

The Morphosyntax of Polish and Ukrainian *-no/-to**

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Abstract. This paper provides a detailed description of the Polish and Ukrainian *-no/-to* + accusative construction, with considerable attention to how the two constructions differ and to their relevance for current morphological and syntactic theory. It is argued that Polish and Ukrainian *-no/-to* differ with respect to where the word-final /-no/-to/ affix is generated in the narrow syntax. A wide range of seemingly unrelated syntactic properties follow from this single claim. In the case of Polish *-no/-to*, it is shown that the word-final affix is not voice-altering, but rather generated in the head of a higher Aux projection. A separationist view of Morphology is adopted in which the stem and affix are joined post-syntactically. Ukrainian *-no/-to* is a genuine passive. This construction is related more generally to a class of accusative-Case-marked unaccusatives. Here it is shown that a Tense projection impoverished for agreement (ϕ -incomplete T) is a necessary (and surprising) condition for unaccusatives to appear with ACC-Case-marked complements.

1. Introduction

Polish and Ukrainian *-no/-to* have received considerable attention in the general linguistics literature on passivization due to the typologically-rare Case-Theoretic and distributional properties of these constructions.¹ Polish and Ukrainian *-no/-to* are treated as “exotic” passives because they take an ACC complement, flouting Burzio’s Generalization, which states that a

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¹ See, for example, Sobin 1985, Baker 1988, Baker, Johnson, and Roberts 1989, Maling 1993, Boeckx 1998, and Blevins 2003.

verb Case-marks its object only if it θ -marks its subject (Burzio 1986:178; Chomsky 1986:139).² The “exotic” distributional property of Polish *-no/-to* (under a passive analysis) is its occurrence with unaccusative and raising verbs, flouting Perlmutter and Postal’s (1984a) 1-Advancement Exclusiveness Law (1-AEX) of Relational Grammar and Marantz’s (1984) prohibition on vacuous dethematization.

Given the surface homophony of the word-final morphology and the fact that the participle’s complement appears in the ACC Case, it is tempting to view Polish and Ukrainian *-no/-to* as two instances of the same phenomenon. Note, for example, the sentences in (1-2):³

(1) Polish

- a. Znaleziono niemowlę w koszu.
found_{NO} baby_{ACC} in basket
‘They found a baby in a basket.’
- b. Wsadzono cudzoziemca do więzienia.
placed_{NO} foreigner_{ACC} to prison
‘They put a foreigner in prison.’
- c. Wzięto żołnierzy do wójska.
taken_{TO} soldiers_{ACC} to army
‘They drafted soldiers into the army.’

(2) Ukrainian

- a. Nemovlja bulo znajdeno u koшыku.
baby_{ACC} AUX_{PAST} found_{NO} in basket
‘A baby was found in a basket.’
- b. Inozemcja bulo posadżeno do v’jaznyci.
foreigner_{ACC} AUX_{PAST} placed_{NO} to prison
‘A foreigner was put in prison.’

² It is well known that Burzio’s Generalization is not a principle of grammar. Note the numerous counterexamples (from a wide range of languages, including Slavic) provided in Comrie 1977, Perlmutter and Postal 1984b, Babby 1989/2002, Stenson 1989, Maling 1993, Harley 1995, and Goodall 1999, just to name a few. Furthermore, as we will see, Burzio’s Generalization does not apply, in any event, to Polish *-no/-to*, whose external argument is fully thematic.

³ Unchanging *-no/-to* predicates will simply be glossed as *-no* or *-to*; the precise morphological status of this ending is the subject of this paper. Note additionally that italicized “*-no/-to*” (*-no/-to*) refers to the predicate type, while “*-no/-to*” enclosed in slashes (/ *-no/-to* /) refers to the morpheme itself.

- (2) c. Narešti cju mohylu bude vzjato pid oxoronu
 finally this grave_{ACC} AUX_{FUT} taken_{TO} under protection
 deržavy.
 of state

‘Finally this grave will come under the protection of the state.’

[adapted from Wieczorek 1994: 16]

However, despite the apparent similarity between *-no/-to* in the two languages, observe the following differences in these examples: (i) the PRO_{arb} interpretation in Polish versus the passive reading in Ukrainian; (ii) the absence of tense-marking auxiliaries in the Polish construction only; and (iii) variation between the two languages with respect to neutral word order. Since it is already widely believed that the Polish and Ukrainian *-no/-to* constructions do not constitute a unified phenomenon (see Billings and Maling 1995, Franks 1995, and Lavine 2000 and 2002),⁴ the main empirical goal of this paper is to characterize how exactly the cognate constructions differ. I will show that the primary difference between Polish and Ukrainian *-no/-to* involves the site at which the */-no/-to/* morpheme is generated in the narrow syntax in each language. All surface differences observed in (1–2), as well as numerous others, will be shown to follow automatically from this single categorial difference.

First, I will provide evidence for the idea that the */-no/-to/* morpheme in Polish enters the derivation **independently**, where it occupies its own syntactic position. In other words, I will argue that Polish */-no/-to/* has a syntactic life of its own, despite the fact that at some level of Spell-Out it is pronounced as a bound morpheme. So for Polish, I will show that the syntactic representation of *-no/-to* is at odds with its morphophonological representation. Such cases of structures in which what we hear (morphophonological structure) fails to line up with what we interpret (syntactic structure) are taken to provide empirical evidence for a “separationist” view of morphology, in which the narrow-syntactic representation of a given object may be potentially separated from its morphophonological expression (see, e.g., Beard 1995, Anderson 1992, Halle and Marantz 1993, and Harley and Noyer 1999). That is, an affix (such as */-no/-to/*) may not be directly associated with its stem in the syntax. Such a view of morphology necessarily sanctions Late Insertion, whereby terminal nodes in the syntax are given phonological expression by means of post-syntactic operations. While Polish */-no/-to/* and the verb-stem “get

⁴ See Blevins 2003 for an alternative approach that seeks to unify Polish and Ukrainian *-no/-to* as non-passive “impersonal constructions”.

together” post-syntactically, I will argue that Ukrainian /-no/-to/ is lexical in the sense that the participle enters the syntax with its word-final morphology intact.⁵ Thus, the first theoretical claim of this paper can be stated as in (3):

- (3) Certain syntactic variation reduces to variability in the site at which Morphology applies.

A second, ancillary, claim concerns Grammaticalization Theory. Grammaticalization is the process by which full lexical items become grammatical morphemes. In many cases, it refers to the process whereby a free grammatical morpheme becomes a bound morpheme. That is, Grammaticalization Theory maintains that historical linguistic change takes place via a series of morphosyntactic “downgradings”. What is interesting about Polish *-no/-to* for Grammaticalization Theory is that if /-no/-to/, an erstwhile NEUT.SG ending (see section 3.3.1), is now detached from its stem in the narrow syntax, as I will argue, then we have an example of “upgrading”, or the “freeing” of a grammatical morpheme (thus providing support for recent claims by Newmeyer 1998 and Janda 2001 that grammaticalization is not necessarily unidirectional). This point will be taken up in section 3, where it will be argued that Polish (though crucially not Ukrainian) /-no/-to/ has been reanalyzed as an auxiliary, heading its own Tense projection. Thus, the second theoretical claim of this paper, necessitated by the first, is that:

- (4) The direction of grammaticalization is counterable.

A final point of theoretical interest concerns the formal licensing of ACC in the case of passives, a problem, that, strictly speaking, concerns only Ukrainian *-no/-to*, where the passive participial morphology is, indeed, and in contrast to Polish, genuinely passive. The case of Ukrainian *-no/-to* will be related to accusative-Case-assigning unaccusatives more generally (see Lavine and Freidin 2002). I will propose that all unaccusative verbs potentially assign ACC (additional evidence from Russian will be adduced to support this claim). There are two necessary revisions in current theory (in particular, Chomsky 2000 and 2001) that will be proposed in order to account for these data. The first involves splitting the features of *v*, as suggested in Bowers 2002. The second involves the features of Tense. Since *-no/-to* predicates project a Tense (Infl) projection that

⁵ The use of the term “lexical” here is inspired by Lasnik 1999.

is defective with respect to its agreement (ϕ -) features (that is, since T in such cases is non-agreeing or “ ϕ -incomplete”), the Tense projection in such instances lacks the necessary features to value (license) NOM Case. What normally prevents unaccusative *v* from checking ACC is the subsequent requirement that the predicate’s complement enter into an Agree (or checking) relation with a ϕ -complete T(ense). If T imposes no such restriction on the derivation, Case on the sole argument of an unaccusative predicate is free to be licensed “downstairs” by *v*.⁶ Thus, the final theoretical claims of this paper can be stated as in (5a–b):

- (5) a. The functions of *v* (the projection of the external argument and the licensing of ACC case) must be separable;⁷ and
- b. The lexical availability of non-agreeing morphology on Tense is a necessary condition for an unaccusative to appear with an ACC complement.

Thus, in addition to making several strictly empirical claims on the difference between Polish and Ukrainian *-no/-to*, I will explore how the basic facts of these constructions may affect our thinking on a range of current theoretical developments.

2. Theoretical Background

As anticipated above, I adopt the basic assumption from Separationism (Beard 1995) and Distributed Morphology (Halle and Marantz 1993) that morphosyntactic features may be generated in narrow syntax with no phonological content. This applies, in particular, to affixes. Verbal affixes that enter the syntax unattached will combine with their host verb-stem via Morphological Merger (Marantz 1988), whereby a syntactic relation between two heads is replaced in the (Morpho-)Phonological Component (or PF) by an affixation relation. The leading idea for joining the affix and

⁶ I will suggest that a ϕ -incomplete T may still carry an EPP requirement, forcing A-movement into its specifier (as discussed in Lavine and Freidin 2002). This will account for the word order differences under neutral discourse observed in (1-2).

