

SCRAMBLING AND THE POLISH WORD ORDER. AN ALTERNATIVE HYPOTHESIS.

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1. Introduction

The standard approach to the phenomenon of scrambling in Polish is to treat it as an instance of *Move alpha*. The Polish word order is considered, within this framework, to be canonical S-V-O at D-structure, and its apparent laxity is regarded as only a surface phenomenon. The variety of sentence positions that noun phrases can occupy at S-structure results from the movement processes, subject to general constraints.

The present paper offers an alternative account in which the Polish word order is taken to be not only superficially but also underlyingly *free*, and scrambling has nothing to do with the rule *Move alpha*.

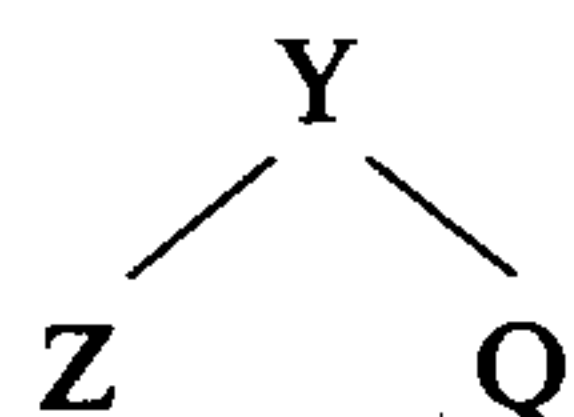
2. Scrambling as an instance of Move alpha

The assumption that scrambling is an instance of *Move alpha* has important consequences. First of all, the requirement of the Theta Criterion must be met in that the movement is only to non-theta positions. If alpha were moved to a theta position, the chain formed by the movement would be marked for two theta roles which is a clear violation of the Theta Criterion. In Polish, unlike in English, there are no overt expletives which would at S-structure mark non-theta positions. Such positions, if not filled with an expletive, are landing sites for moved noun phrases. Plausibly, the distinction theta vs. non-theta positions is void in Polish, and there are only theta positions in this language. The consequence of this is that the structure of the Polish sentence reflects the argument- predicate structure. There are as many argument positions (A-positions) as there are arguments semantically selected by the verb, and the theta roles to be assigned. As a result, there cannot be, as argued by Zabrocki

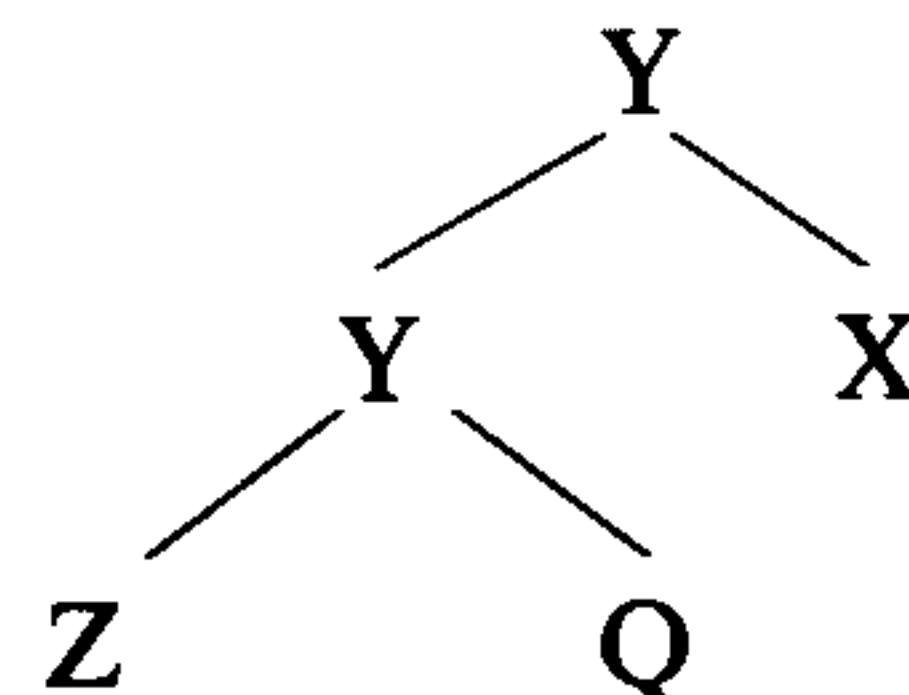
(1981), any NP movement in Polish. To fulfil the requirements of Emonds' Structure Preserving Constraint and the Projection Principle, the NP movement is only from one A-position to another A-position. If all A-positions are thematic in Polish, the violations of the Theta Criterion are inevitable in case of NP movement. Hence, any analysis of scrambling as an instance of syntactic NP movement cannot be maintained.

It is different with the analysis of scrambling as an instance of Wh-movement. Here, the theoretical problems mentioned above are overcome since Wh-movement is an instance of movement to \bar{A} positions. Such positions are adjoined positions and are not limited by the Structure Preserving Constraint and the Projection Principle. Typically, they are assumed to be Chomsky-adjointed to the existent node in the manner illustrated below, where X is adjoined to Y:

a)



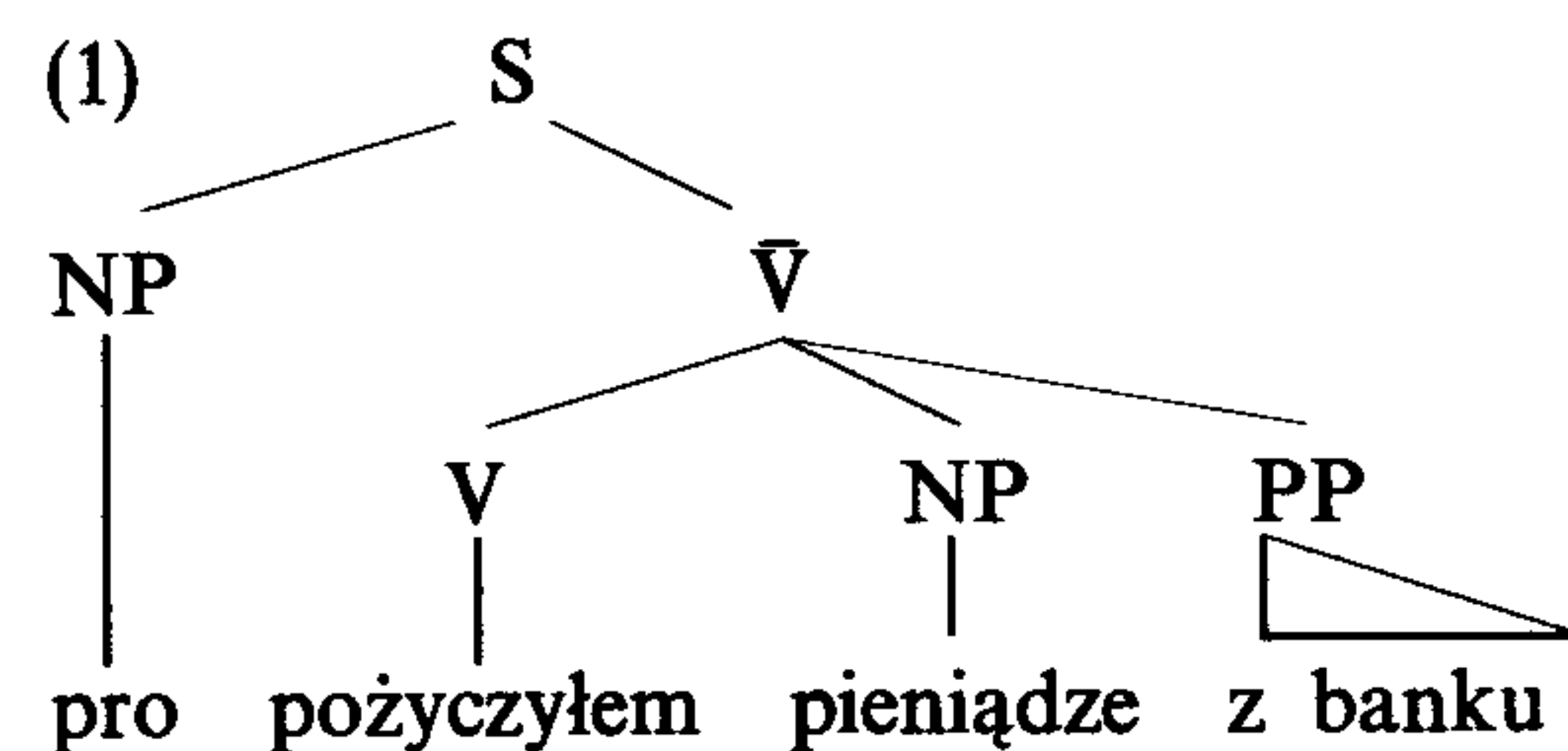
b)



