

Acquisition of unaccusativity: re-examining the ‘unergative misanalysis hypothesis’

Eugenia Birger

This paper re-examines the empirical data taken to support the unergative misanalysis of unaccusative verbs in L1 acquisition. Two types of data are discussed: acquisition of the Genitive of negation in Russian (Babyonyshev et al. 2001) and Nominative case drop in the acquisition of Japanese (Machida et al. 2004). I show that the authors’ interpretation of the data cannot be maintained. Furthermore, I show that upon a careful examination, the very findings taken to support the unergative misanalysis of unaccusatives actually point in the opposite direction, namely that unaccusatives are assigned the correct syntactic representation from the onset of acquisition.

1. Introduction

Unaccusative verbs (e.g. *fall*, *break*) are intransitive predicates whose subject is base-generated in the direct object position, as shown in the representation in (1). In contrast, unergative verbs (e.g. *jump*, *laugh*) are intransitive predicates whose subject is base-generated in Spec VP (or adjoined to VP, following Koopman & Sportiche 1991), as shown in (2).¹ The difference in the base-generated position of the subject is supported by various cross-linguistic environments, which show that subjects of unaccusative verbs behave on a par with direct objects, and in contrast with subjects of unergative verbs (Burzio 1986; Levin & Rappaport-Hovav 1995).

(1) [TP [NP The bottle]_i [VP fell t_i]]

(2) [TP [NP The clown]_i [VP t_i laughed]]

¹ Since the seminal work of Kratzer (1996), it became almost standard to assume that the subject of transitive and unergative predicates (i.e. external argument) receives its thematic role from the abstract functional head called little-*v*, and consequently, that it is merged in Spec *v*P; see Horvath & Siloni (2003) for arguments against severing the external theta-role assignment from the lexical verb. In this work, I am using ‘VP’ as a convenient abbreviation of ‘Verb Phrase’, without committing myself to its precise analysis as a VP or a *v*P. Nothing in my presentation or argumentation hinges on this distinction. Likewise, the distinction between NP and DP is immaterial for my purposes here; I am using ‘NP’ as a convenient abbreviation of ‘Noun Phrase’.

Throughout this work, I will be assuming that subjects of unaccusative verbs are derived by A-movement and contain an A-chain, in contrast with subjects of unergative and transitive verbs. To understand the reasoning behind this assumption, a small digression to the development of these terms is in order.

In the standard GB analysis, subjects of transitive and unergative verbs were assumed to be generated directly in Spec TP (Chomsky 1981), while subjects of unaccusative verbs were assumed to be generated in the direct object position, reaching the pre-verbal position (e.g. in English) by movement to Spec TP (Burzio 1986; Perlmutter 1978; Perlmutter & Postal 1984). Since Spec TP was considered a thematic position, and since A-movement was defined as movement to a thematic position, movement to Spec TP was considered A-movement. Therefore, the derivation of unaccusative verbs was assumed to contain an A-chain, in contrast with that of transitive or unergative verbs. The same applied to the derivation of raising constructions, where the subject of the matrix clause originated in Spec TP of the embedded clause, as illustrated in (3).

(3) [TP John_i seemed [TP t_i to be mad]]

With the introduction of the VP-Internal Subject Hypothesis (Koopman & Sportiche 1991), movement to Spec TP could no longer be considered A-movement, as Spec TP was no longer seen as a thematic position. This is because transitive and unergative subjects were now assumed to originate inside the VP, reaching Spec TP by movement on a par with unaccusative subjects. Thus, the syntactic difference between unaccusative and unergative verbs could be reduced to the original position of their subjects, raising the question of whether the A-movement analysis of unaccusative (and raising) subjects should still be pursued. A positive answer, along with an updated syntactic analysis of unaccusatives, was given in Borer and Wexler (1992). Specifically, the authors suggested that unaccusative subjects moved to the matrix Spec TP in two steps: (i) from the direct object position to Spec VP, and (ii) from Spec VP to Spec TP. Step (i) was considered as A-movement, as it involved movement to a thematic position (i.e. Spec VP). The unergative derivation, in contrast, was assumed to contain only step (ii). Under this analysis, the derivation of sentences with unaccusative and unergative predicates would be as in (4)-(5), respectively.

(4) [TP [NP The bottle]_i [VP t_i fell t_i]]

(5) [TP [NP The clown]_i [VP t_i laughed]]

For the purposes of this paper, a precise analysis of unaccusative verbs (e.g. with an intermediate trace in Spec VP, as in (4), or without it, as in (1)), as well as a precise definition of A-movement, are largely irrelevant. What is relevant, however, is that both acquisition studies discussed here, namely Babyonyshev et al. (2001) and Machida et al. (2004), presuppose that unaccusative subjects are derived by A-movement and contain an A-chain in their representation. (Additionally, Babyonyshev et al. assume that raising subjects, as in (3), are derived by A-movement as well.) Since this underlying assumption is not the focus of my work, I follow the authors' decision, leaving open the specific representation of unaccusatives and the definition of A-movement.

Returning to sentences like *The bottle fell* and *The clown laughed*, their superficial similarity on the one hand, and the syntactic difference on the other, raise the following question: when and how is this difference acquired? While there exists rich cross-linguistic

evidence showing that children start using unaccusatives already before they are 2 years old (Friedmann 2007; Lorusso, Caprin & Guasti 2005; Pierce 1989; Tomasello 1992), it is insufficient by itself to determine that unaccusatives are correctly represented at this young age. In fact, the rather dominant approach nowadays assumes that children initially assign an unergative analysis to unaccusative verbs, misrepresenting sentences like *The bottle fell* as in (6) (Borer & Wexler 1987, 1992; Wexler 2004); this proposal is known as the Unergative Misanalysis Hypothesis (UMH henceforth).