⁷ This claim, to be sure, is not entirely new. In addition to Bowers’ (2002) recent treatment of the problem, it is widely believed, as one reviewer notes, that the locus of structural ACC Case licensing is a functional projection related to lexical aspect or event structure (on some accounts, dominated by *v*), such as Collins’ (1997) TrP and Borer’s (1994) AspectP. See also Ramchand 1997, Svenonius 2001, and Richardson 2003 (and references cited therein) on the interaction between structural Case assignment to the direct object and aspectual properties such as telicity.

verb-stem post-syntactically, due, in part, to Lasnik 1999, is that unattached affixes constitute a PF-violation rather than a strictly syntactic one.

As for syntax proper, I assume the basic framework of minimalism in the recent reformulations of Chomsky 2000 and 2001, Pesetsky and Torrego 2001, Bowers 2002, and others. Like earlier versions of minimalism (Chomsky 1995), syntactic derivations are driven by the need to eliminate uninterpretable features prior to Spell-Out. Uninterpretable features constitute those properties of lexical items that make no semantic contribution. The uninterpretable features relevant to this study are the agreement (ϕ -features) on T and v , and the structural Case features on NPs. Under recent theory, uninterpretable features enter the derivation from the lexicon unvalued. They are valued and deleted (checked, in earlier terms) via the relation Agree, which matches the unvalued ϕ -features of a probe in T or v with corresponding unvalued Case features of a goal NP. So structural Case is a reflex of agreement, following George and Kornfilt 1981 (and further refinements in Pesetsky and Torrego 2001). Note crucially that structural Case is assigned a value under Agree with T (NOM) or v (ACC) only when the probes contain a **complete set** of ϕ -features. A probe that lacks a complete set of ϕ -features is defective and need not (in fact, cannot) value structural Case.

Note additionally that under the Derivation by Phase framework of Chomsky 2001, syntactic derivations proceed in a series of cycles, rather than all at once, as in Chomsky 1995. Each cycle, or subsection of a derivation, is referred to as a “phase”; a phase is completed after all of its uninterpretable features have been valued. A weak phase is one whose phase-defining head lacks a complete set of ϕ -features (on some accounts, v is weak, independently of the status of its ϕ -set, if it fails to project an external argument). Only the domain of weak phases is visible to higher probes. For example, the probe in ϕ -complete T can identify a goal for Agree inside v 's domain only if v is ϕ -incomplete, that is, a weak phase, as in the case of canonical passives and unaccusatives. In the English passive in (6), the underlying direct object can be targeted for Agree by the probe in T only under the assumption that passive v is weak:

- (6) Hannah [T was [v deceived t by her sister]].
 [+ ϕ] [- ϕ]

It follows that in the case of Ukrainian *-no/-to*, passive v need not be weak, as long as T is defective (ϕ -incomplete). That is, it must be a requirement of Ukrainian *-no/-to* that T does not enter into a checking rela-

tion with an NP already valued for Case by v and, according to the Derivation by Phase system, spelled-out in the vP cycle. The correct descriptive generalization is that the single, structurally-Case-marked NP in a passive (or unaccusative) can be valued by v **or** T, but not by both or by neither. The Ukrainian *-no/-to* example in (2a), a passive, is repeated in (7):⁸

- (7) Nemovlja [_T bulo [_v znajdeno t u košyku]].
 [- ϕ] [+ ϕ]
 baby_{ACC} AUX_{PAST} found_{NO} in basket
 ‘A baby was found in a basket.’

The facts of ϕ -completeness with respect to the passives in English and Ukrainian are given in (8):

- (8) Passive⁹
 a. English: T_{comp} / v_{def}
 b. Ukrainian (*-no/-to*): T_{def} / v_{comp}

Note finally that the operation Agree does not, by itself, require Move. Move applies only when the probe contains an EPP requirement in addition to its ϕ -features. The EPP requirement states that a given category must have a filled specifier (an extension of the “old” Extended Projection Principle of GB syntax that stipulated that every clause must contain a subject). A theoretical concern of the Ukrainian *-no/-to* construction is whether the EPP requirement of T can drive movement independently of

⁸ Note that Ukrainian also has a canonical, agreeing passive that patterns like the English passive in (6). Compare (7) with its agreeing counterpart in (i):

- (i) Nemovlja bulo znajdene u košyku.
 baby_{NOM.NEUT.SG} AUX_{PAST.NEUT.SG} found_{NEUT.SG} in basket
 ‘A baby was found in a basket.’

The example in (i) differs minimally from (7) in participle-final *-e*. Old Ukrainian (and Old Polish) NEUT.SG (nominal) */-no/-to/* was replaced in the modern languages with the contracted (pronominal) ending */-e/*, yielding the modern NEUT.SG passive-participial endings */-ne/-te/*. Note that */-no/-to/* is non-agreeing, rather than agreeing default morphology, since Polish and Ukrainian NOM NPs fully specified for NEUT.SG agreement can no longer enter into an agreement relation with predicative adjectival forms in */-o/*. See Adams (1998) for a discourse-based analysis of the usage of the agreeing Ukrainian passive.

⁹ As mentioned earlier, Polish */-no/-to/* is not a voice-altering affix. For this reason, Polish is not included in this discussion.

its ϕ -features.¹⁰ I will argue that the EPP is responsible for the NP-movement in Ukrainian in (7), just as it is, less controversially, for the English passive in (6).

3. The Distribution of *-no/-to* and the AUX HYPOTHESIS

It will be recalled that the central empirical concern of this paper is to provide an explicit account for how Polish and Ukrainian *-no/-to* differ. This will be the focus of section 3.1. Section 3.2 explores the hypothesis that Polish (but not Ukrainian) */-no/-to/* has been reanalyzed as a syntactically-independent auxiliary element heading a Tense projection. I will argue that the impressive range of syntactic differences between the two cognate constructions reduces to this single fact. Section 3.3 briefly examines the implications of the AUX HYPOTHESIS for Grammaticalization Theory.

3.1. Polish and Ukrainian *-no/-to*: Basic Facts

Notice that Polish and Ukrainian *-no/-to* are structurally distinct in a variety of seemingly arbitrary ways. We begin by noting that only the Ukrainian structure allows overt tense-marking auxiliaries and a passive *by*-phrase; both are ungrammatical in Polish *-no/-to*. These facts are given in (9-10):¹¹

(9) Polish *-no/-to*¹²

a. (from (1a))

(*Zostało) znaleziono niemowlę w koszu (*przez lekarzy).

AUX_{PAST} found_{NO} baby_{ACC} in basket by doctors_{ACC}

¹⁰ Chomsky (2001, fn. 6) suggests that the EPP requirement necessarily correlates with a complete set of ϕ -features. Pesetsky and Torrego (2001) refer to the EPP requirement as a “sub-feature” of a feature, a subsidiary feature that cannot drive movement unless linked to other uninterpretable features.

¹¹ The passive *by*-phrase in Polish is expressed by the PP *przez* ‘through, by’ + ACC and in Ukrainian by a bare INST NP.

¹² The *być* ‘be’ auxiliaries (*było*_{PAST}, *jest*_{PRES}, *będzie*_{FUT}), used with imperfective verbs, are also ruled out with */-no/-to/*:

(i) W tym regionie pszenicę (*było) siano zawsze jesienią.
in this region wheat_{ACC} AUX_{PAST} sowed_{NO} always in fall

(ii) (*Będzie) mówiono o redukcji polskiego długu.
AUX_{FUT} spoken_{NO} about reduction Polish debt

[adapted from Dziwirek 1994: 186–187]

- (9) b. (from (1b))
 (* Zostanie) wsadzono cudzoziemca do więzienia (*przez
 AUX_{FUT} placed_{NO} foreigner_{ACC} to prison by
 szefa rządu).
 head_{ACC} of government
- (10) Ukrainian *-no/-to*
- a. (from (2a))
 Nemovlja bulo znajdeno u koшыku likarjami.
 baby_{ACC} AUX_{PAST} found_{NO} in basket doctors_{INST}
 ‘A baby was found in a basket by doctors.’
- b. (from (2b))
 Inozemcja bude posadżeno do v’jaznyci hlavoju
 foreigner_{ACC} AUX_{FUT} placed_{NO} to prison head_{INST}
 urjadu.
 government
 ‘A foreigner will be put in prison by the head of government.’

The canonical agreeing passive in Polish, given in (11a–b), allows both tense-marking auxiliaries and a *by*-phrase, thus suggesting that the restriction on the appearance of auxiliaries and *by*-phrases is a fact about */-no/-to/*, rather than a more general fact about Polish.

- (11) Polish Agreeing Passive (cf. (9a-b))
- a. Niemowlę zostało znalezione przez
 baby_{NOM.NEUT.SG} AUX_{PAST.NEUT.SG} found_{NEUT.SG} by
 lekarzy w koszu.
 doctors_{ACC} in basket
 ‘A baby was found in a basket by doctors.’
- b. Cudzoziemiec zostanie wsadzony
 foreigner_{NOM.MASC.SG} AUX_{FUT.SG} placed_{MASC.SG}
 do więzienia przez szefa rządu.
 to prison by head_{ACC} government
 ‘A foreigner will be put in prison by the head of government.’

