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COVERT A-MOVEMENT IN CHILD SERBO-CROATIAN: EVIDENCE FROM THE INVOLUNTARY STATE CONSTRUCTION[*]

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The involuntary state construction in Serbo-Croatian involves covert A-movement of the theme argument to the subject position, and is therefore predicted to be a problematic acquisition for children younger than five by both the *A-chain Deficit Hypothesis* (Borer and Wexler 1987, 1992), and the *Universal Phase Requirement* hypothesis (Wexler 2004). However, these predictions are contradicted by the results of this study. Since the involuntary state construction has no syntactic homophones, we conclude that the ability to represent A-chains resulting from covert movement of theme arguments is not dependent upon biological maturation.

1. INTRODUCTION. The involuntary state construction is a challenging one for linguistic theory with respect to both its structure and its meaning. Specifically, it requires an eventive verb that selects for an agent, and yet (a) shows properties of an agentless unaccusative predicate, and (b) denotes modal necessity to do V-ing, rather than the actual V-ing (1).

(1) Marku   se   jedu   slatkisi.
     Mark.DAT SE   IMPERF.eat.PRS.3.PL   candies.NOM.PL
     'Mark has a craving for candies.'

In addition to posing a challenge for analysis, this construction is of particular interest for the area of language acquisition, as it provides an ideal testing ground for the maturational account of language development, specifically the *A-chain Deficit Hypothesis* (Borer and Wexler 1987, 1992), and the *Universal Phase Requirement* (Wexler 2004). According to the A-chain Deficit Hypothesis (ACDH), children younger than 5 lack the ability to represent A-chains linking the surface subject to the direct object position (see below for more details). Only after age 5, when the ability to represent A-chains biologically matures, does children's performance on constructions requiring A-chain formation start to improve. Similar claims, restated within recent minimalist proposals relying on the concept of "derivation by phase," are made by the Universal Phase Requirement (UPR). Because constructions such as passive and unaccusative necessarily require representation of A-chains, they are predicted to be acquired late. Some evidence appears to confirm this prediction (see Hirsch and Wexler 2004 for a detailed list of references). Furthermore, the same inability to represent A-chains was observed in both overt and covert A-movement (Babyonyshev et al. 2001), thereby extending maturational claims of the ACDH and the UPR to constructions in which the effects of A-movement are not visible.

The involuntary state construction involves covert A-movement of the post-verbal nominative NP (section 3 provides a more detailed discussion of this movement). Based on this property, both the ACDH and the UPR hypothesis predict a delayed and problematic acquisition of the involuntary state construction. However, these predictions do not bear out. The results of this study demonstrate a productive knowledge of the involuntary state construction as early as age 3. In the absence of a syntactic homophone that would provide a way to bridge the purported gap in children's syntactic knowledge, we conclude that the early production of the involuntary state construction reflects unproblematic representation of A-chains resulting from covert movement of theme arguments.

The remainder of this paper is organized as follows. Section 2 presents the main assumptions of the ACDH and the UPR hypothesis. Section 3 provides a more detailed description of the morphosyntactic properties of the involuntary state construction, and presents evidence for covert A-movement of the nominative theme argument. Section 4 reviews findings related to young children's inability to represent covert movement, as reported in Babyonyshev et al. 2001. Section 5 provides a description of the study and reports on the results, followed by a discussion. A brief conclusion is provided in section 6.

2. THE A-CHAIN DEFICIT HYPOTHESIS: ACQUISITION OF THE VERBAL PASSIVE CONSTRUCTION. Young children's difficulty related to the comprehension and production of the verbal passive construction has been well documented for many languages, such as English (Bever 1970, Gordon and Chafetz 1990, Fox and Grozdinsky 1998, Hirsch and Wexler 2004, among many others), Spanish (Pierce 1992), Japanese (Sugisaki 1999, Sano 2000), Russian (Babyonyshev and Brun 2003), et al. Elicited production data show that children younger than 7 rarely produce long passives, i.e., passives that occur with the *by*-phrase (Horgan 1978). Poor performance on long passives compared to short passives (i.e., passives without the *by*-phrase) was also observed in comprehension tasks (Baldie 1976, Fox and Grozdinsky 1998). Further-more, this early difficulty with passives seems to be affected by the verb's semantics (Maratsos et al. 1985). Namely, it has been repeatedly shown that children score much lower on sentences involving psy-chological verbs, while their performance on actional verbs, especially those occurring with short pas-sives, tends to be much better (Fox and Grozdinsky 1998, Gordon and Chafetz 1990, Hirsch and Wexler 2004).