(6) [TP [NP The bottle]_i [VP t_i fell]]

The UMH originated with the A-Chain Maturation Hypothesis (Borer & Wexler 1987), according to which A-chains are unavailable at the onset of acquisition, becoming available only around the age of 5. Therefore, this hypothesis predicts that the acquisition of any construction derived by A-movement in the adult grammar will be delayed, unless the child can assign it an alternative representation without the movement. At first glance, then, the acquisition of unaccusative verbs is predicted to be delayed. This prediction is clearly at odds with the spontaneous production data mentioned above, which show that unaccusative verbs are among the first verbs produced by children cross-linguistically, and crucially, that SV sentences with unaccusatives are quite frequent in children's early speech. The most plausible way to account for this seemingly early acquisition, without abandoning or altering the A-Chain Maturation Hypothesis, would be to suggest that children find a way to avoid the A-chain in their representation of unaccusative verbs. Thus, the most plausible way to render the A-Chain Maturation Hypothesis compatible with the empirical data would be to adopt the UMH, according to which children initially misanalyze unaccusatives as unergatives; paradoxically, this incorrect syntactic analysis accounts for the apparently early usage of both unaccusative and unergative verbs.²

A question arises, then, whether there exists any independent evidence supporting the UMH. This work examines two (sole) types of such evidence; both strive to show that despite the early production, children err with unaccusative verbs due to their incorrect analysis. Before turning to the examination of empirical data, it should be added that determining how children analyze unaccusatives has wide theoretical implications. Specifically, the results of this examination can be used in the evaluation of proposals like the A-Chain Maturation Hypothesis. This is because the UMH, in essence, 'saves' the predicted delay in the acquisition of unaccusatives from the conflicting empirical findings. Therefore, if the UMH can be shown to be untenable, by showing that the two verb types are distinguished from an early age, the A-Chain Maturation Hypothesis (and similar proposals, like the Universal

² Alternatively, one could dismiss the A-movement analysis of unaccusative verbs. Even though this might seem reasonable, given previous discussion, proponents of the A-Chain Maturation Hypothesis would be reluctant to adopt such a step. This is because the hypothesis was originally proposed in order to account for the difficulty in the acquisition of verbal passives (e.g. *The tiger was chased by the lion*), which, under standard assumptions, share with unaccusative verbs the base-generated position of their subjects. In other words, both passive and unaccusative subjects are believed to originate in the direct object position (e.g. Jaeggli 1986). Therefore, either both will be analyzed as containing an A-chain, or both will be analyzed as lacking an A-chain. Under the A-Chain Maturation hypothesis, this means that either both will be predicted to be delayed (in the former case), or both will be predicted to be acquired early (in the latter case). However, while unaccusatives seem to be acquired early, (at least some) verbal passive constructions seem to be acquired late (see, inter alia, Fox & Grodzinsky 1998; Maratsos et al. 1985; Wexler 2004). Therefore, adopting such a step would force the A-Chain Maturation Hypothesis to find a new account for the problematic acquisition of the verbal passive, or, alternatively, to explain why verbal passives, but not unaccusatives, have an A-chain in their representation. The former is tantamount to renouncing the hypothesis itself, while the latter is a difficult, if not an impossible, task.

Phase Requirement of Wexler 2004), will be shown to be untenable as well.³ Let us now examine the existing evidence supporting the hypothesis that unaccusative verbs are initially misrepresented as unergative verbs, starting with the Russian data.

2. Russian evidence for UMH

2.1. Theoretical background

A NP in Russian can be marked with the Genitive of Negation if it is located in a negated clause and it is an internal argument (Pesetsky 1982). Thus, direct objects of transitive verbs can bear Genitive (7b), provided they are located in a negated clause (7c), while their subjects cannot (8).⁴

- (7) a. Ja ne poluchil pis'ma.
I not received letters-ACC
'I did not receive the letters.'
- b. Ja ne poluchil pisem.
I not received letters-GEN
'I did not receive (any) letters.'
- c. Ja poluchil pis'ma /*pisem.
I received letters-ACC / letters-GEN
'I received (the) letters.'

(Babyonyshev et al. 2001: (8a-c))

- (8) a. Mal'chiki ne poluchali pis'ma iz doma.
boys-NOM not received letters-ACC from home
'The boys did not receive letters from home.'
- b. *Mal'chikov ne poluchalo pis'ma iz doma.
boys-GEN not received-NEU.SG letters-ACC from home

(Babyonyshev et al. 2001: (9a-b))

Importantly, Genitive direct objects are interpreted as indefinite and non-specific (i.e. unfamiliar in the discourse), while Accusative direct objects are interpreted as definite and specific. The semantic effect of case marking is evident from the interpretive difference between (7a) and (7b): the Accusative direct object in (7a) is interpreted as specific ('the'), while the Genitive direct object in (7b) is interpreted as non-specific ('any').

³ The gist of the Universal Phase Requirement is that in child grammar, in contrast with the adult, any verbal head projects a phase. As a result, subjects of unaccusatives (together with raising and passive verbs) are 'locked' inside the phase, being invisible for any movement/AGREE operations. Since no grammatical representation can be assigned to such constructions, all of them are predicted to be acquired late. Merging the unaccusative subject at the edge of the VP, however, allows it to be accessible for further computation, saving the derivation from crash. Therefore, the UMH allows the Universal Phase Requirement to account for the early production of unaccusative verbs. While in this paper I focus on the A-Chain Maturation Hypothesis, this is merely due to its relative familiarity and ease of presentation; my arguments apply equally well to any proposal of this type.

⁴ The following transliteration is used in the presentation of the Russian data: a=a б=b в=v г=g д=d e=e ё=jo ж=zh з=z и=i й=j к=k л=l м=m н=n о=o п=p р=r с=s т=t y=u ф=f x=x ц=c ч=ch ш=sh щ=shh ъ=" ы=y ь=' э=eh ю=ju я=ja.