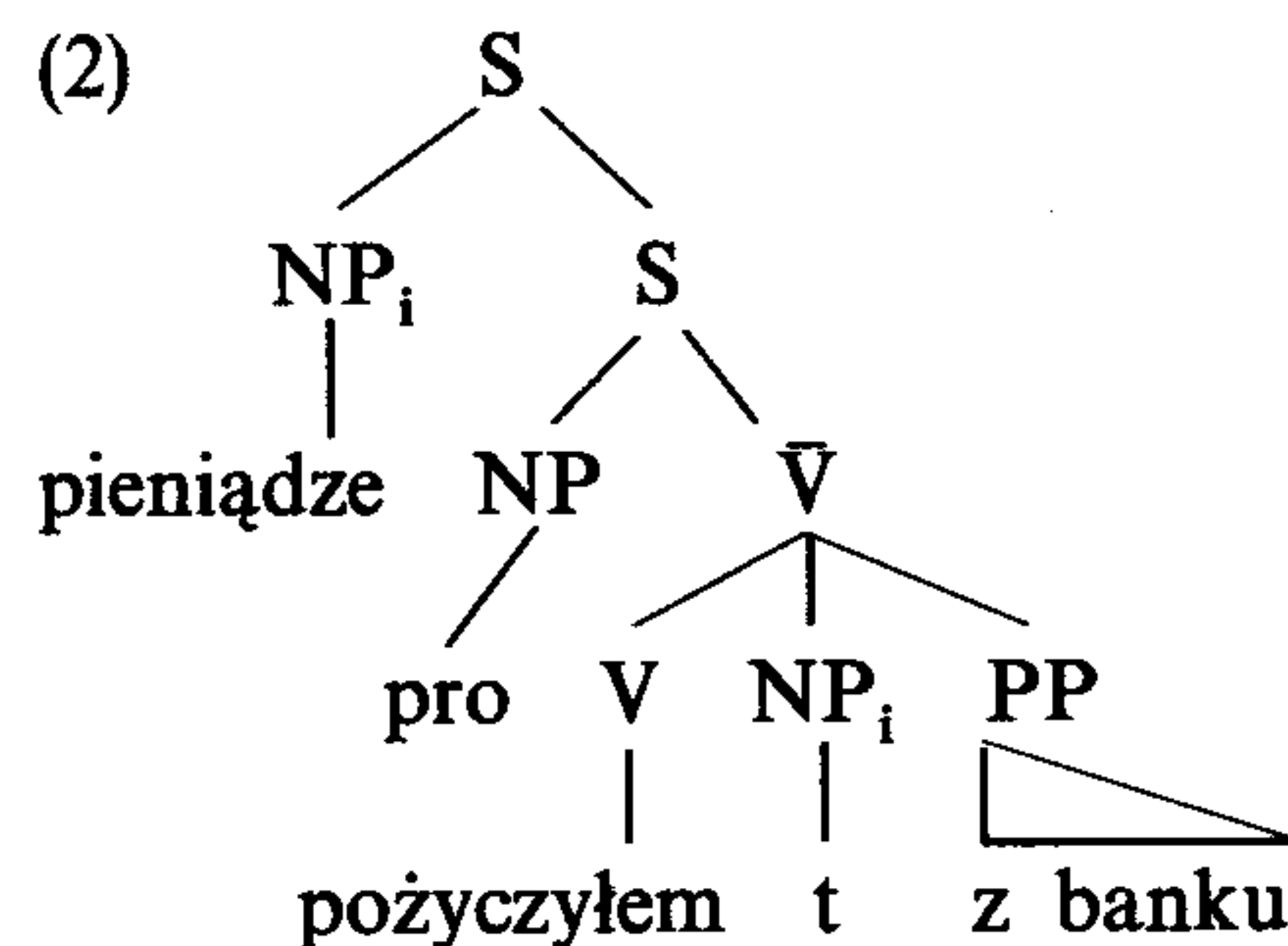
\bar{A} -positions are not subcategorized and not associated with the predicate-argument structure, hence non-theta. Any movement into an \bar{A} -position is not thus a violation of the Theta Criterion, with the chain of the movement (if the chains are extended to \bar{A} -chains, cf. the discussion in Chomsky (1982), Chomsky (1986), Brody (1984)) associated with a unique theta role.

Regarding scrambling as movement necessitates the recognition of traces in (2) below, which is a scrambled structure derived from the D-structure form (1):

(1)



(2)



In the examples (1) and (2) as well as in all the examples in this section the INFL node is disregarded. If (2) is derived from (1) by Wh-movement the trace present in (2) has the status of a variable with regard to the Binding Theory

which, as will be shown later, has important consequences. Notice, that the analysis of scrambling as NP movement cannot be sustained also because the NP trace in (2) would be in a Case-marked position, which is contradictory to the tenets of the GB theory.

Thus, the standard assumption about scrambling in Polish is that it is a case of adjunction to \bar{A} -positions, a subcase of Wh-movement. The acceptance of such a stand must entail the rejection of any of the hypotheses listed below:

I. Scrambling is the substitution movement by trace leaving to base-generated A-positions.

II. Scrambling is the adjunction movement by trace leaving to base-generated A-positions.

III. Scrambling is the movement not by trace leaving to \bar{A} -positions or to A-positions.

Insofar as the suggestion that all A-positions in Polish are thematic is true, the hypothesis I must be rejected. The empty A-positions in the D-structure, if existent, must be thematic, and the movement by substitution would violate the Theta Criterion. The hypothesis II is different from I only in that the landing sites for scrambling are base-generated, adjoined A-positions. Nevertheless, the Theta Criterion is violated here as well with the movement to theta positions. In our view, the hypothesis III should be rejected without further discussion if the Trace Theory holds unconditionally. If scrambling is a syntactic movement process, the possibility of leaving no traces by scrambling does not arise.

Under the hypothesis II, the status of the trace in (2) above, is not clear. It is probably an anaphor since the movement of this kind resembles the NP movement in, for example, English raising structures. As convincingly argued in Willim (1986), anaphors in Polish should be bound within the domain of Tense, where *bound* means *subject bound*. The trace in (2) is not bound in this sense, hence the violation of the binding condition A.

It thus becomes clear that of the four hypotheses discussed so far, only the one taking scrambling to be movement by adjunction to \bar{A} -positions can be sustained, given the principles of such modules of Universal Grammar as Theta Theory, Case Theory and Binding Theory and given the rightness of the Trace Theory.