In order to explain these facts, Borer and Wexler (1987, 1992) proposed that young children's general difficulty with passives results from their inability to assign an adult-like representation to these construc-tions. Specifically, Borer and Wexler (1987, 1992) claimed that children younger than 5 lack the ability to form A(rgument)-chains linking direct object and surface subject position. This proposal adopts Chom-sky's 1986 analysis of the passive, according to which the subject of the passive construction originates as the underlying object, and subsequently moves to the subject position to satisfy the requirements of the Case Theory. The displaced object leaves a co-indexed trace in its base-generated position, and remains linked with it through an abstract relationship represented as a chain (A-chain) that has its head in the sub-ject position, and foot in the object position (2).

(2)   the door$_i$ was [opened t$_i$]

[A-Chain: (subject, object)]
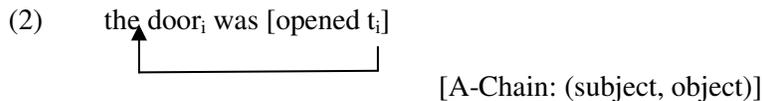
According to Borer and Wexler, children's relatively good performance on short passives with activ-ity verbs is actually deceiving, and can be explained in the following fashion. Since activity verbs make "good adjectives," these passives are easily misanalyzed as instances of adjectival passives, which are homophonous with short verbal passives, but do not require A-chain formation in their syntactic represen-tation (3). Children's performance on short passives with activity verbs is consequently relatively good.[1]

(3)   the door was [$_A$opened]

*[A-chain: (subject, object)]
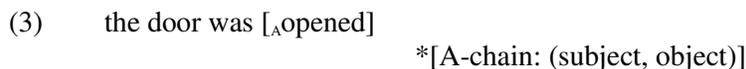
On the other hand, psychological verbs make "poor adjectives," and therefore do not provide the same possibility for misanalysis. Consequently, children's lack of the relevant syntactic knowledge is revealed.

However, subsequent advancements of the syntactic theory made the basic claims of the ACDH un-tenable. The problem arose because initially, A-chains were considered to represent a link between two argument positions, i.e., positions to which a thematic role is assigned. In 1987, when the ACDH was pro-posed, A-chains were considered to link the underlying object and the surface subject position. However, a later theoretical proposal, according to which subjects originate inside the verb phrase and subsequently

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[1] The ADCH adopts a lexicalist analysis of the adjectival passives, which claims that these forms are derived in the lexicon and therefore do not involve syntactic movement of the theme argument (Wasow 1977).

move to the surface subject position (*VP-internal subject hypothesis*, Koopman and Sportiche 1991), distorted the basic claim of the ACDH hypothesis. Since raising of the VP-internal subjects links a theta-assigning [Spec, VP] position and the surface subject position, it technically constitutes an A-chain. According to the predictions of the ACDH, children should therefore have difficulty with any declarative sentence containing an agentive subject. However, this is clearly not the case, as children have no problems raising VP-internal subjects over negation and auxiliary verbs (Stromswold 1996). In order to resolve this issue, and in addition to make the basic claims of the ACDH compatible with recent minimalist advancements, a new version of the ACDH was proposed, namely the Universal Phase Hypothesis (Wexler 2004). The following section provides a brief description of the minimalist background relevant for the new hypothesis, and subsequently describes the main claims of the UPR.

2.1 THE UNIVERSAL PHASE HYPOTHESIS. Under the current minimalist view, syntactic derivation proceeds through a series of multiple Merge, Move, and spellout operations organized into impenetrable, *strong phases* (*v*P, and CP). This means that after a *v*P has been computed, all its arguments, except for those merged at the *edge* of the phase, i.e., in [Spec, *v*P], become inaccessible for feature checking operations with the higher functional heads, as well as for Move operations across the *v*P phase boundary (*Phase Impenetrability Condition*, Chomsky 2000, 2001). An exception to this rule are *v*P projections that contain a deficient *v* (i.e., *v* that does not assign ACC case), and therefore, by assumption, do not constitute a strong phase. The internal argument of a deficient *v* can therefore participate in feature- checking operations even after computation of the *v*P projection has been completed. In that case, feature checking occurs through a *long distance* Agree relation with T. A subsequent movement of this argument out of the *v*P, and into the subject [Spec, TP] position, is also possible.

Based on these assumptions, the Universal Phase Hypothesis (UPR) claims that children younger than 5 have an immature syntax and therefore treat all *v*Ps as strong phases. Consequently, the only representation that a child can assign to the passive or unaccusative construction is a non-adult-like representation provided by a syntactic homophone.[2]

2.2 PREDICTIONS OF THE ACDH AND THE UPR. Despite the differences in particulars of their proposals, both the ACDH and the UPR essentially make the same predictions. First, all constructions involving movement of the internal argument into the subject position will be acquired late, due to deficient syntactic knowledge. Furthermore, even when the movement of the internal argument is covert, or involves only a particular set of features rather than the whole NP (*feature-movement*, Chomsky 1995), both the ACDH and the UPR predict a late and difficult acquisition (Babyonyshev et al. 2001, Hirsh and Wexler 2004). Second, the purported deficiency in syntactic knowledge will become apparent only in the cases when a syntactic homophone is not available.