Turning to unaccusatives, their subjects can be marked either with Nominative or with Genitive, provided they are located in a negated clause (9). When Genitive case is used, the verb does not agree with the subject, surfacing in the 3rd person neuter form instead. In contrast, subjects of unergatives cannot appear with Genitive and obligatorily appear with Nominative (10). Thus, Genitive of Negation serves as a diagnostic of unaccusativity, that is an environment where subjects of unaccusatives behave like direct objects, and unlike subjects of unergatives.

- (9) a. Griby zdes' ne rastut.
mushrooms-NOM here not grow-PL
'Mushrooms do not grow here.'
- b. Gribov zdes' ne rastjot.
mushrooms-GEN here not grow-NEU.SG
'Mushrooms do not grow here.'
- (10) a. Kulturnye deti ne krichat.
civilized-NOM kids-NOM not yell-PL.
'Civilized children do not yell.'
- b. *Kulturnyx detey ne krichit.
civilized-GEN kids-GEN not yell-NEU.SG

It is assumed in Babyonyshev et al. that the effect of case marking on the interpretation of most unaccusative subjects mirrors the effect of case marking on the interpretation of direct objects. In other words, it is assumed that Genitive marking of most unaccusative subjects indicates non-specificity and non-Genitive (i.e. Nominative) marking indicates specificity. While an important part of my claim is that the last part of this assumption is incorrect, let us assume it to be accurate for the moment and proceed with the presentation of Babyonyshev et al. (I return to this in §2.4.) Still, the question arises why the above was assumed to hold for most, and not all, unaccusative subjects. This is due to the existence of a small class of unaccusatives, labeled 'bleached verbs', which require their subjects to be marked with Genitive (provided they are located in a negated clause). This is illustrated in (11) with the verb *byt'* 'be': (11a) with a Genitive subject is ambiguous between a non-specific and a specific reading, while (11b) with a Nominative subject is ungrammatical.

- (11) a. V gorode ne bylo vracha.
in town not was-NEU.SG doctor-GEN
'There was no doctor in town/The doctor was not in town.'
- b. *V gorode ne byl vrach.
in town not was-MASC.SG doctor-NOM⁵

(Babyonyshev et al. 2001: (13b,a))

Given the data above, a question arises as to the syntactic analysis of post-verbal Genitive subjects of unaccusative verbs. While they do not pass the familiar subject-hood diagnostics (e.g. they can neither control PRO in adjunct clauses nor can they bind a reflexive), it is argued in Babyonyshev et al. that they move covertly to the matrix Spec TP. The supporting

⁵ While the order between the verb and the subject in (11) differs from all the previous examples, this cannot account for the ungrammaticality of (11b), as Nominative subjects of unergative (and unaccusative) verbs can occur post-verbally.

evidence for this analysis comes from the interaction of sentential negation with negated phrases. Before turning to the specific evidence supporting the movement analysis, a few words about negation in Russian are in order: Russian is a negative concord language, which means that negated phrases like *nikto* ‘no one’ or *nikakoy* ‘no’ must be licensed by sentential negation. In a complex sentence, negated subjects of transitive verbs can be licensed only by the matrix clause negation, while negated direct objects can be licensed both by the matrix clause and the embedded clause negation. This difference is illustrated in (12)-(13) (I gloss sentential negation as ‘not’ and phrasal negation as ‘NEG’).

- (12) a. Nikto ne xochet [PRO chitat’ Vojnu i Mir].
 NEG-one not wants read-INF War and Peace
 ‘No one wants to read War and Peace.’
 b. *Nikto xochet [PRO ne chitat’ Vojnu i Mir].
 NEG-one wants not read-INF War and Peace
 (Babyonyshev 2001: (18a-b))

- (13) a. Ja₁ ne dolzhna [TP t₁ chitat’ nikakix statej].
 I not must-FM. [read.INF NEG-kinds-GEN articles-GEN]
 ‘I don’t have to read any kind of articles.’
 b. Ja₁ dolzhna [TP t₁ ne chitat’ nikakix statej].
 I must-FM. [not read.INF NEG-kinds-GEN articles-GEN]
 ‘I must not read any articles.’
 (Babyonyshev et al. 2001: (17a-b))

Thus, (12) shows that the matrix subject can be a negated phrase *nikto* ‘noone’ when negation is located in the matrix clause (12a), but not when it is located in the embedded clause (12b). This contrasts with (13), where the negated phrase *nikakix statej* ‘any articles’ (i.e. direct object of the embedded predicate) is grammatical both when the negation is in the matrix clause as in (13a) and when it is in the embedded clause as in (13b). Assuming sentential negation to be a clitic located in T, Babyonyshev et al. suggest that negated NPs are licensed only if they are m-commanded by the negation. Given this condition, it is quite unexpected that subjects which raise out of an infinitival clause are licensed only by the matrix clause negation, as shown in (14).

- (14) a. Nikto₁ ne dolzhen [TP t₁ chitat’ ehti stat’ji].
 NEG-one not must [read.INF these-ACC articles-ACC]
 ‘Nobody must read these articles’
 b. *Nikto₁ dolzhen [TP t₁ ne chitat’ ehti stat’ji].
 NEG-one must [not read.INF these-ACC articles-ACC]
 (Babyonyshev 2001: (19a-b))

The negated element *nikto* ‘noone’, which raises out of the infinitival clause complement of *dolzhen* ‘must’, is grammatical only if the sentential negation is located in the matrix clause (14a). Given the m-command condition, however, we would expect (14b) to be grammatical as well, since the embedded clause negation m-commands the subject’s trace in the embedded Spec TP. In order to account for these data, Babyonyshev et al. suggest that if the negated NP moves by A-movement, the negation must m-command the head of the A-chain. Assuming that raising subjects are derived by A-movement (recall the discussion in §1), (14b) is indeed

expected to be ungrammatical, because the head of the A-chain in the matrix clause is not m-commanded by the embedded clause negation (being m-commanded only by the matrix clause negation, as in (14a)).