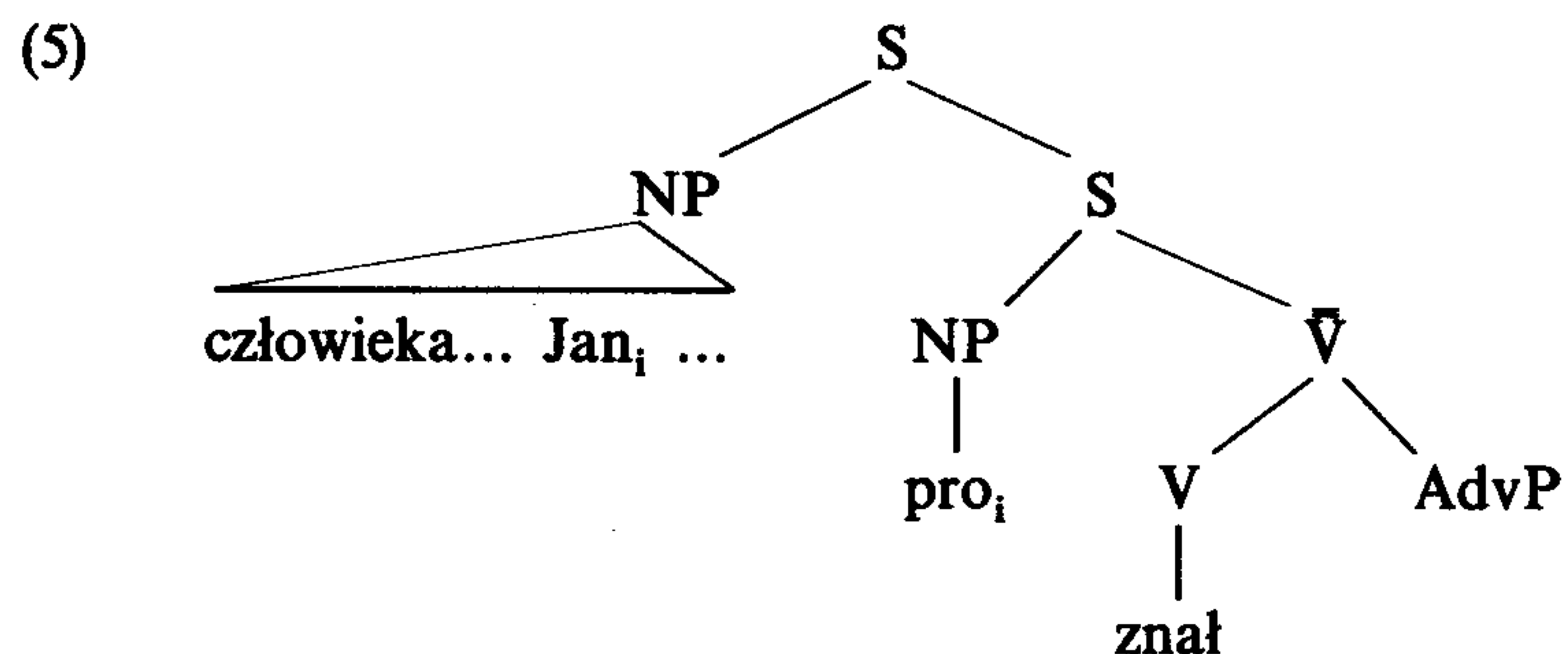
The four hypotheses have one thing in common; they all assume movement. If then, scrambling is a movement process, it can only be movement to adjoined \bar{A} -positions. The Binding Theory provides persuasive arguments that scrambling is in fact an instance of syntactic Move alpha. In the next section, these arguments will be confronted with the alternative approach in which scrambled phrases are considered to be base-generated in A-positions.

3. Scrambling and The Binding Theory

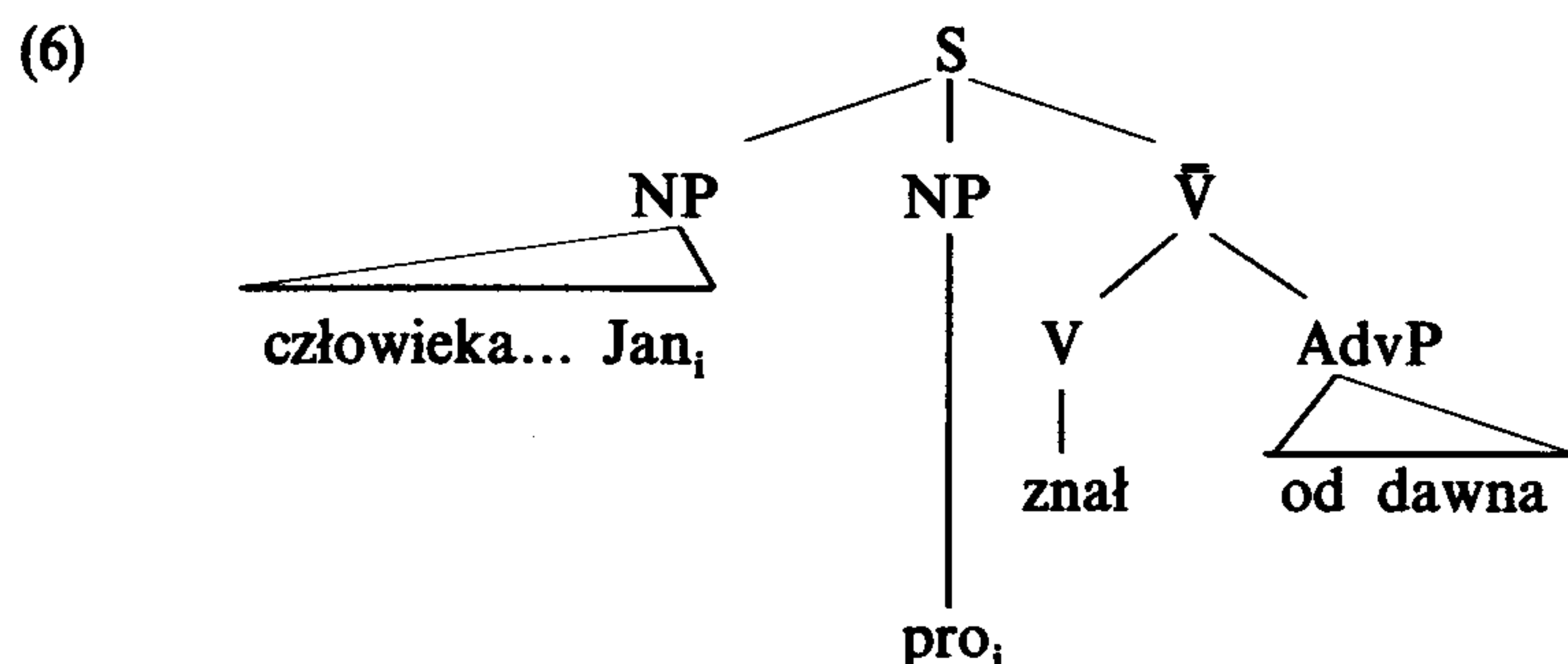
Willim (1986) argues that the contrast between (3) and (4) below, may be attributed to the interaction of scrambling movement and the operation of the binding principles:

- (3) * pro_i znał od dawna człowieka, którego Jan_i spotkał wczoraj.
 (he)_i has known for long the man whom John_i met yesterday.
 (4) Człowieka, którego Jan_i spotkał wczoraj, pro_i znał od dawna.
 The man whom John_i met yesterday, (he)_i has known for long.

(3) is unacceptable, while (4), with the relative complement clause scrambled to the front is well-constructed. In (3) the empty subject pro binds the R-expression in the relative clause and the binding condition C is violated. In (4) however, the object phrase is scrambled to an \bar{A} -position, which is adjoined to S, and pro does not bind the R-expression since it does not c-command it like in (5) below:



If the movement was not to an adjoined \bar{A} position, like in (6) below, then (4) should also be ill-formed with pro c-commanding, hence A-binding the R-expression, in violation of the binding condition C.