A third, seemingly unrelated, fact is the distribution of *-no/-to* constructions in the two languages with respect to predicate type. Only Polish

allows /-no/-to/ to attach to unaccusative and raising predicates.¹³ This is illustrated in (12-13):

(12) Polish Unaccusative -no/-to

- a. Umierano tam tysiącami na tyfus.
 died_{NO} there thousands_{INST} on typhus
 ‘People died there in thousands from typhus.’
 [Śpiewak and Szymańska 1997: 150]
- b. Tonięto / topiono się w morzu, a nie w wannie.
 drowned_{TO} drowned_{NO} REFL in sea and not in bathtub
 ‘People drowned in the sea, not in a bathtub.’
 [Rozwadowska 1992: 62]
- c. Bywano w teatrze raz na miesiąc.
 been_{NO} in theater once per month
 ‘People had been to the theater once a month.’

(13) Polish Raising -no/-to

- a. Zdawano się ciębie nie widzieć.
 seemed_{NO} REFL you_{GEN} NEG to see
 ‘They seemed not to see you.’
- b. Zdawano się tego nie dostrzegać.
 seemed_{NO} REFL this_{GEN} NEG to notice
 ‘They seemed not to notice this.’ [Kibort 2001: 103]

The corresponding imperfective unaccusative and raising verbs in Ukrainian -no/-to are robustly ruled out:

(14) Ukrainian Unaccusative -no/-to

- *umerano / *toneno / *buvano
 died_{NO} drowned_{NO} been_{NO}

¹³ To be sure, the affixation of Polish /-no/-to/ to unaccusative predicates is not entirely productive, as pointed out by Cetnarowska (2000). The formation of Polish -no/-to from unaccusative predicates is limited to imperfectives with an iterative interpretation. This constraint is most likely related to the availability of a generic interpretation for the PRO_{arb} subject. (Note that Kibort 2001: 104 appears to overstate the productivity of Polish unaccusatives in -no/-to.)

(15) Ukrainian Raising *-no/-to*¹⁴

*zdavano- (sja)
seemed_{NO} REFL

If Polish */-no/-to/* were involved in passivization, the examples in (12–13) would be ruled out (as they are in Ukrainian (14–15)) by whatever principles one believes blocks passives of predicates that lack an external argument. Under the analysis in which Polish */-no/-to/* is no longer passive-participial (that is, under the AUX HYPOTHESIS, to be discussed in section 3.2), such filters on illicit passive structures cease to apply.

Notice, next, syntactic processes referring to subject antecedents that are affected by genuine instances of passivization. In (16–17) we see that subject binding and control proceed unaffected by */-no/-to/* affixation in Polish only. In Ukrainian the external argument is truly dethematized and passive *V_{-NO/-TO}*, as a result, fails to take part in these processes.

(16) Polish *-no/-to*

a. Binding of Anaphor

Bit_i strażników_j swoimi_{i/*j} (ich_{*i/j}) łańcuchami.
beaten_{TO} guards_{ACC} REFL their chains_{INST}

‘They_i beat the guards_j with their_{i/*j} chains.’ [Kibort 2001]

b. Control of Adverbial Gerund (GER)

Tę książkę czytano siedząc przy kominku.
this book_{ACC} read_{NO} sitting_{GER} at fireplace

‘People read this book sitting by the fireplace.’

[Dziwirek 1994: 191]

b’. Wracając do domu, śpiewano piosenki.
returning_{GER} home sung_{NO} songs_{ACC}

‘They sang songs returning home.’ [Maling 1993]

¹⁴ Note that the REFL morpheme is given in parentheses in (15). Since derivational */-n-/* does not occur with REFL *-sja* in Ukrainian, we might expect the *-no/-to* form to occur without *-sja* (that is, where *-sja* is not pronounced). Note, for example, Ukrainian nominals of subject experiencer verbs, such as *zdyvuvannja* ‘surprise’, derived from *zdyvuvaty-sja* ‘be surprised’. It is interesting to note that Polish nominals of the same type retain REFL *się*, as in *fascynowanie się* ‘fascination’ from the verb *fascynować się* ‘be fascinated’.

(16) c. Control of Infinitival PRO

Na wzgórzu zaczęto [PRO budować dom].
 on hill begun_{TO} to build house_{ACC}

‘They began to build a house on a hill.’

[Śpiewak and Szymańska 1997: 151]

(17) Ukrainian *-no/-to*

a. Binding of Anaphor (cf. Polish cognate (16a))

Storoživ_j bulo pobyto_i svojimy_{*i/*j} (jixnimy_{*i/j})
 guards_{ACC} AUX_{PAST} beaten_{TO} REFL their

lancjuhamy.

chains_{INST}

‘Guards_j were beaten_i with their_{*i/j} chains.’

b. Control of Adverbial Gerund (GER)

*Cilu porciju bulo vidrazu z’jideno
 whole portion_{ACC} AUX_{PAST} immediately eaten_{NO}

ne opam’jatavšys’.

NEG coming to_{GER}

‘A whole portion was immediately eaten before coming to one’s senses.’

b’. *Povernuvšys’ dodomu, hroši bulo znajdeno.
 having returned_{GER} home money_{ACC} AUX_{PAST} found_{NO}

‘Having returned home, the money was found.’

c. Control of Infinitival PRO

*U misti počato [PRO budувaty novu cerkvu]
 in city began_{TO} to build new church_{ACC}

‘They began to build a new church in the city.’

In the Polish examples in (16a-c), it is plainly the case that the anaphor and the PRO subjects of the adverbial gerunds and infinitive are controlled by the external argument of the *-no/-to* predicates.¹⁵ In Ukrainian (17a), the reading where the external argument of the participle (the one who did the beating) is coreferential with the possessor of the instrument used is unavailable. That is, the anaphor in (17a), in contrast to cognate

¹⁵ Under Williams’ (1994, 1995) theory of “vertical binding”, further developed in Babby 1998 and Babby and Franks 1998, control takes place as a relation between theta roles rather than full NPs. Under such an analysis, there is no need for a PRO subject of gerunds and (subject-controlled) infinitives. I take this to be the correct analysis and use PRO in these cases for terminological convenience only.

(16a), receives no interpretation. Ukrainian (17b) is ruled out by virtue of the fact that the only available reading is implausibly one in which it is the portion of food that controls the PRO subject of the adverbial gerund, rather than the external argument of *z'jideno* 'eaten'. Likewise, in (17b'), the only available reading is one in which it is the money that returned, rather than those that found the money (that is, rather than the external argument of *znajdeno* 'found').¹⁶ As for control of the PRO subject of infinitivals in the (c) examples, Polish and Ukrainian *-no/-to* pattern in the expected way: an interpretation is available for the embedded PRO subject in Polish only. These subject properties in the Polish construction, together with the ungrammaticality of the passive *by*-phrase and the cooccurrence of */-no/-to/* with unaccusative and raising predicates, indicate that the external argument in Polish *-no/-to* is fully thematic and syntactically projected (and that Polish */-no/-to/* is not a voice-altering morpheme). I will argue shortly that the external argument in Polish *-no/-to* is PRO_{arb}.

A summary of the diagnostics that have been used to distinguish Polish and Ukrainian *-no/-to* thus far is given in the table in (18):

(18) *-no/-to*: Polish vs. Ukrainian

| <i>-no/-to</i> | AUX | <i>by</i> -phrase | <i>/-no/-to/</i> + unaccusative | subject binding |
|----------------|-----|-------------------|---------------------------------|-----------------|
| Polish | * | * | ✓ | ✓ |
| Ukrainian | ✓ | ✓ | * | * |

3.2. The AUX Hypothesis

The facts discussed in section 3.1 and summarized in (18) are neatly accounted for by the following proposal:

¹⁶ Notice that the canonical agreeing Passive in Polish is likewise unable to control the implied subject of adverbial gerunds (thus patterning with Ukrainian *-no/-to*):

(i) Polish Agreeing Passive: Control of Adverbial Gerund

a. **Ta książka była czytana (przez Janke)*
 this book_{NOM.FEM.SG} AUX_{PAST.FEM.SG} read_{FEM.SG} by Janek_{ACC}
siedząc przy kominku.
 sitting_{GER} at fireplace [Dziwirek 1994: 192]

b. **Wracając do domu były śpiewane piosenki.*
 returning_{GER} home AUX_{PAST.FEM.PL} sung_{FEM.PL} songs_{NOM.FEM.PL}
 [Maling 1993]

- (19) AUX hypothesis: Polish (but not Ukrainian) */-no/-to/* has been re-analyzed as a syntactically-independent auxiliary element heading a Tense projection.

The AUX HYPOTHESIS for Polish *-no/-to* immediately accounts for */-no/-to/*'s complementary distribution with overt tense-marking auxiliaries. The position ordinarily occupied by tense-marking auxiliaries is already filled by */-no/-to/* (see section 3.2.1 for a more explicit account of the structure). Furthermore, auxiliaries are “functors” with respect to the predicate’s theta-properties. They have no argument structure (or meaning) of their own and, as a result, they simply inherit the argument structure of the predicate with which they compose (see Di Sciullo and Williams 1987). If the predicate’s argument structure is not affected by */-no/-to/* affixation, then the robust subject properties of the external argument and the lack of a passive *by*-phrase fall out automatically. The fact that */-no/-to/* can be attached to unaccusatives and raising verbs is also explained: there is no vacuous dethematization effect (Marantz 1984) since auxiliaries, unlike passive-participial morphemes, do not carry an argument-structure restriction.