Turning to post-verbal Genitive subjects of unaccusatives, we would expect them to pattern with direct objects, being licensed both by the matrix and the embedded clause negation. Surprisingly, they pattern with raised subjects, being licensed only by the matrix clause negation (15a).

- (15) a. Ne dolzhno [TP pojavitsja nikakix malchikov v klasse].
 not must-NEU.SG [appear.INF NEG-kinds-GEN boys-GEN in class]
 ‘There don’t have to appear any boys in (the) class.’
- b. *Dolzhno [TP ne pojavitsja nikakix malchikov v klasse].
 must-NEU.SG [not appear.INF NEG-kinds-GEN boys-GEN in class]
 (Babyonyshev 2001: (20a-b))

The data in (15) lead the authors to conclude that Genitive of negation requires the subject to move covertly to the matrix Spec TP, creating an A-chain. This accounts for the ungrammaticality of (15b), as the head of the covert A-chain would be located in the matrix Spec TP, being m-commanded only by the matrix clause negation (i.e. in (15a)).

Turning to acquisition, the authors reason that if children have difficulty forming A-chains (assuming the A-Chain Maturation Hypothesis), they will refrain from marking the subjects of unaccusatives with Genitive, even when this is obligatory (i.e. with bleached unaccusatives). Consequently, it is proposed that they will mark the subjects of unaccusatives with Nominative instead, assigning them an unergative analysis (i.e. without an A-chain).

2.2. Experimental findings

The above predictions were tested in a sentence completion experiment, in which 30 children aged 3;0-6;6 took part. Each child heard a story, followed by a beginning of the test sentence, and had to complete it with one of the following types of NPs: a. specific direct object (Accusative in the adult grammar), b. non-specific direct object (Genitive in the adult grammar), c. subject of an unergative (Nominative in the adult grammar), d. non-specific subject of a regular unaccusative (Genitive in the adult grammar)⁶, e. non-specific subject of a bleached unaccusative (Genitive in the adult grammar). The task included 3 verbs for each of the 5 types of post-verbal NPs, resulting in 15 sentences overall for each child.

The results reveal that children had little difficulty with using Genitive of negation with transitive verbs: across all ages, and all trials, children produced Genitive NP when the NP was a non-specific direct object in 73% of the cases and only in 4.8% when the NP was a specific direct object.⁷ Furthermore, children produced Genitive in 0% of the cases where the NP was the subject of an unergative verb. Crucially, children marked with Genitive only 46.9% of non-specific subjects of regular unaccusatives and 48% of non-specific subjects of bleached unaccusatives (producing 53.1% and 52%, respectively, with Nominative).

⁶ As it was mentioned in §2.1, I contest this assumption, showing in §2.4 that non-specific subjects of unaccusatives can be marked both with Genitive and with Nominative in the adult grammar.

⁷ While we might expect that all non-specific direct objects will be marked with Genitive, it is independently known that children sometimes misinterpret new information as old information (e.g. Karmiloff-Smith 1979).

The finding that children marked about 50% of unaccusative subjects with Nominative is taken to support the UMH. However, given the movement analysis of Genitive subjects, it is evident that the percentage of Genitive subjects of unaccusatives is unexpectedly high: if children never assigned them an unaccusative analysis, they are expected to never use the Genitive case marking. Consequently, individual responses are examined in order to determine inter-subject variation. As it turns out, 11 children marked unaccusative subjects sometimes with Nominative and sometimes with Genitive, which leads the authors to weaken their original claim; specifically, Babyonyshev et al. suggest that children *sometimes* misanalyze unaccusatives as unergatives, concluding as follows: ‘We thus have experimental evidence that children have trouble with unaccusatives...*This [A-Chain Maturation Hypothesis] causes the children to produce a nominative argument when the adult language would favor or even require the genitive.* We propose (following Borer and Wexler 1992) that children represent unaccusative verbs in this construction as unergatives...’ (Babyonyshev et al. 2001:24, emphasis mine).

2.3. Nominative subjects of unaccusatives do not lack an A-chain

At this point I would like to re-examine the authors’ interpretation of the findings. Recall that they take Genitive marking on unaccusative subjects to be an overt indication of the covert A-movement to the matrix Spec TP, and Nominative marking as an overt indication of the absence of such movement. However, this association between the morphological marking and the syntactic derivation is untenable, as a Nominative response does not necessarily indicate the absence of an A-chain. Let me show this by assuming the opposite: if Nominative post-verbal subjects of unaccusatives lacked an A-chain, as assumed in Babyonyshev et al., we would expect them to contrast with Genitive subjects of unaccusatives with respect to their licensing by sentential negation. Recall that the movement analysis of Genitive subjects was based on the interaction between negated Genitive subjects of unaccusatives and the sentential negation. The relevant sentences are repeated in (16).

- (16) a. Ne dolzhno [TP pojavitsja nikakix malchikov v klasse].
 not must-NEU.SG [appear.INF NEG-kinds-GEN boys-GEN in class]
 ‘There don’t have to appear any boys in (the) class.’
 b. *Dolzhno [TP ne pojavitsja nikakix malchikov v klasse].
 must-NEU.SG [not appear.INF NEG-kinds-GEN boys-GEN in class]

Contrary to the reasoning above, Nominative subjects of unaccusatives behave *precisely* like Genitive subjects, in being licensed only by the matrix clause negation. This is shown in (17).

- (17) a. Ne dolzhny [TP pojavitsja nikakije deti na vecherinke].
 Not must-PL. [appear.INF NEG-kinds-NOM boys-NOM on party]
 ‘No kids should appear at the party.’
 b. *Dolzhny [TP ne pojavitsja nikakije deti na vecherinke].
 must-PL [not appear.INF NEG-kinds-NOM kids-NOM on party]

Thus, it is plausible that some children marked non-specific direct objects with Accusative case, mistakenly interpreting them as specific.