The second argument for the movement analysis of scrambling provided by the Binding Theory is that scrambling resembles Wh-movement in so called

strong cross-over. The relevant examples are given below:

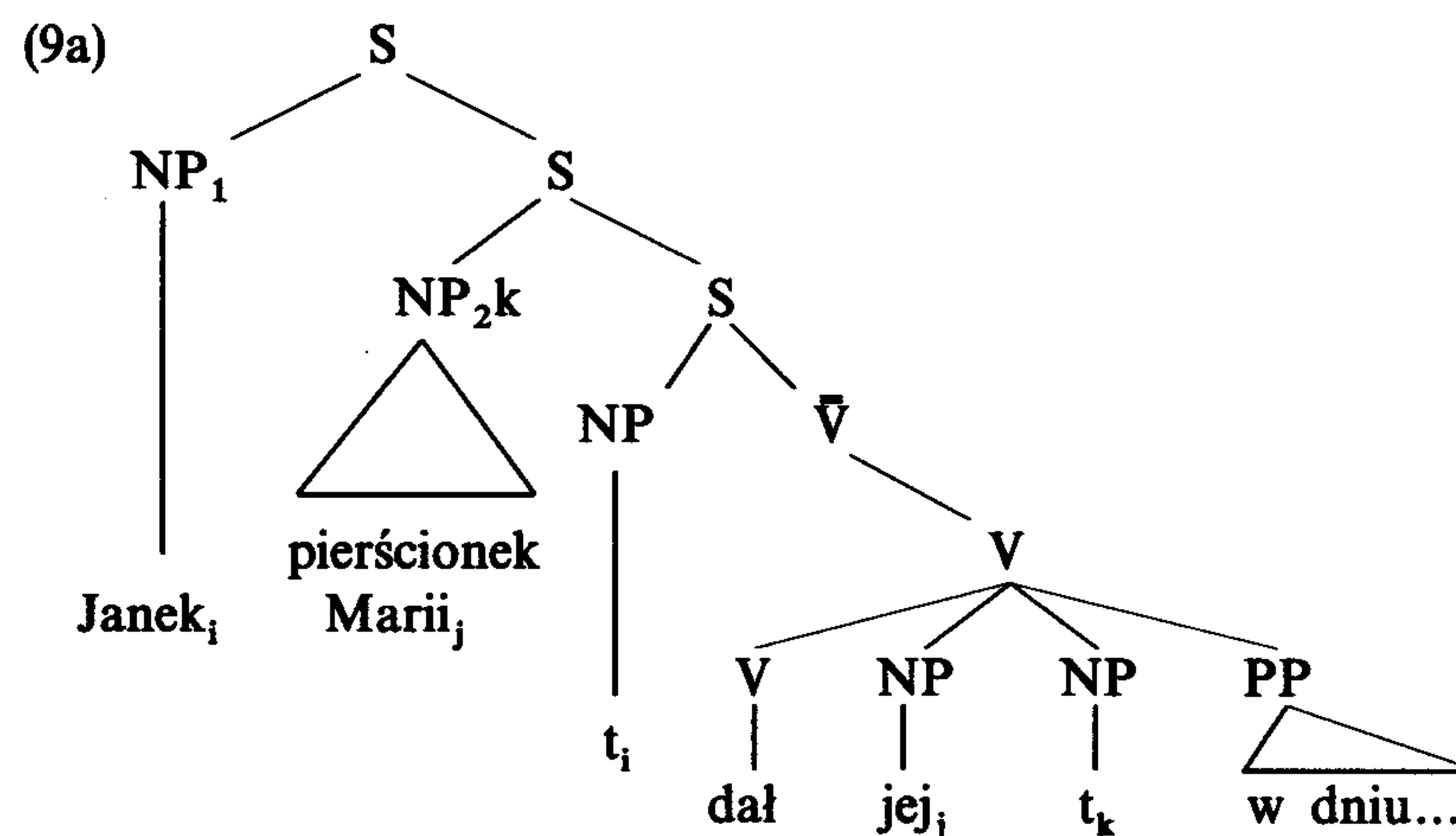
- (7) * $Kogo_i$ ona_i lubi t_i ?
 Who does she like?
 (8) * $Marka_i$ on_i lubi t_i
 Mark he likes.

(7) and (8) are both condition A violations with the variables A-bound by the pronouns *on* and *ona* in (8) and (7) respectively.

Nonetheless, the account of scrambling as movement to adjoined \bar{A} -positions is not unproblematic. Consider the following pair of sentences:

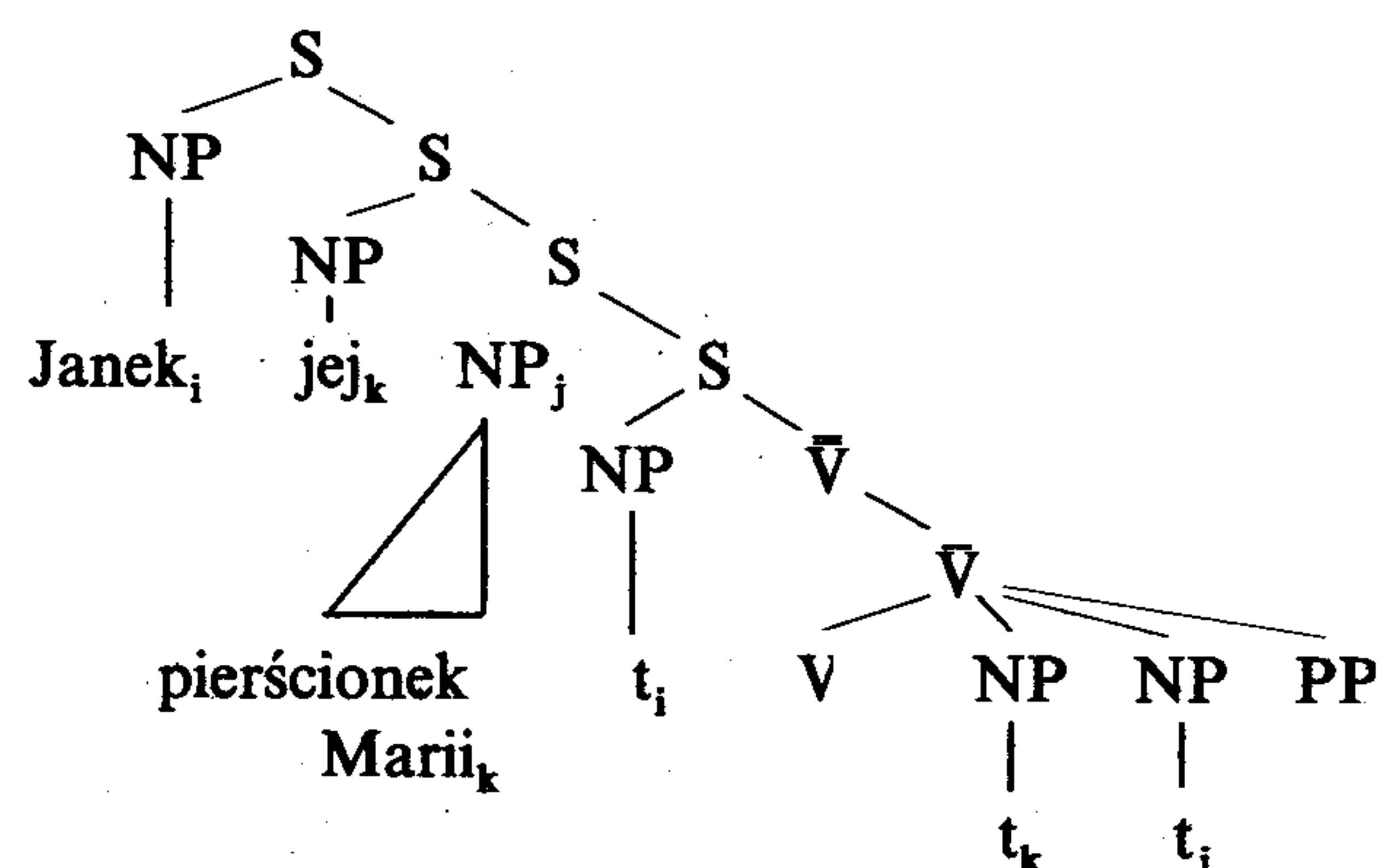
- (9) Janek pierścioneł Marii_i dał jej_i w dniu zaręczyn.
 John Mary's ring gave her on the day of engagement.
 John gave Mary's_i ring to her_i on the day of engagement.
 (10) *Janek jej_i pierścioneł Marii_i dał w dniu zaręczyn.
 John her_i Mary's_i ring gave on the day of engagement.