The AUX HYPOTHESIS does not apply to Ukrainian *-no/-to*. That is, in the case of Ukrainian, *-no/-to* predicates are drawn from the lexicon fully-formed. The usual adjustments to the predicate’s argument structure under passivization take place in the lexicon. This predicts the Ukrainian facts in (18) and presents an interesting case of divergent cognate morphology in the two languages.¹⁷

3.2.1. The AUX HYPOTHESIS and Morphology: Late Insertion and Adjacency¹⁸

To summarize, I have suggested that Polish */-no/-to/* is not a voice-altering derivational morpheme, but rather an independent syntactic head, occupying a position in the Tense system. Polish */-no/-to/* has essentially been degrammatized.¹⁹ This analysis has been shown to provide a

¹⁷ As one reviewer points out, the present analysis does not force the attachment of Ukrainian */-no/-to/* in the lexicon. It may also attach post-syntactically, like Polish */-no/-to/*. The key point here is that regardless of the morphophonological spell-out, Ukrainian *-no/-to* is morphosyntactically passive. Under an analysis in which Ukrainian */-no/-to/* attaches post-syntactically, we might assume that it is generated in *v* (as the reviewer suggests), which should account for its voice-altering behavior.

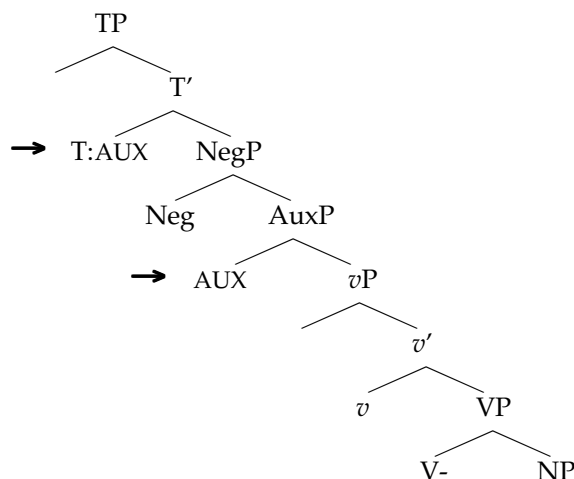
¹⁸ This section draws heavily on Lavine 2002.

¹⁹ See section 3.3 for a discussion of Grammaticalization Theory.

unified account for the wide range of phenomena given in (18). We now turn to the question of where Polish */-no/-to/* enters the structure and how it joins the verb-stem where it is pronounced.

Let us first examine the structure for Polish *-no/-to*. Following Borsley and Rivero 1994, I will assume that there are two positions in which auxiliaries can appear in Polish. The higher of these positions is referred to as “T(ense)P” and the lower as “AuxP”. The two positions are separated by a Negation projection. Note the structure in (20):

(20) Polish: AUX Positions



The two different types of auxiliaries are the past-tense clitic Person-Number (P-N) markers and clitic conditional *by*, on the one hand, and the non-clitic auxiliaries, *był*_{PAST}, *został*_{PAST}, *jest*_{PRES}, *będzie*_{FUT}, and *zostanie*_{FUT}, on the other. The discussion of detached clitic auxiliaries (that is, the possibility of filling the higher AUX position in (20)) applies only to those speakers for whom P-N markers can function as independent syntactic entities (which, according to Witkoś 1998, concerns mainly speakers of rural dialects in the south of Poland). I follow Booij and Rubach 1987 and Witkoś 1998 in assuming that the formation of the so-called “incorporated” past tense takes place in the lexicon (contra Borsley and Rivero 1994). The detached-clitic and incorporated past tense forms are exemplified in (21):

(21) Polish Past Tense Formation

a. Detached Clitic

| | | | | |
|--------------------|---------------------|---------|------|---------------------|
| Ty- | ś | widział | tę | książkę? |
| you _{NOM} | P-N _{2.SG} | saw | this | book _{ACC} |

- (21) b. Incorporated Past Tense
 Ty widział-eś tę książkę?
 ‘Did you see this book?’ [Borsley 1999]

Let us now turn to the basic facts of negation as they apply to the two AUX positions. As we see in (22–24), non-clitic auxiliaries follow the NEG particle, while detached clitic auxiliaries precede it:

- (22) Non-Clitic AUX and Negation
- a. Janek **nie będzie** czytał tej książki.
 Janek_{NOM} NEG AUX_{FUT} read this book_{GEN}
 ‘Janek will not read this book.’
- b. *Janek **będzie nie** czytał tej książki.
- (23) Clitic AUX and Negation: P-N Markers
- a. My- **śmy nie** czytali tej książki.
 we_{NOM} AUX_{1,PL} NEG read this book_{GEN}
 ‘We didn’t read this book.’ [Borsley and Rivero 1994]
- b. *My **nie-śmy** czytali tej książki.
- (24) Clitic AUX and Negation: Conditional *by*
- a. Janek **by nie** czytał tej książki.
 Janek_{NOM} COND NEG read this book_{GEN}
 ‘Janek would not read this book.’
- b. *Janek **nie by** czytał tej książki.

So the question now is which of these two positions /-no/-to/ occupies. Recall that the non-clitic auxiliaries and /-no/-to/ are in complementary distribution. This implicates the lower AUX position. This is further supported by the fact that /-no/-to/ cooccurs with conditional *by*, which I take to be in the same position as the P-N markers, following Borsley and Rivero 1994. Note, for example, the conditional *-no/-to* construction in (25):²⁰

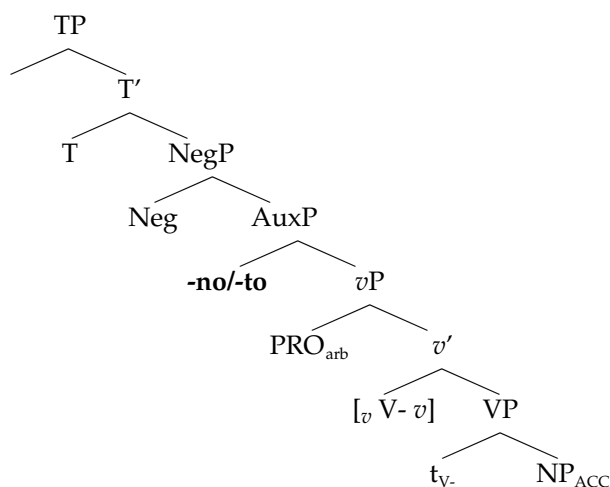
²⁰ I thank Barbara Citko for supplying this example.

(25) Polish: */-no/-to/* + Conditional *by*

Już by kupiono samochód, gdyby nie było
 already COND bought_{NO} car_{ACC} if NEG was
 innych rzeczy do zrobienia.
 other things_{GEN} for doing

'They would have already bought the car if there weren't other things to do.'

The cooccurrence of */-no/-to/* and conditional *by* rules out the higher AUX position for */-no/-to/*'s site of generation.²¹ The structure for Polish *-no/-to* is given in (26):

(26) Polish *-no/-to*²²

To recall, I am proposing that Polish *-no/-to* introduces a mismatch between syntactic and morphological structure. The */-no/-to/* morpheme enters the syntactic structure as an autonomous entity in the head of the lower Aux projection, but is pronounced together with the verb-stem. That is, the terminal nodes in the syntax receive a separate interpretation at the level of Morphology. This mismatch is schematized in (27):

²¹ Note that the P-N markers, also in the higher AUX position (T), are phonologically null in the 3.PL, the form required for the PRO_{arb} reading of Polish *-no/-to*. As a result, it cannot be determined conclusively whether */-no/-to/* and the P-N markers cooccur as well, though the present analysis assumes that they do.

²² The details of ACC Case assignment, the PRO_{arb} thematic subject, and the apparent V-initial structure will be taken up in section 3.2.2.

- (27) a. Syntax
 [AuxP [Aux -no/-to [vP PRO_{arb} [v V- v] [VP [V t_V NP]]]]]
- b. Morphology
 [AuxP [Aux [vP PRO_{arb} [v V-no/-to v] [VP [V t_V NP]]]]]

Heads pick up affixes in the following ways, given in (28) (see Bobaljik 1994):

- (28) Affixation
- a. pre-syntactic morpholexical operation
 - b. complex head formation in the syntax (via movement)
 - c. post-syntactic adjacency

The formation of *-no/-to* predicates in the lexicon, as in (28a), would require the subsequent covert excorporation of */-no/-to/* in order to maintain the explanatory force of the AUX HYPOTHESIS. Syntactic movement of subparts of zero-level categories requires an addition to the inventory of generally sanctioned movement operations. Proposing such a mechanism just for this purpose would therefore be stipulative and non-explanatory. Complex head formation, as in (28b), would require that the verb-stem move and adjoin to the lower AUX position. To be sure, this type of “Short Verb Movement” appears to be possible at first glance: such movement would bring the verb-stem and affix together while still allowing the complex head to be pronounced after NEG. The problem for such a syntactic approach is one of motivation. For this movement to be truly syntactic, it would have to be motivated by an insufficiency (i.e., an uninterpretable feature) of the target. The question is whether */-no/-to/*’s need to combine with its verbal host is an instance of such a (narrow-) syntactic feature. It is crucial to bear in mind that */-no/-to/* is selected from the lexicon with the property of being an **affix**. As Lasnik (1999) notes, the property of being an affix is morphophonological in nature (rather than syntactic), like being a clitic, and, therefore, should not drive movement in the syntax proper.

We now turn to the third possibility for affixation of */-no/-to/*, given in (28c). Linear adjacency is required for operations that apply to the mapping of syntax to the (Morpho-)Phonological Component (see Marantz 1988 and Bobaljik 1994). My proposal is that only the morphosyntactic features of */-no/-to/* are generated in the lower AUX head with no phonetic content, while the mapping to the (Morpho-) Phonological Component (PF) merges */-no/-to/* and V- (Late Insertion). That is, to be

clear, the lower AUX does not actually dominate any phonological material. According to separationist views of Morphology (Beard 1995, Halle and Marantz 1993), the morpheme enters the narrow-syntactic derivation without a phonological representation (see also Jackendoff 1997, ch. 4). The analysis to follow is premised on the claim that while PF sees an affix, the syntax just sees a head—a legitimate syntactic object. This is what lies behind the syntax/morphology mis-match in (27).