Following the authors' reasoning, the contrast in (17) could be accounted for if post-verbal Nominative subjects of unaccusatives raised to Spec TP, heading an A-chain; (17a) would be grammatical, in contrast to (17b), because the head of the chain in the matrix Spec TP would be m-commanded by *ne* 'not' only there. This means, however, that it is impossible to conclude from a Nominative response provided by the child that the analysis s/he assigned to the sentence lacks an A-chain. Therefore, I believe that the findings cannot be interpreted as providing support for the UMH, as both the Nominative and the Genitive response in the adult grammar include an A-chain in their representation (or at least they behave alike with respect to licensing by sentential negation, used as a diagnostic for A-movement). In my view, this renders the contrast between Genitive marking of direct objects and Genitive marking of unaccusative subjects interesting for its own sake, but not directly relevant to the research question at hand. Does this mean that the findings are uninformative to the research question? In my view, the answer is clearly negative: recall that children marked with Genitive 0% of unergative subjects, compared to (roughly) 47% of unaccusative subjects. I believe that this not only shows that they distinguish the two verb types, but that they analyze unaccusatives correctly at this stage (allowing Genitive marking on a par with direct objects). Still, the difference in the amount of Genitive direct objects and Genitive subjects of unaccusatives calls for an explanation. The following subsection shows that the findings can be accounted for without assuming that unaccusative verbs are initially misrepresented as unergatives.

2.4. Alternative explanation

The experimental findings of Babyonyshev et al. raise two questions: (i) First, why did children treat direct objects (73% Genitive) differently from subjects of unaccusatives (roughly 47% Genitive)? Looking at the findings from another perspective, the question is why children produced more Nominative (i.e. non-Genitive) non-specific unaccusative subjects than Accusative (i.e. non-Genitive) non-specific direct objects? (ii) Second, why didn't they differentiate bleached unaccusatives (requiring Genitive) and normal unaccusatives?

Starting with (i), I believe that children's performance is in fact consistent with the adult use of Genitive of negation with unaccusatives. While I do not contest the assumption that Genitive direct objects and Genitive subjects of unaccusatives are interpreted as non-specific, I do contest the assumption that both Accusative direct objects and Nominative unaccusative subjects are necessarily interpreted as specific. Let us look at (18) and (19): (18) includes a transitive verb *poluchila* 'received' with an Accusative direct object. As mentioned in §2.1, its sole reading is the one in (i), namely a specific, definite interpretation of the direct object. In contrast, a non-Genitive (Nominative) subject of an unaccusative predicate in (19) is judged ambiguous precisely between a specific reading in (i) and a non-specific reading in (ii).

- (18) Ja ne poluchila zhurnaly
 I not received magazines-ACC
 (i) 'I did not receive the magazines.'
 (ii) #'I received no magazines.'

- (19) V klasse ne poyavilis' studenty
 in class not appeared students-NOM
 (i) 'The students did not appear in class.'
 (ii) 'No students appeared in class.'

(Babyonyshev 1996: (77a,b))

Returning to the experimental findings of Babyonyshev et al., recall that the child had to complete a test sentence with a NP, the specificity of which was determined by the background scenario. In my view, the finding that children produced more Nominative subjects of unaccusatives than Accusative non-specific direct objects is hardly surprising, given the data in (18)-(19): while the non-specific interpretation is incompatible with Accusative, it *is* compatible with Nominative in the adult grammar. Therefore, Nominative responses with unaccusative subjects simply cannot be considered erroneous.⁸

Returning to (ii), it seems plausible that the children who allowed Nominative with bleached unaccusatives still do not know the distinguishing property of bleached verbs, taking Genitive marking to be optional with all unaccusatives. While this direction was originally proposed in Babyonyshev et al. (p. 24, fn. 27), it was dismissed on the grounds that the difference in case marking follows from a syntactic difference and '*...if children have these correct representations, the bleached property will follow automatically.*' (ibid., emphasis mine). In my opinion, this reasoning is unconvincing, as it is unclear from the data whether children are indeed aware of the syntactic difference(s) between the two types of unaccusatives.⁹

To conclude, this section showed that the interpretation Babyonyshev et al. offer for their findings rests on an unwarranted assumption and therefore cannot be maintained. Additionally, it was shown that the findings actually point in the opposite direction of the one adopted in Babyonyshev et al., namely that children acquiring Russian actually distinguish unaccusatives and unergatives, allowing Genitive marking with the former but not with the latter. Finally, it was shown that the data can be naturally accounted for without assuming the unergative misanalysis of unaccusative verbs. Let me now turn to an additional type of evidence taken to support the UMH, namely Nominative marker omission in the acquisition of Japanese.

3. Japanese evidence for the UMH

3.1. Theoretical background

Japanese is underlyingly an SOV language, allowing for various word-order permutations as long as the verb remains sentence-final (Kuno 1973). Turning to case marking, the Nominative marker *ga* usually marks subject NPs (i.e. *Mary* in (20)) and the Accusative marker *o* marks direct objects (i.e. *John* in (20)-(21)). Additionally, the topic marker *wa*

⁸ Note that this is not incompatible with the claim that Genitive response is *preferred* with non-specific nominals. Crucially, even if such preference does exist, it is rooted in pragmatic, and not syntactic conventions, which could certainly be unknown to children at this age.

⁹ The question arises as to the nature of the 'bleached' property. Babyonyshev (1996) proposes that in contrast with regular unaccusatives, which subcategorize for a NP, bleached verbs subcategorize for a small clause; an additional difference is attributed to the properties of T: the T found with negated bleached unaccusatives is assumed to be 'defective' in being unable to check case features. All the distinguishing properties of bleached unaccusatives are assumed to follow from these two differences.

marks specific NPs, replacing both the Nominative and the Accusative case markers (i.e. *Mary* in (21)).