The structure of (9) may be represented within this approach as:



NP_1 and NP_2 are both scrambled to \bar{A} positions, hence the variable t_i is not A-bound, and the condition C is satisfied. In (10) however, whose structure is (10a) below, the situation is analogous but (10) is, anyway, ill-constructed. If both t_i and t_k stay unbound, there is no violation of the condition C. The variables cannot be bound since the phrases coindexed with them, i.e. *Janek* and *jej* are adjoined \bar{A} positions. The pronoun cannot bind the coindexed R-expression *Marii* since they both are in \bar{A} positions. The unacceptability of (10) cannot thus be explained in terms of the binding Theory if (10a) is the correct S-structure of (10).

(10a)

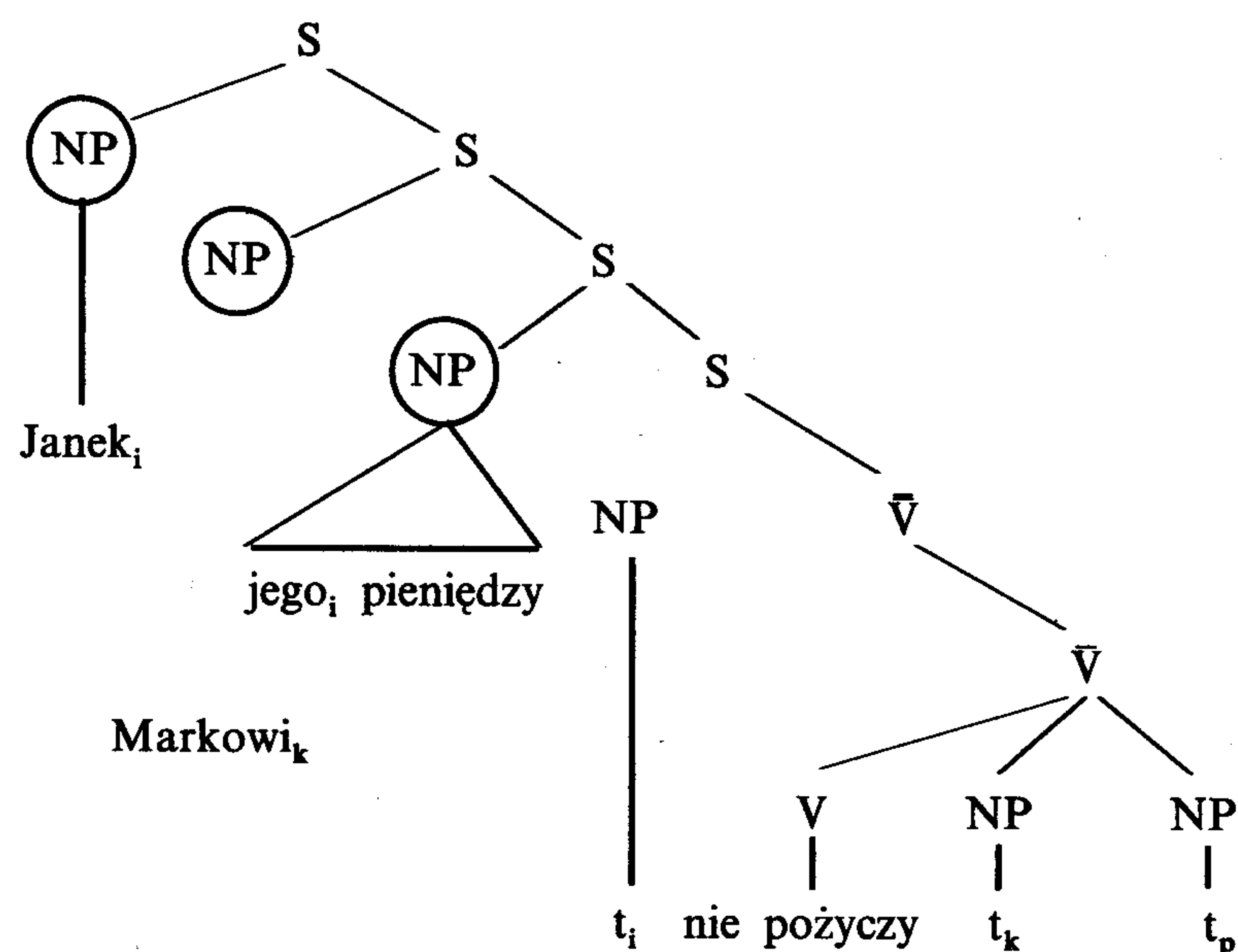


There is a similar situation in (11) below:

(11) *Janek_i Markowi_k jego_i pieniędzy nie pożycz
 John_i to Mark his_i money will not lend

The structure of (11) after the movement would be (11a):

(11a)

