58) a. \**Ile zdjęć Tomka<sub>1</sub> wywołał on<sub>1</sub> wczoraj*  
ACC-how many pictures Tomek<sub>1</sub>'s developed NOM-he<sub>1</sub> yesterday  
b. \*<sub>[CP ile zdjęć Tomka<sub>1</sub> [<sub>AgRP</sub> {ile zdjęć Tomka} wywołał [<sub>TP</sub> on<sub>1</sub> [<sub>vP</sub> {ile zdjęć Tomka<sub>1</sub>}... wczoraj]]]]]</sub>

Observe that exactly like in the English example (57) above, the A-chain of the object nests the position of the illicit binder, yet the construction is still ungrammatical, unexpectedly, probably due to a Principle C violation. This result seems to constitute an apparent contradiction in our account: an object in GI in an A-type position can bind into the subject for satisfaction of Principle A in examples (18)-(20) and for pronominal binding in (54) but it cannot avoid a Principle C effect in (58) and must reconstruct to a lower position. Additionally, although GI can expand the binding domain it does not cancel Principle C effects:

- 59) a. \*<sub>[AgRP On<sub>1</sub> wywołał wczoraj [<sub>vP</sub> dwa zdjęcia Tomka<sub>1</sub>]]</sub>  
NOM-he developed yesterday ACC-two pictures (of) Tomek  
b. \*<sub>[AgRP dwa zdjęcia Tomka<sub>1</sub> wywołał [<sub>TP</sub> on<sub>1</sub> wczoraj [<sub>vP</sub> {dwa zdjęcia Tomka<sub>1</sub>}]]]]</sub>  
ACC-two pictures (of) Tomek developed NOM-he yesterday

However, this contradiction is not new and it is not specific to the A-type movement nature of GI. The problem disappears once we exploit the nature of the extended A-chain and the discrepancy in the satisfaction of the binding conditions A and C. Examples such as (58)-(59) above warranted an observation that Binding Principles A and C are satisfied in different ways within multi-membered chains. For example Brody (1995) and Lebaux (1998) proposed that a category can be subject to Principle A in any of its copies within the chain, while a category becomes subject to Principle C as soon as it is case marked, hence in (57a) the non-case position of *John* is invisible to Principle C but in (57b) its case-position is. To see why (58) violates Principle C, we must ask where the case-position of the object is? Certainly its case-position is in [spec, v] and is c-commanded by the subject in [spec, T]; thus the extension of the A-chain of the object through GI does not screen it from the binding by the sub-

ject. At the same time, though, the extra A-position of the object in [spec, Agr] allows it to bind into the subject. This apparent contradiction is resolved without any ad hoc instruments and extra assumptions but in keeping with otherwise observed properties of the satisfaction of Principle A and Principle C.

At this point let us turn to the following example, from Tajsner (1998), serving as an argument against the base order of indirect object – direct object:

- 60) \**Porywacze oddali [ich chłopca]<sub>1</sub> [Marka<sub>1</sub> rodzicom]*  
 NOM-kidnappers returned ACC-their boy DAT-parents of Mark  
 ‘The kidnappers returned Mark’s parents their boy.’

The ungrammaticality of this example indicates that the position in which the direct object is placed is an A-position, as it can c-command the other object. This is expected if the direct object moves to an A-type position and extends its binding domain, analogously to the cases of GI. On the strength of our BPC the sentence is ruled out. But a more interesting issue arises in connection with a mirror paraphrase of this example:

- 61) *Porywacze oddali [Marka<sub>1</sub> rodziców] [ich synowi]<sub>1</sub>*  
 NOM-kidnappers returned ACC-parents of Mark DAT-their son  
 ‘The kidnappers returned Mark’s parents to their son.’