(20) Mary-ga John-o butta.
 Mary-NOM John-ACC hit
 ‘Mary hit John.’

(21) Mary-wa John-o butta.
 Mary-TOP John-ACC hit
 ‘Speaking of Mary, she hit John.’

As it is well known, the colloquial language allows some markers to be dropped (Ono 2001; Saito 1985; Takezawa 1987). Specifically, *wa* can always be dropped, while *o* can be dropped only when the NP is linearly adjacent to the verb and c-commanded by it at S-str. (Takezawa 1987). Machida et al. (2004) assume that *ga* can never be dropped; thus, even though case drop is judged less ungrammatical with subjects of unaccusatives than with subjects of transitives and unergatives, it is still considered deviant. The phenomenon of case marker omission is illustrated in (22)-(25).

(22) Dare-*(ga) sono hon-o katta no?
 who-NOM that book-ACC bought Q
 ‘Who bought that book?’

(23) John-ga nani-(o) katta no?
 John-NOM what-ACC bought Q
 ‘What did John buy?’

(24) [Nani-*(o)]₁ John-ga t₁ katta no?
 what-ACC John-NOM bought Q
 ‘What did John buy?’

(Ono 2001: (2)-(4))

(25) a. Dare-ga kita no?
 who-NOM came Q
 ‘Who came?’
 b. ??Dare kita no?

(Miyamoto et al. 1999: (3))

Thus, (22) shows that *ga* omission is ungrammatical when it marks the subject of a transitive verb; (23)-(24) show that *o* omission is grammatical, but constrained by adjacency; finally, (25) shows the status of *ga* omission with an unaccusative verb. Note that due to the fact that the topic marker overrides both Nominative and Accusative markers, and due to the fact that it can always be dropped, it is impossible to determine the original case marker of NPs which could have been topics (i.e. could have been marked with *wa* prior to omission). Therefore, in order to determine the original case marker of a case-less NP, only those NPs which could not have been topics must be examined (e.g. indefinites, *wh*-phrases). This is why all the relevant NPs in the examples above are *wh*-phrases.

3.2. Acquisition data

Turning to acquisition, Machida et al. (2004) analyze the empirical findings of Ito & Wexler (2002), who examine the spontaneous production transcripts of one child acquiring Japanese between the ages 1;11-3;7. They recognize three developmental stages, as shown in (26); as before, the results below address only indefinite NPs, as these NPs could not have been marked with the topic marker prior to omission.

(26) Development of Nominative omission:

Stage 1 (1;11-2;1): Nominative is omitted with all verb types.

Stage 2 (2;2-3;0): Nominative is omitted significantly more frequently with unaccusatives than with unergatives.¹⁰

Stage 3 (3;1-3;7): Nominative is never omitted with any verb type.

(Machida et al. 2004: (5))

How to account for this developmental curve? Evidently, the 1st stage does not demand a special explanation – it seems that the child simply has not started using case marking; indeed, Accusative case is also frequently omitted at this stage. In order to account for the 2nd stage, Machida et al. assume that the child *distinguishes* the syntactic analyses of unaccusative and unergative predicates, in addition to the assumed difficulty with A-chains (i.e. A-Chain Maturation Hypothesis). With this in mind, the authors suggest that in child grammar, movement of unaccusative subjects to Spec TP is optional: if the unaccusative subject is raised to Spec TP, it will surface with Nominative case, but if the unaccusative subject is left in situ, it will surface without case marker.¹¹ Omission in the latter case is suggested to result from overgeneralization of the Accusative marker omission, which occurs in more than 90% of the relevant cases at this stage. Recall that omission of Accusative is possible under adjacency and c-command at S-Str.; Nominative omission with unaccusatives would be significantly more frequent than Nominative omission with unergatives, because only unaccusative subjects can remain c-commanded by the verb and adjacent to it at S-str.¹² Importantly, the mere existence of the 2nd stage is taken to support the A-Chain Maturation Hypothesis; presumably, the ungrammaticality of A-chains is what allows the child to leave the unaccusative subject in its base generated position.

Nevertheless, if the A-Chain Maturation Hypothesis was the sole principle guiding the child, we would expect that all unaccusative subjects will be left in situ at this stage, and consequently, that all unaccusative subjects will be produced case-less. Clearly, this is not the case, as more than 60% of unaccusative subjects appear with Nominative. The optionality of case marking is suggested to result from the assumption that raising the subject of unaccusatives to Spec TP is as ‘bad’ as leaving it in situ. Specifically, the movement analysis would violate the A-Chain Maturation Hypothesis but not the EPP, while the in situ analysis

¹⁰ The unaccusative verbs are further classified in the original work into ‘existential’ (e.g. *be*, *exist*) and ‘normal unaccusatives’ (e.g. *fall*, *break*); Nominative is omitted in 32.7% of the former cases, and in 34.2% of the latter cases; Nominative is omitted with 17.6% of unergative and transitive subjects.

¹¹ Whether the movement is overt or covert, the word order remains SV, due to the SOV nature of Japanese.

¹² It remains unclear, however, why Nominative case is nevertheless omitted with 17.6% of unergative and transitive subjects.

would violate the EPP but not the A-Chain Maturation Hypothesis. Under this view, then, theoretical principles are seen as violable constraints, being ranked with respect to each other in the induced violation (à la Optimality; see Prince & Smolensky 1993).¹³

The reader might rightly wonder why this account is referred to as supporting the UMH; so far, the analysis of the 2nd stage relied on the assumption that the child distinguishes the representations of unaccusative and unergative verbs. In fact, the UMH is suggested to be supported by the 3rd stage, where the child ceases to distinguish the two verb classes, disallowing Nominative case drop with both of them. This lack of distinction, in contrast with the distinction observed at the 2nd stage, is taken to reflect the unergative misanalysis. To cite Machida et al., ‘What we suggest is that at the third stage ... the two types of verbs are in fact being analyzed as the same type. Given that the unaccusative replicates the nominative case marking pattern of unergatives ... we surmise that the learner is “misanalyzing” unaccusatives as unergatives at this stage.’ (Machida et al. 2004:96).