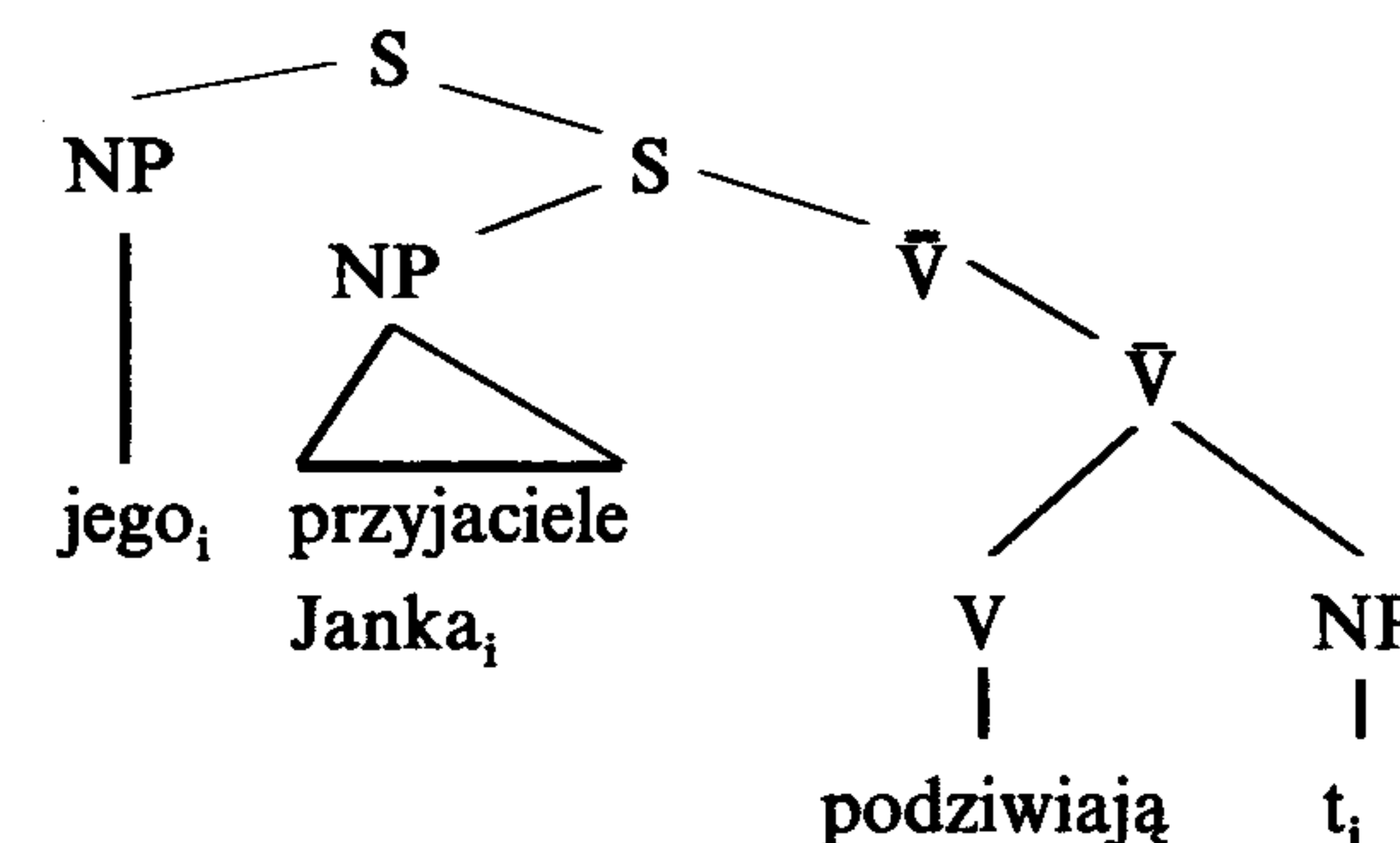


The encircled scrambled phrases are in \bar{A} positions, thus cannot take part in A-binding. None of the variables t_i , t_k , t_p is here A-bound, which would give rise to the condition C violation and explain the unacceptability of (11). Naturally, the trace of the NP *jego pieniądze* may not carry an index of its subject (*jego*) since the subject is not the head of the phrase, and thus cannot transmit its index to a higher projection (cf. Lasnik and Saito (1984:251)).

Consider also (12) below:

(12) *Jego_i przyjaciele Janka_i podziwiają.
 Him_i John's_i friends admire
 John's friends admire him.

(12a)



In (12) the trace t_i stays unbound; it cannot be bound by *Janka* which does not c-command it (a maximal projection NP intervenes). Obviously, *jego* which is scrambled to an \bar{A} -position does not improperly bind either the R-expression or its own trace. Hence, if the representation of (12) in (12a) is correct, there is no explanation for the unacceptability of (12) within the Binding Theory.

Consider finally (13) below which is different from (4) above only in that the subject pronoun is phonetically spelt-out. (13) though, unlike (4) is unacceptable.

(13) *Człowieka, którego Jan_i spotkał wczoraj, on_i znał od dawna.
 The man whom John_i met yesterday he_i has known for long.

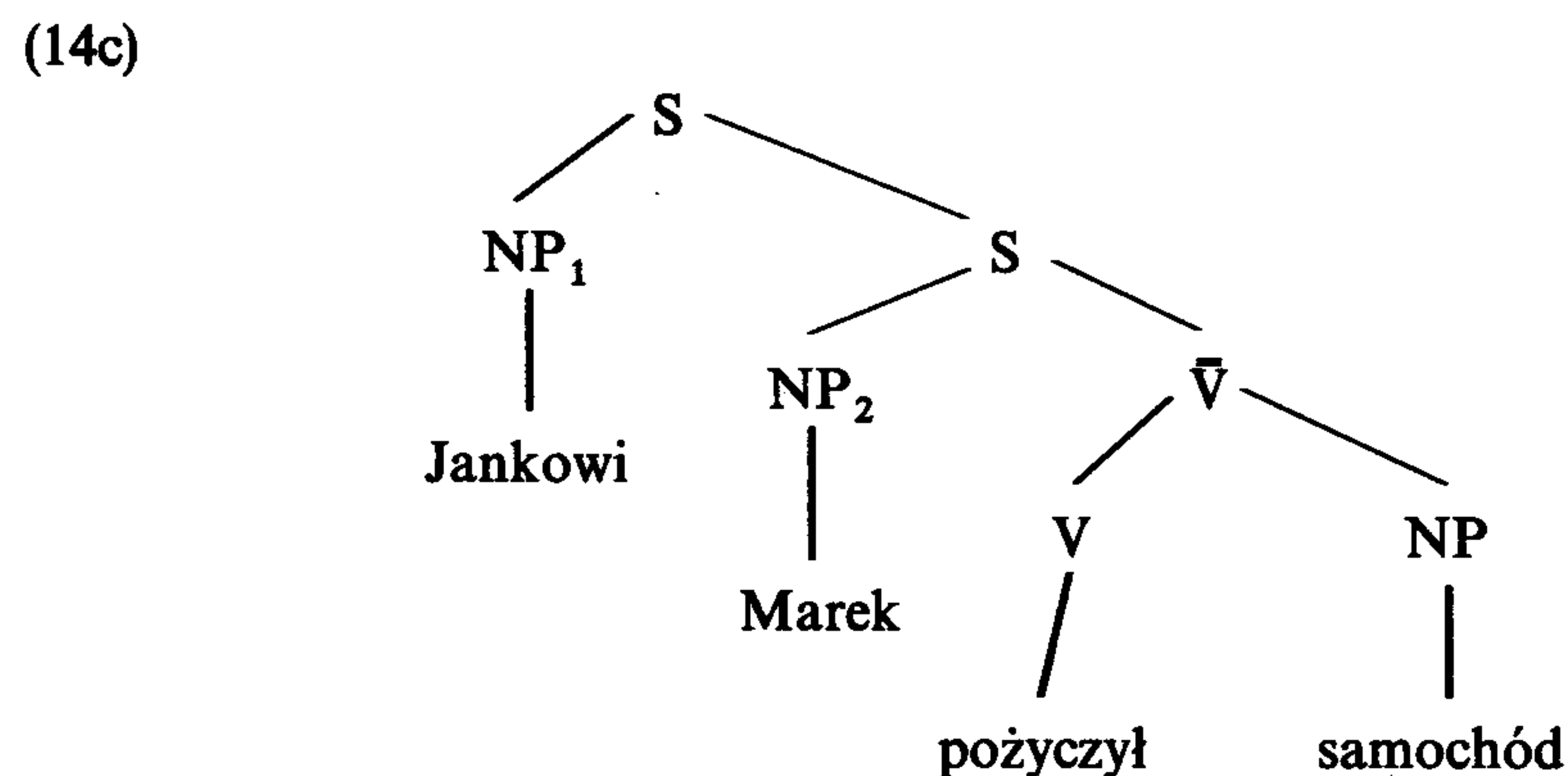
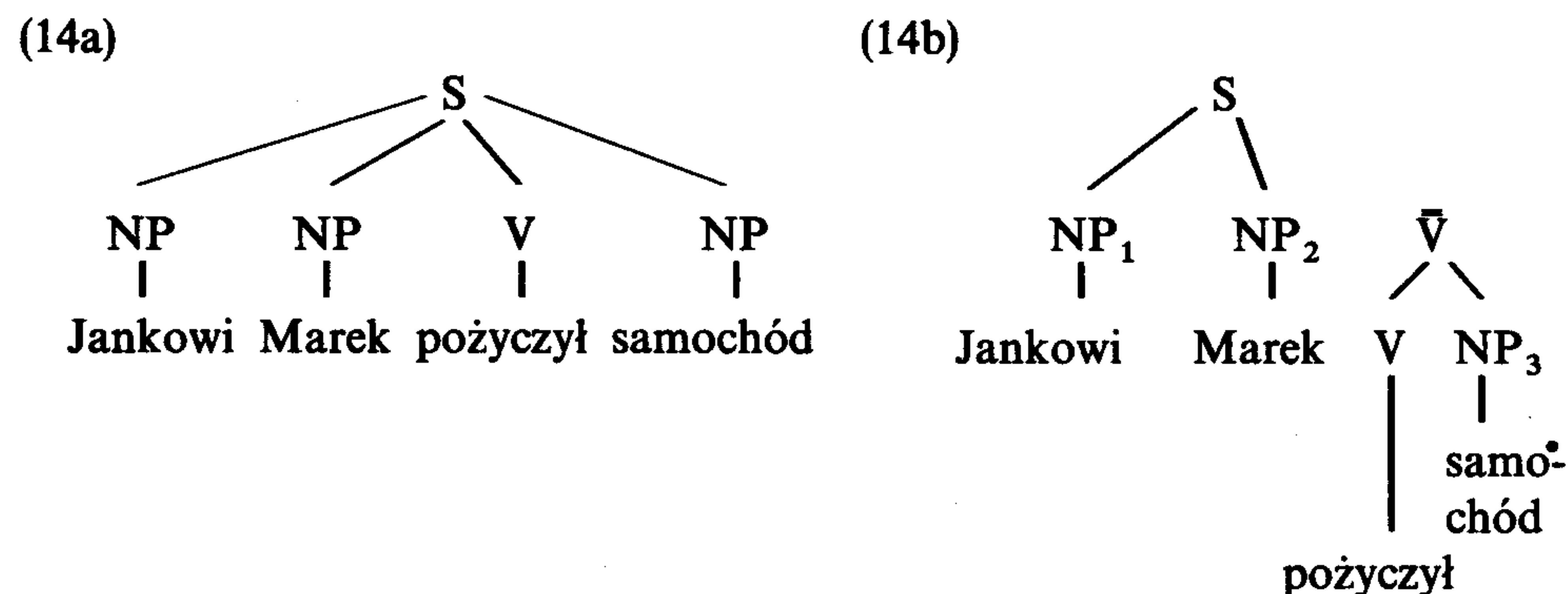
If the argument evoked to account for the correctness of (4) held more generally, also (13) should be acceptable with the R-expression in an \bar{A} -position free.