The operation that brings affixal */-no/-to/* together with the verb-stem under strict adjacency is a particular instance of Morphological Merger of structurally adjacent nodes (Marantz 1988, Halle and Marantz 1993). Morphological Merger takes a syntactic relation between two heads and replaces this configuration in PF by an affixation relation. According to Harley and Noyer (1999), “[w]hat Merger does is essentially ‘trade’ or ‘exchange’ a structural relation between two elements at one level of representation for a different structural relation at a subsequent level.” The role that adjacency plays is to ensure that the elements undergoing Merger are “close enough” to allow affixation. Morphological Merger is defined in (29) and schematized in (30):

(29) Morphological Merger (Marantz 1988)

At any level of syntactic analysis..., a relation between the heads X and Y may be replaced by the affixation of X to Y [as long as X is listed in the lexicon as an affix].

(30) Morphological Merger

$[X... [Y...]] \rightarrow [Y + X]$

This is what gives us (27b) from (27a) without recourse to poorly motivated syntactic movement. Note that operations at PF have also been proposed to account for English *do*-support (Lasnik 1981, 1999, Bobaljik 1994), the English possessive *'s* clitic (Marantz 1988), Germanic Verb Movement in Object Shift constructions (Bobaljik 1994), subject case-licensing in Irish (Adger 2000), and West and South Slavic cases of apparent Long Head Movement (Embick and Izvorski 1997, Konopasky 2001). Indeed, what all these phenomena have in common with Polish *-no/-to* is an adjacency requirement. That is, lexical items can undergo Morphological Merger only if they are adjacent with respect to what PF can see. If (Polish) */-no/-to/* were generated in the higher AUX position (T), rather than the lower one,

then NEG would intervene (along the lines of *do*-support) and disrupt the necessary adjacency relation between the affix and its verbal host.²³

To summarize, the evidence for combining Polish /-no/-to/ with the verb-stem **post**-syntactically is based on the following points: (i) that the requirement that affixes be affixed is a well-formedness constraint of the PF-component, not a formal feature of syntax (such as Case and agreement); and (ii) that /-no/-to/'s complementary distribution with elements in the lower AUX position indicates the presence of an adjacency condition on /-no/-to/ affixation. As we have seen, the post-syntactic Merger of /-no/-to/ in Polish has a wide variety of syntactic consequences. One of the main claims of this paper (see (3)) is that the properties that result from Polish /-no/-to/'s "late" Merger are precisely those that distinguish this construction from its Ukrainian counterpart. That is, the predicate-final morphology in the two languages bears the same set of syntactic features (namely, non-agreement—a ϕ -incomplete T); the divergent set of syntactic properties given in (18) (and further developed in subsequent sections) is the result of where in the derivation this morphology is attached.

3.2.2. The AUX HYPOTHESIS and Syntax: PRO_{arb} and the EPP

Under the hypothesis that Polish /-no/-to/ is an auxiliary element joined with the verb-stem post-syntactically, the fact that *-no/-to* predicates in Polish take ACC complements is now entirely unremarkable. Polish *-no/-to* involves no voice-altering operation in the lexicon. Furthermore, since Polish *-no/-to* projects a fully-thematic external argument, Burzio's Generalization plainly fails to apply (in contrast to Ukrainian *-no/-to*). There are, however, two syntactic peculiarities about Polish *-no/-to* that re-

²³ That NEG indeed precedes /-no/-to/ is illustrated in (i-ii):

- (i) Nie czytano tej książki.
 NEG read_{NO} that book_{GEN}
 'They didn't read that book.'
- (ii) Nie kochano swoich żon.
 NEG loved_{NO} REFL wives_{GEN}
 'They didn't love their wives.'

When the *-no/-to* form precedes NEG, as in (iii), Genitive of Negation fails to apply, which indicates constituent, rather than sentential, negation:

- (iii) Kochano nie swoje żony.
 loved_{NO} NEG REFL wives_{ACC}
 'They loved not their own wives [but others].'

quire further discussion: the source of the PRO_{arb} interpretation and the related question of the apparent systematic EPP-violation (that is, the neutral V-initial word order).

3.2.2.1. Polish *-no/-to* and PRO_{arb}

I have assumed, as in Franks 1995, that the fully-thematic external (or highest) argument of Polish *-no/-to* is PRO_{arb} . Let us examine this assumption in light of other possible empty categories, such as a small *pro* or null expletive element. The fact that the external argument is precisely that, a referential, thematic argument, rules out the possibility that the subject of Polish *-no/-to* is expressed by a null pleonastic element. As for small *pro*, the element prototypically invoked as the subject of *pro*-drop languages (including Polish), the question turns on the exact nature of the external argument's reference. The (phonologically) null external argument of Polish *-no/-to* has the following two properties: (i) it requires a [+sentient/volitional] participant; and (ii) its reference is interpreted as arbitrary (see, among others, Dyła 1983, Rozwadowska 1992, Maling 1993, Dziwirek 1994, and Cetnarowska 2000). These properties are illustrated in (31-33). The examples in (31) show that non-human animate external arguments are ruled out. The examples in (32) show that the "Causer" can be neither a non-human concrete object (as in (32a-b)), nor a natural element (as in (32c)). The example in (33) indicates that the reference of the external argument must be generic; specific reference is ruled out.

(31) Polish *-no/-to*: [+sentient]

- a. **Na podwórzu szczekano.*
 in yard barked_{NO}

'There was barking in the yard.' [Dyła 1983: 123]

- b. **Ociełono się / okocono się.*²⁴
 calved_{NO} REFL cubbed/kittened_{NO} REFL

'There was given birth to a calf / a cub, a kitten.' [Maling 1993]

²⁴ Maling (1993) compares ungrammatical (31b) to the following example in which the process of giving birth is [+human] and, thus, presumably, [+sentient]:

- (i) *Rodzone dzieci w domu.*
 born_{NO} children_{ACC} in home

'They bore children at home.'

(32) Polish *-no/-to*: [+sentient]

- a. *Toczono się po stole bilardowym.
 rolled_{NO} REFL along table billiard
 ‘They [balls] rolled along the billiard table.’ [Cetnarowska 2000:89]
- b. *Zaskoczono mnie brzydkim wyglądem.²⁵
 surprised_{NO} me_{ACC} ugly appearance_{INST}
 ‘They surprised me with their ugly appearance.’ [Rozwadowska 1992:64]
- c. *Drzewo spalono słońcem.
 wood_{ACC} burned_{NO} sun_{INST}
 ‘The wood was burned/warped by the sun.’

(33) Polish *-no/-to*: Generic Reference

- *Jan_i długo szukał tej książki i PRO_i/pro_i
 Jan_{NOM} long time searched this book_{GEN} and
 wreszcie ją znaleziono.
 finally it_{ACC} found_{NO}
 ‘Jan searched a long time for this book and finally found it.’

Maling (1993) notes that the human ([+sentient]) arbitrary reference restriction on the subject of Polish *-no/-to* links this construction to that of infinitival clauses with PRO_{arb} subjects, such as the examples in (34) (from Maling 1993):

- (34) a. It’s all too common to bark (at your kids / *in the dogpound).
 b. It’s common to be warped (in an insane asylum / *in a lumberyard).
 c. It’s normal to be rusty (after not speaking French for years / *after lying in water for weeks).
 d. *To be milked before dawn is important.
 e. *To exist without a proper governor is difficult, except for PRO.

A further property linking the two constructions (also noted by Maling 1993) is the lack of agreement (a ϕ -incomplete T). Just as *pro* canonically occurs in finite, agreeing predicates, PRO appears to require non-agree-

²⁵ Rozwadowska (1992: 64) notes that (32b) is improved if the implied subject had control over his/her appearance and deliberately manipulated it.

ment. We conclude on the basis of these agreement facts, together with the facts related to the arbitrary interpretation of Polish *-no/-to*'s subject, that Polish *-no/-to* involves a big PRO subject (rather than small *pro* or a null expletive).²⁶ We now turn to the effect that the PRO_{arb} subject in Polish *-no/-to* has on the neutral word order of this construction, particularly in comparison with its Ukrainian counterpart, which lacks such a thematic subject.

3.2.2.2. Polish and Ukrainian *-no/-to* and the EPP

A surprising fact about Polish *-no/-to* is that it appears to occur discourse-neutrally as V-initial. That is, Polish *-no/-to* appears to systematically violate the EPP, the requirement that the specifier of T be filled.²⁷ An equally surprising fact is that Ukrainian *-no/-to* under neutral discourse does **not** similarly violate the EPP. Since Ukrainian *-no/-to* does not involve standard NP-Movement for (NOM) Case, the word-order difference illustrated by the cognate examples in (35-36) (repeated from (1-2)) is, at first glance, unexpected:

(35) Polish

- a. Znaleziono niemowlę w koszu.
 found_{NO} baby_{ACC} in basket
 'They found a baby in a basket.'

²⁶ A reviewer points out the following problem, however, for the PRO_{arb} analysis for Polish *-no/-to*: the PRO_{arb} in Polish uncontrolled infinitivals patterns with MASC.SG predicate adjectives, while the PRO_{arb} that I posit for *-no/-to* is compatible only with predicate adjectives that are MASC.PERSONAL.PL, as in the examples in (i-ii), provided by the reviewer:

- (i) Jest ważne [PRO być szczęśliwym / *szczęśliwymi].
 is important to be happy_{INST.MASC.SG} happy_{INST.PL}
 'It is important to be happy.'
- (ii) PRO wyglądało na *szczęśliwego / szczęśliwych.
 look_{NO} happy_{ACC.MASC.SG} happy_{ACC.MASC.PERSONAL.PL}
 'They looked happy.'