The involuntary state construction, which is the focus of this paper, represents one such case, as it has no homophones, and, crucially, requires covert A-movement of its internal argument. The evidence for this movement, as well as a more general morphosyntactic description of this construction, are presented below.

3. THE INVOLUNTARY STATE CONSTRUCTION IN SERBO-CROATIAN.[3] The involuntary state construction occurs with a dative-marked non-agentive NP, a deagentivizing clitic pronoun *se*, a post-verbal nominative theme NP, and an active verb agreeing with the nominative NP, as in (1), repeated here as (4).

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[2] Under the assumptions of the UPR, unproblematic raising of the VP-internal subjects to the surface subject position (Koopman and Sportiche 1991), is accounted for, since these arguments merge at the edge of a *v*P phase, and therefore can move out of it freely.

[3] Serbo-Croatian is a south Slavic language spoken in the Balkan region. It displays a basic SVO word order, and requires overt nominative-accusative case system and subject-verb agreement marking. Verbs agree with the nominative-marked NPs in person and number in present and future tense, and in gender and number in past tense. If the sentence has no nominative-marked NP, the verb receives a default agreement.

(4)   Marku   se   jedu   slatkisi.
          Mark.DAT   SE   IMPERF.eat.PRS.3.PL   candies.NOM.PL
          'Mark has a craving for candies.'

This construction is fully productive and may occur with any transitive (4) or intransitive (5) verb that selects for an agent, without any tense restrictions (6).

(5)   Marku   se   piski.
          Mark.DAT   SE   IMPERF.pee.PRS.3.SG
          'Mark needs to pee.'

(6)   Marku   se   piskilo.
          Mark.DAT   SE   IMPERF.pee.PST.NEU.SG
          'Mark needed to pee.'

Even though the involuntary state construction requires eventive verbs, it shows properties of a stative predicate, and is, therefore, incompatibile with perfective prefixes, which mark inherent duration-endpoints (7).

(7)   *Marku   se   **po**pio   sok.
          Mark.DAT   SE   PERF-drink.PST.MASC.SG   juice.NOM.MASC.SG
          'Mark had a craving to have drunk the juice up.'

In general, the involuntary state construction has modal meaning that expresses need to do V-ing (5), although other readings, such as craving (4), and desire (8), are also possible. This need arises internally to the dative-marked participant, which is typically human.[4]

(8)   Marku   se   citaju   stripovi.
          Mark.DAT   SE   IMPERF.read.PRS.3.PL   comics.NOM.PL
          'Mark is in the comics-reading mood.'

Following the basic morphosyntactic description, I now turn to the properties of the involuntary state construction relevant for the topic of this paper, and present evidence for covert A-movement of the theme argument.

3.1 EVIDENCE FOR COVERT A-MOVEMENT. As mentioned in the previous section, the theme argument of the involuntary state construction occurs in the nominative case and triggers agreement on the verb. Even though this argument does not move overtly for the purpose of feature checking, its nominative case and the ability to trigger agreement clearly show that it undergoes some kind of covert A-movement. This movement possibly involves only a set of features relevant for the feature checking operations.[5]

Independent evidence for covert movement of the nominative theme argument (or at least some of its features) comes from negative concord, a phenomenon related to negative polarity in languages such as English. Negative concord was first proposed as a diagnostic for covert A-movement in Babyonyshev et al. 2001, where it was used to argue that the genitive themes in Russian unaccusatives with "genitive of negation" undergo covert movement to the subject position (this study is described in greater detail in section 4.).

Negative concord refers to multiple occurrences of negative elements that are interpreted together as a single negation. Similar to negative polarity items, negative elements in the negative concord languages need to be licensed by the clausal negation (9).

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[4] This type of *participant-internal* modalitiy is usually labeled as *dynamic* (Palmer 2001).

[5] One reason to assume feature movement is the fact that the subject [Spec, TP] position of the involuntary state construction is already occupied by the dative-marked NP, which undergoes overt A-movement from its merging position below *v*P, and checks the EPP feature on T. Alternatively, we could assume a multiple [Spec, TP] position.

(9)   Marko   nije   video   nista.
        Mark.NOM   **neg**-AUX   see.PST.MASC.SG   **nothing**.ACC
        'Mark did not see anything.'

In Russian (as well as in Serbo-Croatian), negative concord elements are licensed by an m-commanding clausal negation. Thus, when both a negative element and negation occur in the higher clause, the sentence is grammatical (10). However, when the negation occurs in the lower clause, and the negative element in the higher, ungrammaticality arises (11).