3.3. Re-examination

As it was discussed in the previous section, Machida et al. take the 2nd stage to provide support for the A-Chain Maturation Hypothesis, and, more importantly for our purposes, take the 3rd stage to provide support for the UMH. In this section, I show that both conclusions are not well-grounded. Specifically, I show that the proposed developmental curve is unnatural, leaving unanswered the most important question in acquisition studies, namely what would lead the child to abandon grammar₁ in favor of a later grammar₂. Additionally, I show that the A-Chain Maturation Hypothesis does not constitute the only possible explanation of the 2nd stage, thereby weakening the argumentation of Machida et al. Let me start with the former, showing that invoking the UMH to account for the 3rd stage is hardly desirable.

Recall that at the 2nd stage the child is assumed to know the correct syntactic analysis of unaccusatives (and unergatives), while at the 3rd stage this knowledge is assumed to be overridden by other considerations; finally, and crucially, at the final stage of the adult speaker of Japanese, this knowledge is used once again. While the resulting developmental curve superficially resembles a U-Shape, which is certainly attested in language acquisition, this similarity quickly dissolves once the analysis is examined more carefully: the term U-Shape denotes successful performance at the initial and final stages of acquisition, with poorer performance at the intermediate stages. The term itself, therefore, is merely a description of an attested state of affairs, and should therefore be accounted for. The commonly assumed explanation of U-Shaped development (e.g. children’s errors with the past-tense *-ed* morphology in English) is that initially, the child merely imitates the adult language, producing the relevant forms without analyzing them; at the intermediate stage, the child arrives at some generalization of the produced forms, which resembles the target (adult) analysis but differs slightly, causing the child to produce occasional errors (e.g. *goed* instead of *went*); at the final stage, the child arrives at the adult analysis, producing the relevant forms without errors. Thus, the term U-Shape applies to certain phenomena, but in itself does not constitute their explanation; it, *per se*, is subject to extensive analysis. In contrast, the account of Machida et al. suggests a ‘U-Shaped explanation’, in that it presupposes a usage of certain knowledge at the initial and final stages, but not at the intermediate stage. The problem with

¹³ It should be noted that whether or not the EPP is respected with unaccusative (and passive) verbs is debatable. In fact, Miyagawa & Babyonyshev (2004) argue that precisely with these verbs the EPP does not need to be satisfied in the adult Japanese.

such an explanation is that it is hard to conceive of a plausible motivation which could lead the child to abandon the correct analysis used at the 2nd stage in favor of an incorrect analysis used at the 3rd stage.

In fact, examining the account more closely, it becomes evident that precisely this issue is left unclear, due to an internal inconsistency: if the child can misanalyze unaccusatives as unergatives at the 3rd stage, it becomes unclear why shouldn't this option be available already at the 2nd stage, in which case no Nominative omission would be expected. Recall that the optionality of Nominative drop was based on the assumption that raising the subject of unaccusatives to Spec TP violates the A-Chain Maturation Hypothesis, but not the EPP, while leaving it in situ violates the EPP but not the A-Chain Maturation Hypothesis. But if so, it is unclear why couldn't the child choose to represent unaccusatives as unergatives already at the 2nd stage: this misanalysis does not violate either principle, and should therefore be preferred.¹⁴ Thus, the 'U-Shaped' analysis proposed in Machida et al. faces the difficulty of explaining the passages from 2nd stage to the 3rd one, and, not less importantly, from the 3rd stage to the final one in course of acquisition.

Turning to the A-Chain Maturation Hypothesis, and the account of the 2nd stage, it is in fact debatable that Nominative case can never be omitted in adult Japanese. This raises the question whether the 2nd stage should be interpreted as a deviation from the adult grammar in the first place. Recall that it was noted already in §3.1 that while Nominative drop with unaccusatives is marginal, it is nevertheless considered better than Nominative drop with unergatives and transitives. In fact, some researchers, like Kageyama (1993), claim that unaccusative subjects differ from unergative and transitive subjects in that they *allow* Nominative omission, providing the judgments in (27)-(28): (27) shows that omission of Nominative marking an unaccusative subject is possible, and (28) shows that omission of Nominative marking an unergative subject is impossible. (Although the nominals in these examples are not *wh*-elements, they could not have been marked with the topic marker, due to its ungrammaticality inside subordinate clauses.)

(27) Tanaka-san-(ga) nakunatta no o siranakatta.
 Tanaka- NOM died NOML ACC knew-NEG
 '(I) did not know that T. had died.'

(28) Tyuukakuha-*(ga) demosuru no o mita yo.
 Tyuukakuha- NOM demonstrate NOML ACC saw affirm.
 '(I) saw Tyuukakuha demonstrate.'

(Oshita 1997: (154a), (155a), citing Kageyama 1993: (56))

Furthermore, some researchers take the possibility of case omission to be independent of the case marker itself, and instead, to depend on the structural position of the nominal. This direction is further supported by the data in (29): some transitive verbs in Japanese assign Nominative to their direct objects and it seems that precisely in these cases Nominative can be omitted (see also Dubinsky 1992).¹⁵

¹⁴ Two objections can be raised: one could suggest that the unergative misanalysis itself is subject to maturation, or alternatively, one could suggest that children are constrained by UTAH at the 2nd stage (UTAH requires that identical thematic relationships between items be represented by identical structural relationships at D-str.; see Baker 1988). The former option is rather ad hoc; the latter is inconsistent with the 3rd stage: if UTAH constrains the child's grammar at the 2nd stage, it is unclear why wouldn't it do so at the 3rd stage as well.