It is not clear whether these facts follow from a language-specific property of infinitival PRO in Polish (which I suspect is the case), from more general properties of the *-no/-to* construction, or from a finer-grained analysis of PRO itself.

²⁷ Polish and Ukrainian are both SVO languages.

- (35) b. Wsadzono cudzoziemca do więzienia.
 placed_{NO} foreigner_{ACC} to prison
 ‘They put a foreigner in prison.’
- (36) Ukrainian
- a. Nemovlja bulo znajdeno u koшыku.
 baby_{ACC} AUX_{PAST} found_{NO} in basket
 ‘The/A baby was found in a basket.’
- b. Inozemcja bulo posadżeno do v’jaznyci.
 foreigner_{ACC} AUX_{PAST} placed_{NO} to prison
 ‘The/A foreigner was put in prison.’

The focus-structure facts for the Polish and Ukrainian *-no/-to* constructions in (35-36) are as follows. If the NP_{ACC} appears sentence initially in Polish, it is obligatorily interpreted as topicalized. Let us assume that this is A-bar movement to a specifier position higher than the Tense projection. In the case of Ukrainian, where the NP_{ACC} appears preverbally, two interpretations are available: one in which the moved constituent occupies the same position described above for Polish, with the attendant topicalized reading; and a second in which a non-generic, indefinite NP_{ACC} undergoes A-movement to the Spec-TP position. This latter instance of movement allows focus projection, whereby the whole sentence is maximally focused (that is, a sentence which can be appropriately uttered in an “out-of-the-blue” context, such as in reply to ‘what happened?’). Compare (37a) with its V-initial counterpart in (37b):

- (37) Ukrainian
- a. Čy ty čula, ščo stalosja? Nemovlja bulo
 Q.PRT you hear what happened baby_{ACC} AUX_{PAST}
 znajdeno u koшыku.
 found_{NO} in basket
 ‘Did you hear what happened? A baby was found in a basket.’
- b. # Čy ty čula, ščo stalosja? Bulo znajdeno nemovlja u koшыku.

The V-initial order for Ukrainian *-no/-to* is reported as awkward in discourse-neutral speech. It represents a non-basic, scrambled order. The interpretation entails either narrow focus on the right edge, with all other elements interpreted as part of the presupposed segment of the clause, or a

narrative-inversion structure, familiar from the Germanic literature, with a folksy, “story-initial” reading.²⁸

The question, then, is why this word-order difference arises between these cognate constructions in Polish and Ukrainian. We are left with the options of either stipulating that the EPP simply fails to hold in Polish *-no/-to* or showing that the EPP holds equally of the two languages, but with different results for *-no/-to*. The latter option is preferable conceptually if it can be shown to follow in a principled way from what we already know about these constructions. Recall that traditional NP-Movement is motivated by the cooccurrence of a Caseless object and a non-thematic subject position (Chomsky 1981). In the case of Polish *-no/-to* neither property is present. The configuration of a ϕ -complete v (= an ACC-Case-assigning v) and a ϕ -incomplete T (= a non-agreeing predicate) allows for the object to be Case-marked in situ (by “Long-Distance Agree” in Chomsky’s 2001 Derivation by Phase system), with no subsequent requirement that T’s uninterpretable ϕ -features be checked. Notice, further, that the subject of Polish *-no/-to* is fully-thematic and, as we observed in section 3.1, syntactically active. It thus appears reasonable to propose that the subject position (Spec-TP) of Polish *-no/-to* is occupied precisely by the PRO_{arb} argument postulated in the previous section. That is, PRO_{arb} itself satisfies the EPP and blocks further movement into this position. This is precisely what accounts for the apparent V-initial neutral order. Furthermore, since PRO , by hypothesis, contains no agreement features (by virtue of its Null Case), there is no conflict with the ϕ -incomplete T head. That is, since PRO is not “active,” in the sense of Chomsky 2001, it does not enter into a checking relation with T (see Bowers 2002 for additional discussion). Now observe that the EPP-satisfier in Polish *-no/-to* cannot be the object. As shown in (38) (still following Bowers 2002), EPP-motivated movement on the part of the direct object would involve a violation of Chomsky’s (1995) Minimal Link Condition (or any version of Minimality or Shortest Move) — PRO_{arb} is the closest XP to Spec-TP:

$$(38) \quad [\text{TP} \quad \text{T} [\text{AuxP} \text{-no/-to} \quad [\text{vP} \text{PRO}_{\text{arb}} \quad [\text{v} \text{V-} \text{v}] \quad [\text{VP} [\text{v} \text{t}_v \text{NP}]]]]]]$$

The diagram shows a horizontal line with an upward-pointing arrow on the left end, starting from the NP in the VP and pointing to the Spec-TP position. A large 'X' is drawn over this line, indicating that movement is blocked.

²⁸ The term “story-initial” is borrowed from Bailyn 1998, where it is applied to V-initial structures in Russian. See Zwart (1997) for details of the V-initial narrative inversion structure in Germanic.

Thus, assuming the current analysis, namely that the EPP requirement of T is satisfied by PRO_{arb} in Polish *-no/-to*, it follows that the NP object must occupy a position higher than T when appearing pre-verbally, which accounts for its obligatory topicalized interpretation.

The word-order difference between Polish and Ukrainian *-no/-to* illustrated in (35-36) thus reduces to the presence versus absence of the PRO_{arb} constituent, itself an epiphenomenal effect of the AUX HYPOTHESIS for Polish *-no/-to* (namely, the lack of any voice-altering morphology in the Polish construction). In the case of Ukrainian *-no/-to*, there is no intervening constituent, as in (38), to prevent the object NP from satisfying T's EPP requirement. This, in short, accounts for the NP_{ACC} V_{-NO/-TO} PP/NP_{INST}/∅ word order in the Ukrainian construction, though, to be sure, much remains to be explained. In particular, the question arises in recent work on minimalist syntax as to whether the EPP requirement of T alone, in the absence of active ϕ -features on the functional head, is sufficient to cause displacement (see fn. 10; for extensive discussion, see Lavine and Freidin 2002). The question of the syntax of Ukrainian *-no/-to* will be taken up shortly in section 4.

Before proceeding, let us consider a typological issue raised by the present analysis of Polish *-no/-to* for Grammaticalization Theory.

3.3. Polish *-no/-to* and Grammaticalization Theory

Grammaticalization is the process whereby full lexical items become grammatical morphemes. Grammaticalization may also refer to the process whereby free grammatical morphemes become "more grammatical", that is, bound. Grammaticalization has thus been regarded as the process responsible for the creation of new morphology from old syntax (see Andersen 1987). Grammaticalization Theory holds that this gradual loss of grammatical independence is **unidirectional**; that is, the grammaticalization of free morphemes as bound affixes ("morphosyntactic downgrading") is the rule for morphosyntactic change, while the degrammaticalization of bound morphemes (i.e., bound > free, or "morphosyntactic upgrading") is believed not to occur, and, indeed, in the functionalist literature, is viewed as unmotivated (see Heine, Claudi, and Hünnemeyer 1991 and Hopper and Traugott 1993 for a defense of the unidirectional view of grammaticalization, and Newmeyer 1998, ch. 5 and Janda 2001 for a critical appraisal of this view). It follows that the lexicalization of affixes should be a problem for Grammaticalization Theory. Newmeyer (1998:263) notes that such instances of morphosyntactic upgrading are indeed "rampant". Examples (cited in Newmeyer 1998 and Janda 2001) in-

clude Case affixes > adpositions, agreement affixes > independent pronouns, and agreement affixes > phrasal clitics.²⁹ The analysis that I propose for Polish *-no/-to*—namely, its lexicalization (in narrow syntax) as an auxiliary—is, by hypothesis, another such instance of upgrading, whereby the stipulated unidirectionality of grammaticalization is countered via the “freeing” of a grammatical morpheme.

Polish *-no/-to* thus presents a legitimate challenge to the unidirectionality stipulation of Grammaticalization Theory. The problem, as we have noted, is that the reanalysis of Polish */-no/-to/* appears to proceed in the “wrong” direction. Section 3.3.1 examines how the old inflectional */-o/* segment of */-no/-to/* was reanalyzed. In section 3.3.2 we return to the question of directionality.

3.3.1. Reanalysis of Inflectional */-o/*

Reanalysis refers to a type of historical change that alters underlying syntactic relations without directly affecting the surface form. I have stated that the AUX HYPOTHESIS for Polish *-no/-to* involves reanalysis, but I have not yet indicated the source of this reanalysis. The following discussion and examples are meant to clarify this point.

When adjectives developed in Common Slavic as a discrete category, there developed two distinct adjectival/participial declensions: a short form (SF) **nominal** declension and a long form (LF) **pronominal** declension.³⁰ The initial distinction between the two declensions involved definiteness: the demonstrative pronoun in the pronominal declension functioned like a postposed definite article. Later, adjectives and participles of the nominal (SF) declension were restricted in Polish and Ukrainian to predicative use, so that the distinction between the LF and SF came to be defined positionally, rather than semantically (see Sprinčák 1960:112-117 and Klemensiewicz et al. 1965:323-326). Note that the nominal declension of adjectives was particularly susceptible to reduction (and reanalysis) in those languages whose pronominal declension of adjectives underwent some form of contraction or truncation, resulting in monosyllabic forms that no longer contrasted as neatly with the SF endings of the initial nominal declension. This development occurred precisely in Polish and Ukrainian, in contrast to neighboring Russian and Belarusian, where con-

²⁹ These examples are in contrast to the better known cases of “downgrading”, or the loss of grammatical independence; note, for example, changes such as pronoun > clitic, clitic > affix, adposition > Case marker, and demonstrative pronoun > definite article.