(10)   *Negation in the upper clause (m- command obtained):*

        Niko   ne   zeli   [PRO citati   Rat i Mir].
        no-one **NEG** want.3.SG   read-INF   War and Peace
        'No one wants to read *War and Peace*.'

(11)   *Negation in the lower clause (m-command not obtained):*

       *Niko   zeli   [PRO ne   citati   Rat i Mir].
        no-one want.3.SG   **NEG** read-INF   War and Peace
        'No one wants to read *War and Peace*.'

Furthermore, when no movement of the negative element occurs, as is the case with negated objects of embedded infinitival clauses, the same m-commanding rule applies, yielding grammaticality of both (12) and (13).

(12)   *Negation in the upper clause (m-command obtained):*

        Ja   nisam   duzna   [otkrivati   nikakve   tajne].
        I.NOM   **neg**-AUX   obligated   disclose-INF   **neg**-kind   secret.ACC.SG
        'I am not obligated to disclose any kind of secrets.'

(13)   *Negation in the lower clause (m-command obtained):*

        Ja   sam   duzna   [ne   otkrivati   nikakve   tajne].
        I.NOM   AUX   obligated   **NEG**   disclose-INF   **neg**-kind   secret.ACC.PL
        'I am obligated not to disclose any secrets.'

On the other hand, when the negative element undergoes A-movement, as in subject-to-subject raising illustrated in the following two examples, m-commanding must obtain with the head of the chain (14), rather than its trace (15), for the negative element to be licensed.

(14)   *Negation in the upper clause (m-command):*

        Niko$_i$ nije   poceo   [t_i citati   ovaj   clanak].
        no-one.NOM **neg**- AUX   started   read-INF   this   article.ACC.SG
        'No one has started reading this article.'

(15)   *Negation in the lower clause (m-command not-obtained):*

       *Niko$_i$ je   poceo   [t_i ne   citati   ovaj   clanak].
        no-one.NOM AUX   started   **NEG** read-INF   this   article.ACC.SG
        'No one has to read this article.'

When the same diagnostic for covert movement is applied to the involuntary state construction embedded under a raising verb, the following is observed. When negation occurs in the upper clause, the m-commanding condition on licensing of negative elements applies as expected, and the sentence is grammatical (16). However, when both negation and the negative element occur in the lower clause, ungrammaticality arises (17).

(16)   *Negation in the upper clause (m-command):*

      Nisu   mi   se   poceli [jesti   nikakvi   slatkisi].
      neg-AUX me.DAT SE   began [eat-INF **neg**-kind candies.NOM.PL
      'No candies started putting me in the eating mood.'

(17)   *Negation in the lower clause (m-command should be obtained, yet ungrammatical):*

      *Poceli su   mi   se   [ne   jesti   nikakvi   slatkisi].
      began AUX me.DAT SE [**NEG** eat-INF **neg**-kind candies.NOM.PL
      'I started not being in the eating mood for any kind of candies.'

This ungrammaticality is surprising, since on the surface, negation m-commands the negative element. In order to explain this ungrammaticality, we must assume that the involuntary state construction involves covert movement of the nominative-marked theme NP (18). Under this assumption, the negation in the lower clause m-commands the trace, rather than the head of the A-chain created by the covert movement of the negated element, i.e., the nominative theme NP, and the conditions for licensing of negative concord are not met.

(18)   *nikakvi   slatkisi$_i$ su   mi   se   poceli [ne   jesti t_i]
      neg-kind candies.NOM.PL$_i$ AUX   me.DAT SE began [**NEG** eat-INF t_i]

We therefore conclude that the negative concord diagnostic provides further evidence for covert movement of the theme argument of the involuntary state construction. Bearing this in mind, I now turn to the acquisition issues, and present crucial empirical evidence for a delayed and problematic representation of covert A-movement in child language, as reported in Babyonyshev et al. 2001. The evidence comes from the acquisition of Russian unaccusative verbs with "genitive of negation."

4. COVERT A-MOVEMENT IN RUSSIAN CHILD LANGUAGE. In Russian, there are certain contexts in which nonspecific theme arguments occur in the genitive, rather than the accusative case. One such context is provided by negated transitive and unergative verbs, as illustrated in (19) and (20). In addition, a small class of semantically "bleached" unaccusative verbs, such as existential *be*, occurs with genitive themes regardless of their specificity (21). This construction is referred to as "genitive of negation." It is important that "genitive of negation" does not apply to agent arguments, and is therefore never found with unergative verbs (22) (all examples are taken from Babyonyshev et al. 2000:11–13).[6]

(19)   Ja ne polucil   (nikakix)   pisem.
      I   not received (no-kind-GEN.PL) letter-GEN.PL
      'I did not receive any letters.'