The above examples suggest, that the analysis of scrambling as adjunction to \bar{A} -positions appears remarkably inadequate in important cases. The alternative which this paper wants to defend is that "scrambled phrases" are base generated in their surface A-positions. Because the notion of scrambling associates itself with the movement, and the movement will, from now on, be rejected, the term *scrambled* will be put in inverted commas.

4. Scrambling as a non-movement process

In principle, one could think of three different ways of representing 'scrambled' phrases in Polish. They are illustrated below in (14a), (14b) and (14c), the structures of (14):

- (14) Jankowi Marek pożyczył samochód.
To John Mark lent the car.



(14a) is a “flat” structure. Crucially for the Binding Theory, all the noun phrases in (14a) c-command one another. In (14b) only ‘scrambled’ phrases c-command each other, the verbal projection \bar{V} prevents the third NP_3 from c-commanding NP_1 and NP_2 . In (14c) ‘scrambled’ phrases are in positions adjoined to S, and only NP_1 c-commands NP_2 but not vice versa. Obviously, there are no traces in the representations above as there was no movement involved in their derivation.

Consider first (14a), in which there is no verbal projection higher than V^0 . It turns out, that confronted with acceptable examples like (15) below, the representation (14a) cannot be sustained:

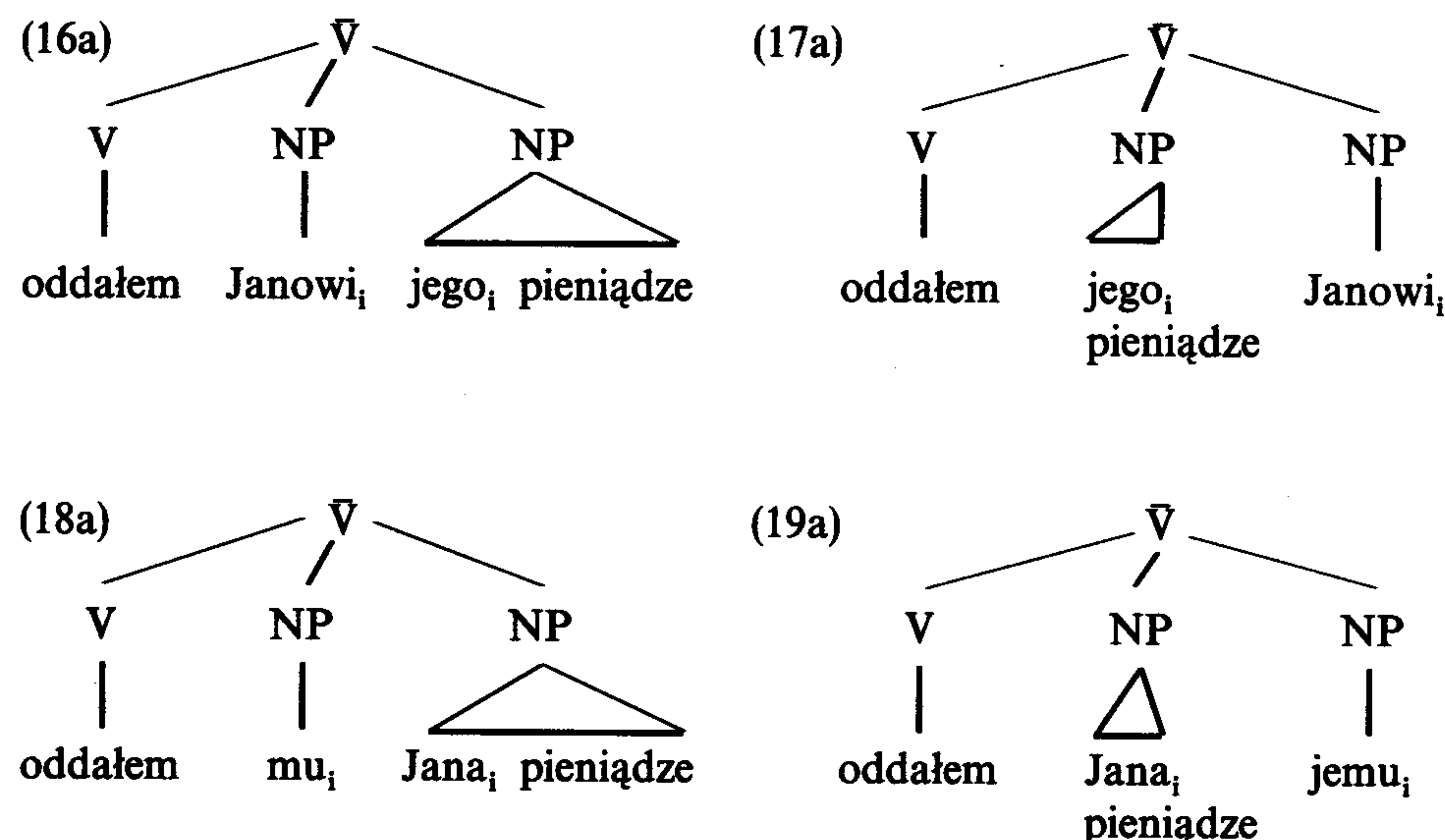
- (15) Janek_i Piotra_j samochód oddał mu_j w zeszłym tygodniu.
John_i Peter’s_j car gave back to him_j last week.
John gave back Peter’s car to him last week.

If the structure of (15) was “flat”, the post verbal pronominal *mu* would improperly bind the R-expression *Piotra* in violation of the condition C. Due to the screening from a verbal projection \bar{V} , the pronoun would not bind the R-expression in (15), as required, if its representation was like in (14b) or (14c).

Consider now the examples (16–19) below:

- (16) Oddałem Janowi_i jego_i pieniądze.
(I) returned John_i his_i money.
(17) ?*Oddałem jego_i pieniądze Janowi_i.
(I) returned his_i money to John_i.
(18) *Oddałem mu_i Jana_i pieniądze.
(I) returned him_i John’s_i money.
(19) *Oddałem Jana_i pieniądze jemu_i.
(I) returned John’s money to him_i.