¹⁵ While the number of predicates marking their direct objects with Nominative is rather small, the predicates themselves are extremely frequent. Among them are: *iru* 'to need', *hosii* 'to want', *wakaru* 'to understand',

- (29) John-ga nani-(ga) wakaru no?
 John-NOM what-NOM understand Q
 ‘What does John understand?’

(Ono 2001: (5))

Given the findings above, it seems that (at least for some speakers) Nominative case omission is possible in the adult language, provided the nominal remains adjacent to the verb and c-commanded by it in S-str.¹⁶ Thus, an alternative way to account for the 2nd stage emerges, thereby weakening the argumentation of Machida et al. Evidently, much more data on the status of Nominative case omission in adult Japanese are necessary in order to reach any solid conclusion. Given the unclear status of the phenomenon, the question arises whether the findings are informative to the question at hand, namely the acquisition of the syntactic analysis of unaccusative verbs. In my view, they certainly are: recall that the child allowed Nominative omission with unaccusative subjects significantly more than with unergative and transitive subjects at the 2nd stage. Be the analysis of Nominative omission with unaccusative verbs as it may, the distinction between unaccusative and unergative verbs at the 2nd stage is clearly at odds with the UMH.

Returning to the 3rd stage, recall that the analysis of Machida et al. was shown to be implausible, raising the question of how to account for the lack of Nominative case omission observed at this stage. Crucially, any present or future alternative account would heavily depend on the status of Nominative case drop with unaccusatives in the adult language, which was shown to be debatable. If the majority of native speakers judge it as ungrammatical (calling for a separate explanation for the data in (27)-(28)), then the 3rd stage could merely show that the child has finally acquired the conditions on case drop. If Nominative case drop with unaccusatives is judged grammatical, in conformance with the data in (27)-(28), then the existence of a stage in acquisition in which the child would cease to omit Nominative would be puzzling. Nevertheless, let us not forget that the findings supporting the existence of the 3rd stage are available for only one child, and could possibly reflect his unique behavior. Once again, much more data – this time, acquisition data – are required in order to arrive at solid conclusions.

tanosii ‘to enjoy’, *umai* ‘to be good at’, *mazui* ‘to be bad at’ etc. (see the exhaustive list in Kuno 1973, pp. 90-91). Thus, there is little doubt that the child is exposed to them. A question immediately arises whether the child omits Nominative with such predicates as well. Unfortunately, this is unclear from the data of Sumihare, the Japanese child analyzed in Machida et al. The data of another child, Aki, analyzed in Miyamoto et al. (1999) show that he indeed omits Nominative marking direct objects of transitive verbs (at the 2nd stage); however, the percentage of omission with these verbs remains unclear.

¹⁶ An anonymous reviewer presents the following example as conflicting with this direction:

- (i) Dare-(ga) Tokyo-ni tuita no?
 who-NOM Tokyo-LOC arrived Q
 ‘Who arrived in Tokyo?’

(Ono 2001: (14b))

According to the judgment, Nominative case omission in (i) is ungrammatical, even though it marks the subject of an unaccusative verb. Note, however, that in this particular example, the Nominative argument is not adjacent to the verb, due to the intervening locative phrase (*Tokyo-ni*). The ungrammaticality, then, could be due to the lack of adjacency required for case omission, rendering the example irrelevant to the issue at hand.

4. Conclusion

To conclude, this paper showed that the proposal that young children initially assign an unergative analysis to unaccusative verbs (UMH) cannot be maintained. Furthermore, this paper showed that the findings originally taken to support the UMH should rather be interpreted as supporting the early acquisition of unaccusatives. Paradoxically, it seems that the Russian and Japanese data reviewed here should rather be cited along with data from Romance acquisition of auxiliary selection (Snyder, Hyams & Crisma 1995), acquisition of subject-verb order in Italian, Catalan and Hebrew (Lorusso, Caprin & Guasti 2005; Cabré Sans 2004; Friedmann 2007, respectively), or acquisition of the aspectual modification by *te-iru* in Japanese (Shimada & Sano 2007) – all of which provide additional evidence in favor of the early acquisition of the unaccusative syntax. This radically different way to interpret the data originally taken to support the UMH becomes available once our attention is drawn to what children know, rather than to what they do not know. Specifically, it becomes evident that children acquiring Russian distinguished unaccusatives and unergatives, once we focus on the finding that they allowed Genitive case marking both with unaccusative subjects and direct objects, but disallowed it with unergative subjects; similarly, it becomes evident that the child acquiring Japanese distinguished the two verb types, once we focus on the finding that he allowed Nominative case drop with unaccusatives significantly more than with unergatives.

As it was discussed in the introduction (§1), proposals like the A-Chain Maturation Hypothesis (Borer & Wexler 1987, 1992) and the Universal Phase Requirement (Wexler 2004) predict that children younger than 5 years old will refrain from using unaccusative verbs. Recall that this prediction was immediately falsified by cross-linguistic data showing that unaccusative verbs are used productively already by much younger children. Therefore, something must be added to or altered in the formulation of such proposals, in order to render them compatible with these data. The UMH provides an elegant solution to this problem, suggesting that young children can avoid the A-chain in their analysis of unaccusative verbs by assigning them an unergative representation. Adopting this solution, however, creates dependency between proposals like the A-Chain Maturation Hypothesis and the Universal Phase Requirement and the UMH. Since my work showed that the UMH cannot be maintained, it follows that such proposals cannot be maintained as well. Clearly, this verdict is not final, as there might be a way to reformulate both proposals, rendering them compatible with the early acquisition of unaccusativity (this will not be an easy task, however; see fn. 2 in this work). Crucially, such proposals become severely weakened without the UMH, raising the question whether one should strive to hold on to them at any price. Hopefully, future research – both in theoretical linguistics and acquisition studies – will provide solid answers to this and related questions.

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Eugenia Birger
 Tel-Aviv University, Israel
birgerev@post.tau.ac.il

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