(20)   Ne rasstajalo   ni   odnoj   snezinki.
      not melted-NEU.SG NEG single-GEN.SG snowflake-GEN.SG
      'Not a single snowflake melted.'

(21)   V gorode ne bylo   vraca.
      In town   not was-NEU.SG doctor-GEN.SG
      'There was no doctor in town/the doctor was not in town.'

(22)   *Nikakix   devocek   ne   tancevalo.
      no-kind-GEN.PL girl-GEN.PL   not danced-NEU.SG
      'No girls danced.'

Even though the theme argument in the "genitive of negation" with unaccusative verbs in (20) and (21) occurs in genitive case, evidence from negative concord shows that this constituent undergoes covert

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[6] Modifiers, such as *nikakih* 'no kind', and *ni odnoj* 'not a single', make the "genitive of negation" more natural, but are not required. In addition, these modifiers are not responsible for the genitive case (Babyonyshev et al. 2001).

movement to subject position (Babyonyshev et al. 2001:15–18). In addition, unlike typical unaccusatives, which occur with nominative themes and therefore are homophonous with unergative verbs, unaccusatives with "genitive of negation" illustrated in (20) and (21) occur with genitive themes, which are ungrammatical with unergative verbs (22). Consequently, unaccusatives with "genitive of negation" have no syntactic homophone. According to the predictions of the ACDH, children younger than 5 should therefore fail to use "genitive of negation," i.e., fail to use genitive case on the non-specific arguments with both negated regular unaccusatives (20), and negated bleached unaccustives (21). Since "genitive of negation" forces A-movement to the subject position (Babyonyshev et al. 2001:18), such a performance will provide evidence for an immature syntax that does not allow for this type of syntactic structure.[7]

These predictions were tested on 30 children (age range 3;0 to 6;6), using a sentence completion paradigm (Babyonyshev et al. 2001). The results are reproduced in Table 1. and Table 2., and are classified by the children's age into two groups of 15 children each.

TABLE 1. Average genitive response in transitive and unergative condition for each age group (taken from Babyonyshev et al. 2001:25).

	transitive verb non-specific theme (target case = GEN)	transitive verb specific theme (target case ≠ GEN)	unergative (target case ≠ GEN)
younger group (n=15), (mean =4;0)	.73 (.31)	.04 (.17)	0 (0)
older group (n=15), (mean=5;4)	.73 (.36)	0.4 (.11)	0 (0)

Note: numbers in parenthesis indicate standard deviation.

TABLE 2. Average genitive response in the two unaccusative conditions for each age group (taken from Babyonyshev et al. 2001:25).

	regular unaccusative (target case = GEN)	bleached unaccusative (target case = GEN)
younger group (n=15), (mean =4;0)	.40 (.33)	.31 (.32)
older group (n=15), (mean=5;4)	.50 (.30)	.62 (.30)

Note: numbers in parenthesis indicate standard deviation.

The above results show that both younger (mean 4;0) and older children (mean 5;4) mastered "genitive of negation" with transitive and unergative verbs. However, no mastery of "genitive of negation" was demonstrated for the unaccusative verbs. More specifically, neither group of children performed above chance level with the regular unaccusatives. However, the performance on the "bleached" unaccusatives shows a significant increase from 31% in the younger group, to 62% in the older. Since the "bleached" unaccustives always require the use of "genitive of negation" regardless of the specificity of the theme argument, the authors conclude that the results obtained on the "bleached" unaccusatives represent "the cleanest test of the ACDH" (Babyonyshev et al. 2001:25). The increase from 31% correct use at age 4;0, to 62% cor-

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[7] Babyonyshev et al. leave the issue of the motivation for this movement open, but mention case-checking as one possibility. Alternatively, if we assume that the unaccusatives with "genitive of negation" in (20) and (21) involve a null expletive, the motivation for the movement could be expletive replacement at LF, as suggested for the expletive *there* in English (Chomsky 1986, 1993).

rect at age 5;4 is therefore taken as strong support for the maturational account of syntactic abilities, as formulated in the ACDH.

There are several issues worth noticing with respect to the presentation and interpretation of the data in this study. First, out of 30 children who participated in this research, only 22 demonstrated necessary knowledge of the "genitive of negation" with transitive verbs. A further group of 3 out of these 22 children demonstrated an unexpected pattern of response with unaccusative verbs, possibly due to "random noise and performance factors," as suggested by the authors (Babyonyshev et al. 2001:27).[8] Consequently, the results obtained from these latter two groups of children should not have been included in Table 2, as they skew our general impression on children's knowledge of "genitive of negation" with unaccusative verbs. Nevertheless, we take the results reproduced in Table 2 at their face value.