³⁰ The latter was formed by adding the Common Slavic demonstrative pronoun *-j*, (where *ɨ* is a reduced front vowel) to the nominal form.

traction of the LF declension did not occur.³¹ The crucial point to note in this discussion is that the contracted participles based on the initial pronominal declension now came to be used in the predicative position in Polish and Ukrainian, with the result of further isolating the older nominal forms. The Common Slavic pronominal NEUT.SG form /-oje/ contracted in Polish and Ukrainian to /-e/ (with various irrelevant intermediate stages). Nominal NEUT.SG /-o/ was now a member of an unproductive paradigm. This strictly phonological development was completed by the beginning of the 17th century (Oesterreicher 1926:57, Bevzenko 1960:194, Brajerski 1979:85, Shevelov 1979:114-115). This is precisely when *-no/-to* became productive in Polish and Ukrainian. Shevelov (1969) and Brajerski (1979) argue that *-no/-to* did not exist prior to the 14th century, nor was it known in Old Church Slavonic or in the earliest Polish and East Slavic documents.

In the Polish of the 15th–16th centuries, while the SF participial endings were still used predicatively, an underlying NEUT.SG object NP was morphologically ambiguous between a raised NOM NP in an agreeing structure (/o/ as an inflectional ending) and an ACC NP in a non-agreeing one (/o/ as a reanalyzed marker of non-agreement).³² See, for example, (39). By the latter part of the 17th century, the two variants are disambiguated both morphologically and syntactically. The ACC object came to pattern exclusively with SF /o/ and the lack of a tense-marking auxiliary. Note the following early examples of Polish *-no/-to* in (39-41), in which /o/ and an overt auxiliary cooccur:

(39) Old Polish

Nie obleczesz się w rucho, jeżto
 NEG you will dress REFL in garment_{NEUT.SG} which_{NOM/ACC.NEUT.SG}
 z wełny a ze lnu tkano jest.
 from wool and from linen woven_{NEUT.SG/-NO} AUX_{PRES}
 ‘You shall not wear a garment that is woven of both wool and linen.’
 [Deut 22,11 from Biblja Królowej Zofji, 15th Cent.,
 cited in Oesterreicher 1926: 55]

³¹ For discussion, see Brajerski 1979 for Polish and Shevelov 1979 for Ukrainian.

³² Where the NEUT.SG is syncretic for NOM and ACC.

(40) Old Polish

... bo też w ten dzień Scypiona Afrykańskiego było
 for also on that day Scipio Africanus_{ACC} AUX_{PAST}

barzo porażono.
 greatly stricken_{NO}

'...for also on that day Scipio Africanus was dealt a great blow.'

[16th Cent.] [Klemensiewicz et al. 1965: 433]

(41) Old Polish

Lata Pańskiego był wielki mor w Polsce... a
 year of lord was great famine in Poland and

przyniesiono go było z Węgier.
 brought_{NO} him_{ACC} AUX_{PAST} from Hungary

'During the rule of the gentry there was a great famine in
 Poland...and he was brought from Hungary.' [15th Cent.]

[Oesterreicher 1926: 56]

The Old Polish examples in (42–44) show the more stable pattern that developed after the complete reanalysis of *-no/-to*. Here the auxiliary is obligatorily missing and the direct object is unambiguously ACC. Even in the case of the NEUT.SG, which remains morphologically ambiguous between the NOM and ACC, the missing auxiliary indicates a new syntactic structure in the language that patterns with structural ACC.³³

(42) Old Polish

...a popędzono sierce ludskie k działaniu.
 and driven_{NO} heart_{ACC} people's toward work

'... for the people's hearts were driven to work.'

[Nehem 4,6 from Biblja Królowej Zofji, 15th Cent.,
 cited in Oesterreicher 1926: 55]

³³ The examples in (42–44) do not follow those in (39–41) chronologically. They are merely intended to show that the transitional period in *-no/-to* formation (15th–17th centuries) contained examples of both the earlier and the later structures.

(43) Old Polish

I smiotano nań wieliką grumadę kamienia.
 and raised_{-NO} on him great bunch_{ACC} of stone

‘And they raised over him a great heap of stones.’

[Jos 7,26 from Biblja Królowej Zofji, 15th Cent., cited
 in Oesterreicher 1926: 55]

(44) Old Polish

Przykazał, aby łodkę uczyniono z rokitnicy.
 he ordered COMP boat_{ACC} made_{-NO} from wicker

‘He ordered that a boat be made of wicker.’ [1510]

[Brajerski 1979: 91]

That the loss of tense-marking auxiliaries was a crucial part of *-no/-to*'s reanalysis is confirmed by the examples in (45–46) from Ukrainian of the 17th century. Here we see that Old Ukrainian simply borrowed the surface syntax of the mature Polish construction (though Modern Ukrainian, as we know, did not retain the underlying syntax of Polish *-no/-to*). That is, Old Ukrainian *-no/-to* initially (and, indeed, for several centuries) also appeared with no auxiliary.³⁴

(45) Old Ukrainian

Pavlusja u Varšavi stjato.
 Pavlus'_{ACC} in Warsaw beheaded_{-TO}

‘Pavlus was beheaded in Warsaw.’ [17th Cent.] [Bevzenko 1960: 348]

(46) Old Ukrainian

...aby jeho ne potkala běda, jak Stefana
 COMP him_{ACC} NEG meet misfortune like Stefan

popa, kotoroho v Luc'kij rěčě utopleno.
 priest_{ACC} whom_{ACC} in Luc'k river drowned_{-NO}

‘... so that he were not met with misfortune like Stefan the priest,
 who was drowned in the Lutsk river.’ [1605–06]

[Borkovskij 1968: 178]

³⁴ The language of the 16th–17th centuries is generally referred to as “Middle” Ukrainian. The term “Old” Ukrainian used in the text is meant to distinguish all older forms of the language that follow the period of Common East Slavic (sometimes referred to as “Old Russian”).

The fact that the ACC direct object came to be used productively in *-no/-to* predicates only after the auxiliary's disappearance provides further support for linking */-no/-to/* with the auxiliary position in the syntax.

3.3.2. On the Non-Directionality of Grammaticalization

We now return to the question of directionality. Recall that I am arguing that the reanalysis described in the previous section (that is, the AUX HYPOTHESIS) proceeds in a direction that is not consistent with the typology assumed for historical syntactic change by grammaticalization theorists. Grammaticalization Theory treats historical syntactic change as a series of downgradings. Let us compare the history of Polish */-no/-to/* with that of the Person-Number (P-N) markers used in the modern Polish preterite, discussed in section 3.2.1. In modern Polish the P-N markers appear in two varieties: detached clitics and word-final affixes³⁵ (for most speakers these variants do not occur in the same dialect). According to Andersen (1987), affixal P-N markers (such as *widział-em*_{saw.1.SG} 'I saw') were derived (reanalyzed) from original present-tense auxiliaries (see also Witkoś 1998). That is, the original present-tense auxiliary forms of 'be' in Old Polish now serve, in reduced form, as agreement markers in the Modern Polish preterite (cf., for example, 1.SG Old Polish *jeśm* and Modern Polish affixal (or clitic) P-N *-(e)m*). This is precisely the direction of morphosyntactic change that is expected under Grammaticalization Theory: a downgrading in morphological independence (free > bound). With Polish *-no/-to* we are essentially faced with the opposite problem. Here, an original word-final affix is interpreted as an auxiliary. That is, I am proposing that material that has always been attached historically has covertly occupied a **detached** position in the syntax for the last several centuries.³⁶ The difference in derivational history between P-N markers and */-no/-to/* is schematized in (47a-b):

- (47) a. Reanalysis of P-N Markers b. Reanalysis of */-no/-to/*



³⁵ See (21a–b).

³⁶ According to Oesterreicher 1926 and Klemensiewicz et al. 1965, the process of *-no/-to* formation was completed as recently as the 17th century.

In (47a) there is diachronic movement from a higher Aux position to a new site of pronunciation, while in (47b) there is movement from the site of pronunciation to a higher (though different) Aux position for interpretation.³⁷ The only way to account for these facts is to admit morphosyntactic upgrading as a legitimate source of historical syntactic change. Therefore, Polish *-no/-to* provides supporting evidence for the argument that the direction of grammaticalization is counterable.³⁸ That is, not only does new morphology arise from old syntax, as in the standard cases of grammaticalization, but, as we have seen, new syntax may arise from old morphology as well.

4. Ukrainian *-no/-to*: Case and Agreement

Recall that the post-syntactic merger of Polish */-no/-to/* has the added advantage of accounting neatly for the ACC Case-marking on the predicate's complement. This is because Polish *-no/-to* does not entail passivization; the word-final affix is not voice-altering. Note that the same is not true for Ukrainian *-no/-to*. We now turn to the "Ukrainian problem"—namely, how is it that a true passive predicate can appear with an ACC-Case-marked complement? As noted above, this is in violation of Burzio's Generalization, the correlation between a predicate's thematic and Case-assigning properties, now given in (48):

- (48) Burzio's Generalization (Burzio 1986: 178; and Chomsky 1986: 139)
 A verb (with an object) Case-marks its object if and only if it θ -marks its subject.