The problem is as follows: if the surface position of the direct object is derived via an extended A-chain, and its base position is c-commanded by the indirect object, why is this example not a violation of the BPC?<sup>24</sup>

- 62) a. [<sub>AgrP</sub> {ile zdjęć Tomka<sub>1</sub>} wywołał [<sub>TP</sub> on<sub>1</sub> [<sub>vP</sub> {ile zdjęć Tomka<sub>1</sub>} ... wczoraj]]]]



- b. [<sub>vP</sub> Marka<sub>1</sub> rodziców [<sub>vP</sub> ich synowi<sub>1</sub> ... {Marka<sub>1</sub> rodziców}]]



The solution requires that we finesse the procedure of case valuation in the Probe/Goal model according to the following postulate:

<sup>24</sup> The vP internal copy/trace of the subject is omitted from the representation.

- 63) The case position of XP is the position in which it satisfies all the relevant features of its case-licensing probe/head.

This formulation introduces a dichotomy of case positions, because the actual case position depends not only on the case licensing properties of a given probe but also on the presence of other features of the probe, most notably [+EPP], that the goal could satisfy.

- 64) a.  $[_{ZP} XP^1 P_{[+\varphi]} \dots [ \dots XP^2 \dots ]]$   
 b.  $[_{WP} XP^3 T_{[+\varphi]} \dots [_{ZP} XP^1 P_{[+\varphi]} \dots [ \dots XP^2 \dots ]]]$

Consider the configuration in (64a), if probe P has only [+ $\varphi$ ] features but no [+EPP] feature, the case position of XP is XP<sup>2</sup>. Yet, if probe P has both the [+ $\varphi$ ] feature and the [+EPP] feature, the case position of XP is XP<sup>1</sup>. This is the situation with the direct object in example (61) and other similar cases, where “shallow” Reconstruction places the direct object back in its case position, [spec, v]. The situation in (64b) is different, as position XP<sup>3</sup> is forced by an [+EPP] feature of probe T, which does not agree with XP, as XP can undergo case valuation only once. Thus position XP<sup>3</sup>, although an A-type position for XP, is not a case position for XP (see note 1). This distinction has desired consequences for R-expressions embedded in the XP phrase: they are visible to Principle C at XP<sup>1</sup>, but not at XP<sup>2</sup>. This allows for bleeding of Principle C if the other object is the antecedent but not if the subject is the antecedent.

The comparison of the two constructions in (62a) and (62b) also indicates that the BPC is a more lenient principle than Principle C. Principles A and BPC are asymmetric versus Principle C: the former two apply to any copy in the (extended) A-chain and the latter applies to the case position in the A-chain. Thus examples such as (58) and (61) indicate that the BPC does not cancel the derivation as soon as a relevant configuration arises but allows for the extra step and the A-chain extension via scrambling. Principle C does not allow for this option.

## 9. Concluding remarks

This paper complements the discussion of clause internal scrambling in Polish based on A-type movement in Witkoś (2007). It was argued there, mostly on the basis of the distribution of clitic/weak pronouns and the internal structure of idiomatic phrases, that the base word order in Polish is S V O<sub>DAT</sub> O<sub>ACC</sub>.

Here we deal with the movement of the object across the position of the subject. We cannot tip the balance in the debate on the nature of the OVS and OSV word orders. We find additional support in Polish for certain conclusions reached in Baylin (2003) but data also corroborate the doubts over the clear-cut

difference between both orders expressed in Slioussar (2005, 2006). The movement of the object in the OVS word order shows hallmarks of overt A-type movement (lack of reconstruction and evident extension of the binding domain), while the OSV word order can result in some cases in an A-bar type chain formation that feeds reconstruction. Yet, this word order seems ambiguous and also shows properties of A-movement, though they tend to be less prominent.

One of the consequences of the assumption that the OVS word order results from A-movement is a straightforward account of the amelioration of WCO effects in Polish, robust with this type of linearisation and slightly more forced with the ambiguous OSV word order produced by the derivation we called GI/Dislocation. Both GI and GI/Dislocation are characterised by a multiple EPP feature ([+mEPP]) optionally placed on the head of TP. This feature seems to lie at the core of object fronting that shows traces of an A-type dependency.

We believe that we have only scratched the surface of the problem of A-type properties of non-canonical word orders (OVS vs. OSV) here and this issue deserves much more attention in further research.

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