An analysis of the individual children (Table 4, Babyonyshev et al. 2001:26) reveals more details about how the proposed maturation of syntax seems to proceed. Specifically, while 7 children demonstrated no knowledge of "genitive of negation" with either type of unaccusatives, and 4 performed in an adult-like fashion, 8 children demonstrated a split-performance, providing correct answers to the "bleached" unaccusatives, and incorrect ones to the regular ones. This split-performance is surprising, since the same child should either have a deficient syntax, or not. The authors propose that these results demonstrate rote learning, which is facilitated by the high frequency of the bleached unaccusatives in the input language, but crucially enabled by weakening of the ACDH property of the child grammar. The children's poor performance on the regular unaccusatives therefore provides "a glimpse into the true state of their grammar" (Babyonyshev et al. 2001:27), which seems to remain immature even at age 5. However, the validity of this statement is dubious, as it contradicts the authors' previous statement that the "bleached" unaccusatives are "the cleanest test of the ACDH" (Babyonyshev et al. 2001:25). It remains, therefore, unclear which of the two tested types of unaccusatives represents the true measure of children's syntax for the authors.

Irrespective of this remark, it is interesting to observe that the proposed weakening of the ACDH property of the child grammar seems to have occurred in 12 out of 19 children whose results were reviewed earlier in this section (namely, 8 children who demonstrated split-performance, and 4 children who performed adult-like). Moreover, weakening of the ACDH seems to be well under way by age 4;3, since *all* children younger than 4;3 performed incorrectly on the "bleached" unaccusatives, and *all* children older than this age (except for one child, age 5;9) performed correctly on all trials. These findings therefore suggest that, regardless of how overwhelming the positive evidence might be, rote learning of constructions involving immature syntactic knowledge becomes possible only around age 4;3.

Summing up the above discussion, the results reported in Babyonyshev et al. 2001 do not seem to provide strong evidence for their claim, according to which representation of A-chains resulting from covert movement of theme arguments represents an insurmountable difficulty even for the 5-year-olds. Bearing this in mind, I now turn to the present study, which investigated the acquisition of the involuntary state construction in Serbo-Croatian.

5. THE STUDY. The main purpose of the present study was to test the ACDH on a syntactic construction that (i) requires covert movement of the theme argument to the subject position, (ii) provides a clear measure for the occurrence of this syntactic operation, and (iii) at the same time has no syntactic-homophone. The involuntary state construction in Serbo-Croatian fulfills all three requirements. First, as demonstrated in section 3, the nominative theme argument of the involuntary state construction undergoes covert movement to the subject position. Second, the nominative case and verb agreement are obvious manifestations of this movement. By the same token, if the nominative case is replaced by accusative, and

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[8] These children correctly used "genitive of negation" with the regular unaccusatives, but not with the "bleached" ones. In addition to noise and performance factors, Babyonyshev at al. (2001:27) consider two more factors that could conceivably result in this type of response pattern. However, considering the high frequency of occurrence of the "bleached" unaccusatives in adult language compared to the regular unaccusatives (Babyonyshev et al. 2001:27), this type of response pattern is very unlikely to occur no matter what the proposed causing factors might be. We therefore conclude that these results are not informative for this study.

a default agreement appears on the verb, we can conclude that movement of the theme argument did not occur. Finally, the involuntary state construction has no syntactic-homophones, and thereby forces the child to use the adult representation involving covert A-movement.[9]

Given the above, the ACDH predicts that children younger than 5 will have difficulty understanding and using the involuntary state construction. The same prediction is made by the UPR. Namely, assuming that the covert movement of the theme argument in the involuntary state construction represents an instance of a long distance Agree relation with T that crucially occurs across the boundary of a deficient vP phase, children younger than 5 are predicted to perform poorly on tasks involving the involuntary state construction. However, as demonstrated below, these predictions are not confirmed by the data.

5.1 METHODOLOGY. Participants in this study were five children, native speakers of Serbo-Croatian, age range 2;11–3;9 (mean age 3;4), attending a preschool in Belgrade (Serbia). The study involved two production tasks. The children's knowledge of the relevant case markers (nominative, dative, and accusative) was assessed through a direct, spontaneous communication with the researcher. Knowledge of the involuntary state construction was not independently tested prior to the research, since this construction represents the main vehicle to express basic physical needs, such as a need to go to the bathroom, or to take a nap, and is therefore well attested in naturalistic speech as early as age 2;0.[10]

The research focused on children's production, rather than comprehension, for two reasons. First, the assessment of children's ability to represent covert A-chains crucially relies on the theme NP's case marking and the agreement on the verb. In production, these two properties can be either correct or incorrect. In comprehension, on the other hand, children could conceivably interpret the meaning correctly even with incorrect verb agreement and case-marking on the theme NP, presumably based on other factors, such as word order, semantics, verb choice, etc.