A violation of Burzio's Generalization, by itself, does not present a problem, since Burzio's Generalization is not a principle of Grammar. The attempt to formalize Burzio's Generalization in Chomsky (1995, ch. 4) was to link ACC Case licensing with the same functional projection that is responsible for projecting the external θ -role, namely the light verb *v*, which dominates lexical VP (see Martin 1999 for discussion). Burzio's Generalization is in this sense derived, rather than simply stipulated. But this type of light-*v* analysis simply restates the problem, since the projection of an external argument is still mysteriously linked to the ability to

³⁷ Of course, this is stated in purely descriptive terms. Recall that I do not propose syntactic movement for (47b).

³⁸ Perhaps, then, for such cases of upgrading, these changes should not be considered "grammaticalization" at all. Regardless, the point here concerns the direction of morphosyntactic change more generally, rather than questions of strict terminology.

assign structural ACC. If Ukrainian *-no/-to* is indeed a genuine passive, then the functions of *v* must be split (see Bowers 2002 for a proposal compatible with the present one). Only in this way can a predicate be derived in which its subject is non-thematic while its object is ACC-marked. I will show that such a configuration holds only in the presence of non-agreeing morphology on Tense. The basic intuitive idea is that *v* can value ACC Case “downstairs” only if there is no subsequent requirement to check T’s uninterpretable ϕ -features, linked with the valuation of NOM Case, “upstairs”. One NP cannot instantiate two different structural Cases in the course of a single derivation.

Examples of uncontroversially passive Ukrainian *-no/-to* forms are given in (49). These are all predicates whose initial external argument is dethematized by */-no/-to/* and may license, as a result, an agentive *by*-phrase.

(49) Ukrainian

- a. Tabir bulo zajnjato amerykans'kym vijs'kom.
 camp_{ACC} AUX_{PAST} occupied_{TO} American troops_{INST}
 ‘The camp was occupied by American troops.’
 [Wieczorek 1989: 117]
- b. Ja spodivajusja, ščo cej žart ne bude vykorystano
 I hope that this joke_{ACC} NEG AUX_{FUT} used_{NO}
 “Pravdoj Ukrajinjy”.
 Pravda_{INST} Ukraine
 ‘I hope that this joke won’t be used by *Ukrainian Pravda*.’
 [Wieczorek 1994: 47]
- c. Na Valentyna Stepanovyča včyneno napad
 on Valentyn Stepanovyč committed_{NO} attack_{ACC}
 nevidomymy osobamy.
 unknown individuals_{INST}
 ‘An attack has been committed on Valentyn Stepanovyč by
 unknown individuals.’ [Adams 1998: 72]

What is at issue here is the unexpected lack of “Case-absorption” in these passives. This problem has been handled in various ways in the pre-minimalist literature: Sobin (1985) sought to parameterize the application of Case-absorption itself (see Babby 1989/2002 for a critique of Sobin 1985); Baker, Johnson, and Roberts (1989) and Franks (1995) sought to parameterize the Case that is assigned to the passive morpheme (following

Jaeggli's (1986) proposal that the passive morpheme is an argument and, thus, must receive both Case and a theta role). These and similar accounts fail to explain why Ukrainian *-no/-to* patterns the way it does. That is, there is no indication as to what the source for such parametric variation might be. The approach that I take focuses on independently-motivated requirements of the narrow syntactic derivation; namely, the requirement to check and delete uninterpretable Case-features of NPs and ϕ -features of *v* and T. That is, Case and agreement must, in some sense, be licensed. No new machinery is added specifically for the purpose of explaining Ukrainian *-no/-to*.

We begin with the idea that, in principle, all unaccusative predicates can potentially assign (license, check) ACC on their complement. Let us broaden the paradigm by considering the "adversity impersonal" construction in Russian (see Babby 1994, Lavine 2000, and Lavine and Freidin 2002). This is a construction that projects no external argument, but two internal ones, one marked for structural ACC and the other bearing a form of inherent Case (that is, Case assigned in the lexicon by association with a particular theta role). One of the internal arguments (in fact, either one) appears pre-verbally to satisfy the EPP-requirement of (defective/ ϕ -incomplete) T.^{39,40} I will refer to the class of ACC-Case-assigning unaccusatives (including both Russian adversity impersonals and Ukrainian *-no/-to*) as "accusative" unaccusatives. The goal is to provide a unified analysis for both constructions, one whose predicate is finite and active, and the other whose predicate is non-finite and passive. The possibility of such a unified analysis provides evidence against purely taxonomic approaches ("active" vs. "passive"). Consider the following accusative unaccusatives from Russian in (50) (from Lavine 2000, and Lavine and Freidin 2002):

(50) Russian Finite Accusative Unaccusative

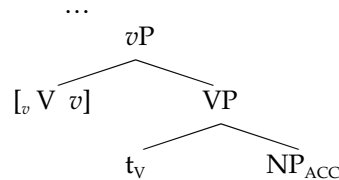
- a. Soldata ranilo pulej.
 soldier_{ACC} wounded_[-AGR] bullet_{INST}
 'A soldier was wounded by a bullet.'

³⁹ See Lavine and Freidin 2002 (263–83) for a full treatment of EPP-satisfaction as an instance of A-movement in both the Russian adversity impersonal construction and Ukrainian *-no/-to*. See also Bailyn 2004 for a broader discussion of the Russian EPP facts.

⁴⁰ See Lavine and Freidin 2002 (263–68) for evidence that the ACC complement in Russian and Ukrainian ACC-Case-assigning unaccusatives is indeed an instance of **structural** ACC, rather than the quirky ACC familiar from psych predicates in Icelandic.

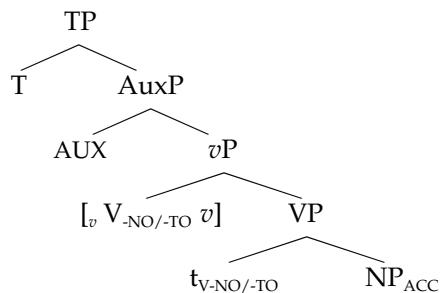
precluded for NPs bearing non-NOM Case. It follows that while any unaccusative *v* can potentially assign ACC to its complement, this operation will survive only those derivations that do not subsequently require that this ACC NP enter into a relation with T's ϕ -features.⁴² This correlation between Case in the *v*P and the status of the ϕ -set in T is schematized in (52):

(52) T [$^*\phi$ -complete]



The structure for Ukrainian *-no/-to* is given in (53). Under the current approach, the difference between the structure for Ukrainian *-no/-to* and its Polish counterpart in (26) is the site of */-no/-to/*'s generation and the resulting lack of an external argument in the case of Ukrainian.⁴³

(53) Ukrainian *-no/-to*



Note that T is defective (ϕ -incomplete) in both Polish and Ukrainian *-no/-to*. This allows a ϕ -complete *v* in both cases to value ACC on lexical V's complement (via "long distance" Agree), thus unifying the ACC-Case-assigning mechanism in the two languages. There is no such thing as "Case absorption". Contra recent theory on the properties of *v*, the licit assignment of ACC Case on the object reduces to a fact about agreement on T,

⁴² See Harves 2002 (chapter 2) for more discussion of the relation between unaccusativity and ϕ -completeness.

⁴³ This is an abbreviated structure designed to highlight the different status of the */-no/-to/* morpheme in the two languages. A more complete structure would show EPP-driven movement into Spec-TP (see section 3.2.2.2).

rather than to the question of whether or not *v* assigns an external argument.

To review, the main claim made on the basis of Ukrainian *-no/-to* concerns the functions of *v* and the role of agreement in the Case-assigning system of unaccusatives. It is clear on the basis of Ukrainian (and Russian) data that *v* may appear ϕ -complete without projecting an external argument. This result is intuitively appealing since the linking of *v*'s Case- and theta-assigning properties has never been truly understood. A second finding in this section is that a Tense projection impoverished for agreement is a necessary condition for the class of accusative unaccusatives.

5. Conclusion

The main empirical claim of this paper is that the Polish */-no/-to/* affix is interpreted as the head of a functional projection. The first piece of evidence for this proposal is the complementary distribution of Polish */-no/-to/* and anything else heading the lower Aux position. The AUX HYPOTHESIS for Polish */-no/-to/* neatly accounts for the other syntactic properties of this construction and distinguishes it, in a principled way, from its superficially similar Ukrainian counterpart. Assuming that stranded affixes constitute a PF-violation, rather than a strictly syntactic one, it is shown that Polish */-no/-to/* and the verb-stem are joined under affixation in the (Morpho-)Phonological Component of the grammar. The theory presented for Polish *-no/-to* relies on the idea that morphemes can provide one set of instructions for narrow syntax and another, unrelated, set of instructions for their phonological realization. I have attempted to show that some such separationist theory of Morphology is necessary. Note additionally that the AUX HYPOTHESIS entails the ancillary claim that historical syntactic change does not proceed unidirectionally, as claimed by Grammaticalization Theory. The diachronic linguistic process involves both morphosyntactic downgradings and upgradings.

In the case of Ukrainian *-no/-to*, where the AUX HYPOTHESIS does not apply, the cooccurrence of an ACC-marked object and genuinely passive morphology presents a problem for the standard Case and agreement mechanisms assumed for unaccusatives. It has been shown that it is precisely an incomplete ϕ -set on T that allows certain unaccusative predicates to converge with ACC-Case-marked complements. Notice that the analysis of accusative unaccusatives turns on agreement facts, rather than on poorly understood mechanisms relating a functional head's theta- and Case-assigning properties. With standard unaccusatives, where T is ϕ -complete, the direct internal argument cannot appear in the ACC Case be-

cause that would force this single NP to enter into a checking relation with both T and *v*. In this case, *v* must appear ϕ -incomplete. Ukrainian *-no/-to* instantiates the opposite phenomenon: if *v* values ACC on the object NP, then T must appear ϕ -incomplete.

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