The particular tasks used in this research are a modeled elicitation task (Task 1), and a modeled production task (Task 2). In Task 1, the researcher modeled the involuntary state construction for the child using a picture book. This was followed by the elicitation question. The child had the option to either repeat the same verb and the theme NP from the modeled sentence, or to provide the new ones, while the dative NP always referred to the child, as illustrated in (23).

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[9] Two constructions illustrated below, namely the benefactive construction (i), and the malefactive unaccusative construction (ii), may become homophonous with the involuntary state construction if the verb and its aspectual value are felicitously chosen. However, these constructions cannot function as syntactic-homophones for the involuntary state construction simply because they too involve covert A-movement, as evidenced by the nominative case of their theme arguments, the ability of these arguments to trigger verb agreement, and finally the negative concord test provided in (iii) and (iv).

   (i)   Marku   se   kupuju   pokloni.
            Mark.DAT   SE   IMPERF.buy.PRS.3.PL   presents.NOM.PL
            'People buy presents for Mark.'
   (ii)   Marku   se   kvare   kompjuteri.
            Mark.DAT   SE   IMPERF.break.PRS.3.PL   computers.NOM.PL
            'Mark's computers keep breaking on him.'
   (iii) *Marku   su   se   poceli   [ne   kupovati   nikakvi   pokloni].
            Mark.DAT   AUX   SE   begin3.PL [**NEG**   buy.INF   **neg**-kind   presents.NOM.PL
            'People started not buying any presents for Mark.'
   (v)   *Marku   su   se   poceli   [ne   kvariti   nikakvi   kompjuteri].
            Mark.DAT   AUX   SE   begin.3.PL [**NEG**   break.INF   **neg**-kind   computers.NOM.PL
            'Mark's computers started not breaking on him.'

[10] There is no doubt that these early spontaneous uses result from rote learning. The question is only whether children's knowledge becomes more productive by age 3 to 4.

(23)   Modeled elicited production task (Task 1):

Researcher: Vidi, ovo prase jede jabuku, a ovaj konjic ga gleda… I njemu se jede jabuka…
               A tebi?
               'Look, this piggy is eating an apple, and this horsie is watching him… Looks
               like he's in the mood to have one too… How about you?'

Child: I meni se jede jabuka… / A meni se jede cokolada… / Meni se jase konjic!!!
               'I'm in the mood for apple-eating too… /I'm in the mood for a chocolate… /…
               I'm in the mood for…horse-back riding!!!'

The second task was modeled production, an improvisational "competing" game in which the re-searcher and the child rotated in making statements about what they (or someone else) needed or desired to do at that moment, resulting in creative and sometimes even impossible propositions. Some examples of the children's spontaneous creative uses are given bellow.

(24)   Meni   se   vrti   prasetov   rep.   (3;3)
        I.DAT   SE   twist.PRS.3.SG pig's   tail.NOM.SG
        'I am in the mood to twist the pig's tail.'

(25)   Kravi   se   sisa   ovca.   (3;3)
        cow.DAT SE   IMPERF.shear.PRS.3.SG sheep.NOM.SG
        'The cow is in the mood for sheep-shearing.'

(26)   Meni   se   ide   na   more   dvaput.   (3;9)
        I.DAT   SE   go.PRS.3.SG   on   seaside   two.times
        'I am in the mood to go to the seaside twice.'

5.2 RESULTS AND DISCUSSION. The results of the two elicited production tasks, showing the total number of occurrences of the involuntary state construction per child, are given in Table 3.

TABLE 3. Number of occurrences of the involuntary state construction in Task 1. and Task 2.

	Task 1.	**Task 2**
Tijana (2:11)	12	17
Luka (3;0)	19	16
Sofija (3;3)	37	29
Lea (3;9)	did not participate	35
Teodora (3;9)	did not participate	32

As the results show, all five children, including the youngest (age 2;11), produced a fairly high number of the involuntary state construction in both Task 1 and Task 2. Since the number of test questions in Task 1 was unlimited, and the Task 2 was an open improvisation, the number of tokens varies both across children, and the two tasks. As expected, children older than 3 produced more tokens than the two youngest children. All five children demonstrated productive use, which was defined as occurrence of the construction with at least three different verbs other than *eat, drink, sleep, pee,* and *poop*, which are the verbs that, in child language, occur most frequently in this construction.

Turning to the issue of case and verb agreement, as reported in Table 4, occurrences of case and/or agreement errors were almost nonexistent, which clearly shows that the children raised the theme arguments to the subject position.

TABLE 4. Percentage of case and agreement errors per child, collapsed across tasks.

	Dative case		Nominative case + agreement	
	number of errors	percentage correct	number of errors	percentage correct
Tijana (2:11)	0	100%	2/29	93%
Luka (3;0)	0	100%	0/35	100%
Sofija (3;3)	0	100%	0/66	100%
Lea (3;9)	0	100%	0/35	100%
Teodora (3;9)	0	100%	0/32	100%

The only two errors of case and agreement were made by the youngest child (age 2;11), both times involving incorrect use of the accusative case on the theme NP, accompanied by the default 3rd person singular agreement on the verb. This correlation clearly indicates a breakdown of the Agree relation with T, and therefore absence of movement. The two erroneous examples are given in (27) and (28).

(27) *Meni   se   cita   knjige.
      I.DAT   SE   IMPERF.read.PRS.3.SG   book.ACC/NOM.PL
      'I'm in the books-reading mood.'

(28) *Meni   se   pere   zube.
      I.DAT   SE   IMPERF.brush.PRS.3.SG   teeth.ACC.PL
      'I'm in the teeth-brushing mood.'

Finally, an error-free performance on the dative case indicates that the correct use of nominative with the theme arguments occurred as a result of raising, rather than a more general rule requiring that the nominative case be present in the sentence.

This demonstrated paucity of errors in case and agreement could arguably be ascribed to the type of tasks used, both of which modeled the construction for the child immediately before the response was given. However, even in Task 1, which offered an option of repeating the same verbal phrase from the modeled sentence, the children would often provide completely novel sentences "out of the blue," and with a new verb and theme NP used in the correct form, thereby demonstrating productivity of their knowledge. Moreover, the whole purpose of Task 2 was to create the context that would require novel uses, in order to test whether children can go beyond what they have heard before. Since the involuntary state construction in Task 2 was only modeled, rather than directly elicited, the children could conceivably have used sentences with full modal verbs to approximate the target meaning and to avoid using the involuntary state construction. However, such a replacement did not occur. The only situations when a child did not respond to the modeled target by using the involuntary state construction occurred when the child wandered off the topic. In modeling the target construction without requiring its use, this task resembles a syntactic priming task, which has recently been used in two acquisition studies investigating children's ability to form abstract representation of full verbal passives (Savage et al. 2003, and Bencini and Valian 2006). These two studies have yielded mixed results with respect to the performance of 3-year-olds. The results obtained in the present study, especially children's overwhelming responsiveness in Task 2, are in line with the findings reported in Bancini and Valian 2006, which demonstrate the ability of young children to represent the passive construction abstractly, rather than organize it around individual verbs, even when only a minimal input of only 8 passive primes is provided.

Summarizing the above discussion, the results of the present study suggest the following two important points. First, children seem to be able to represent A-chains resulting from covert movement even as early as age 3. These findings are particularly informative, since the involuntary state construction offers no possibility for recourse to an alternative analysis via syntactic homophones. Second, even if the correct use of case and agreement in novel sentences produced in Task 2 was related to the previous modeling,

then it must be the case that children's performance on the constructions requiring syntactic knowledge which is claimed to be deficient (the ACDH and the UPR) can be improved by this type of aid. The syntactic knowledge in question might therefore, arguably, not be deficient at all. What remains to be seen in the case of the involuntary state construction is whether possible positive effects of this type of modeling would be detectable several weeks after the modeling was provided.

6. CONCLUSION. An early and productive knowledge of the involuntary state construction demonstrated in this study suggests that, even at age 3, children are able to successfully represent A-chains resulting from covert movement of theme arguments. The results of this study therefore do not confirm predictions of the ACDH and the UPR relative to covert movement, and furthermore do not replicate the results reported in Babyonyshev et al. 2001. This discrepancy in findings between the two studies could possibly be due to the fact that the theme NPs in the involuntary state construction occur in nominative case and trigger verb agreement (in other words, enter an Agree relation with T), while the theme NPs in Russian unaccusatives with "genitive of negation" do not. As the authors themselves notice, motivation for the covert movement of these constituents is unclear, and possibly related to null expletive replacement at LF (see footnote 6), while their syntactic behavior patterns with that of direct objects. This might indicate that the source of difficulty for the Russian children acquiring unaccusatives with "genitive of negation" is not representation of covert A-movement *per se*, but rather, the peculiar properties of the movement involved in this construction.

LIST OF ABBREVIATIONS

ACC:	accusative	INF:	infinitive	PL:	plural
AUX:	auxiliary	MACS:	masculine	PRS:	present
DAT:	dative	NEG:	negation	PST:	past
FEM:	feminine	NEU:	neuter	SE:	deagentivizer
GEN:	genitive	NOM:	nominative	SG:	singular
IMPERF:	imperfective	PERF:	perfective		

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