The internal structures of the verbal projections in (16–19) may be like in (16a–19a) respectively:



(16) is correct since *jego* does not bind *Janowi* because it fails to c-command it (18) and (19) are cases of the condition C violations with the pronominals binding the R-expressions. The unacceptability of (18) and (19) indicates that the internal structure of the verbal projection is “flat” with all the noun phrases c-commanding each other.

It seems, that the relative unacceptability of (17) cannot be drawn from the violation of the binding conditions. (17) is on a par with examples like (20) below, contrasted with (21):

- (20) ?*Maria dała jego_i pieniądze Jana_i siostrze.
Mary gave his_i money to John's_i sister.
(21) Maria dała Jana_i siostrze jego_i pieniądze.
Mary gave John's_i sister his_i money.

What bars indicated interpretations in (17) and (20) may, for example, be some surface structure constraint similar to Zabrocki's Unique Structural Identification Requirement (Zabrocki:forthcoming).

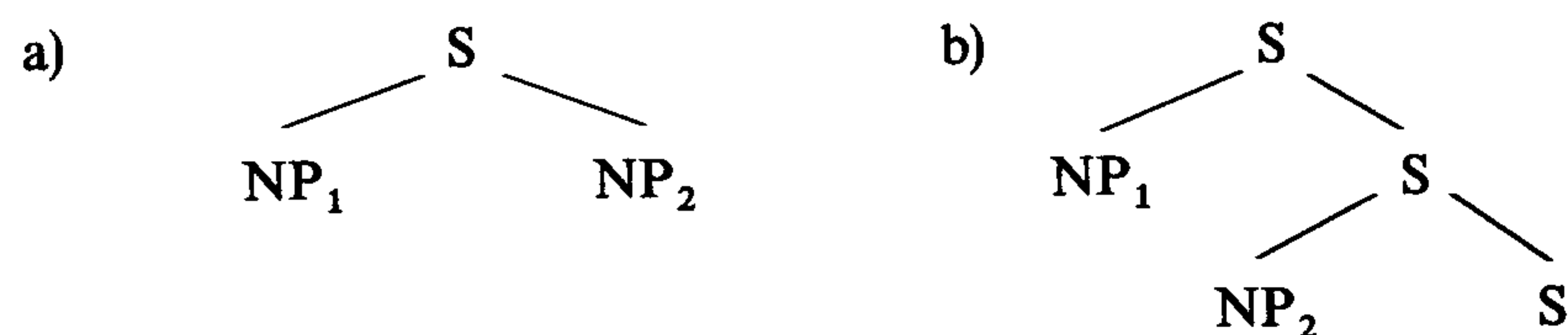
Notice now, that in the examples (22–27) below, the noun phrases 'scrambled' to S must c-command each other if the unacceptability of these sentences is to be attributed to the violations of the binding conditions B and C.

- (22) *Jana_i on_i lubi. — condition C violated
John_i he_i likes.
(23) *Jego_i Jan_i lubi. — conditions B and C violated
Him_i John_i likes.
(24) *Jan_i jego_i przyjaciół podziwia. — cond. B violated
John_i his_i friends admire.
(25) *Jego_i przyjaciół Jan_i podziwia. — cond. B violated
His_i friends John_i admires.
(26) *Jana_i przyjaciół on_i podziwia. — cond. C violated
John's_i friends he_i admires.
(27) *On_i Jana_i przyjaciół podziwia. — cond. C violated
He_i John's_i friends admires.

It is assumed here, after Willim (1986), that the binding conditions in Polish are as follows:

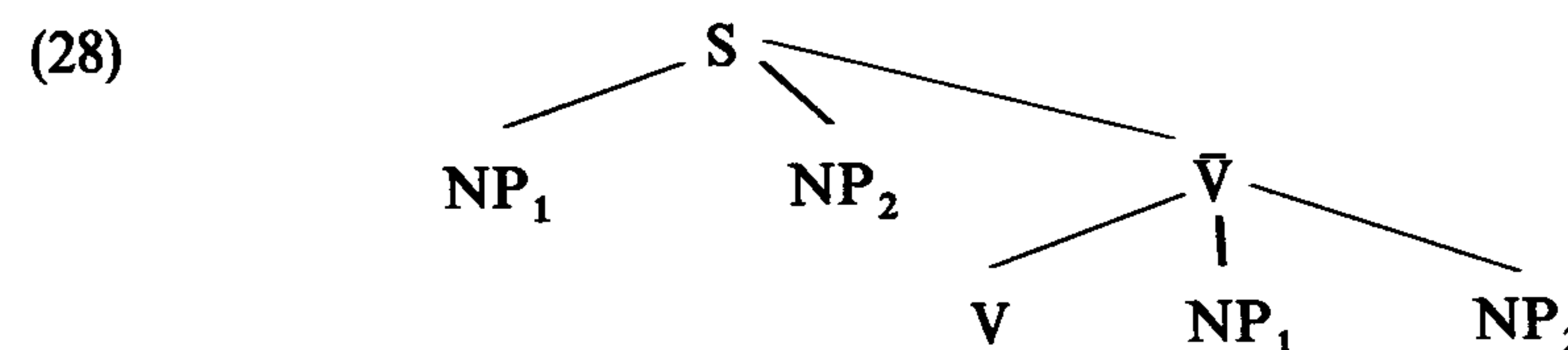
- A: anaphor must be bound within the domain of Tense,
B: pronominal must be free within the domain of Tense; where *bound* means *bound by subject*, and *free* means *not bound by subject*.
C: R-expression must be free, where *free* means *not bound by anything*.

For the noun phrases in (22–27) to c-command each other the structure must be, in a relevant, part like a) not like b) below:



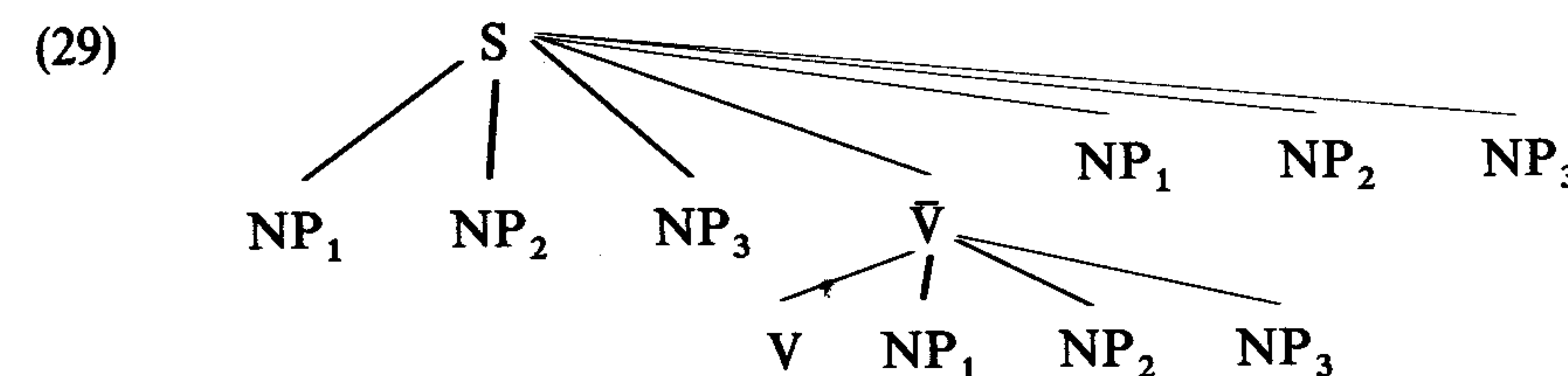
The option b) is not even available under the extended sense of c-command since NP₂ is not the head of S (cf. Chomsky 1981:166).

The internal structure of the verbal projection and the structuring of the 'scrambled' phrases are then alike, and the two may be put into a template (28):



Certainly, both noun phrases labelled in (28) as NP₁ represent the same argument and cannot co-occur in a sentence. Neither can the two NPs labelled as NP₂.

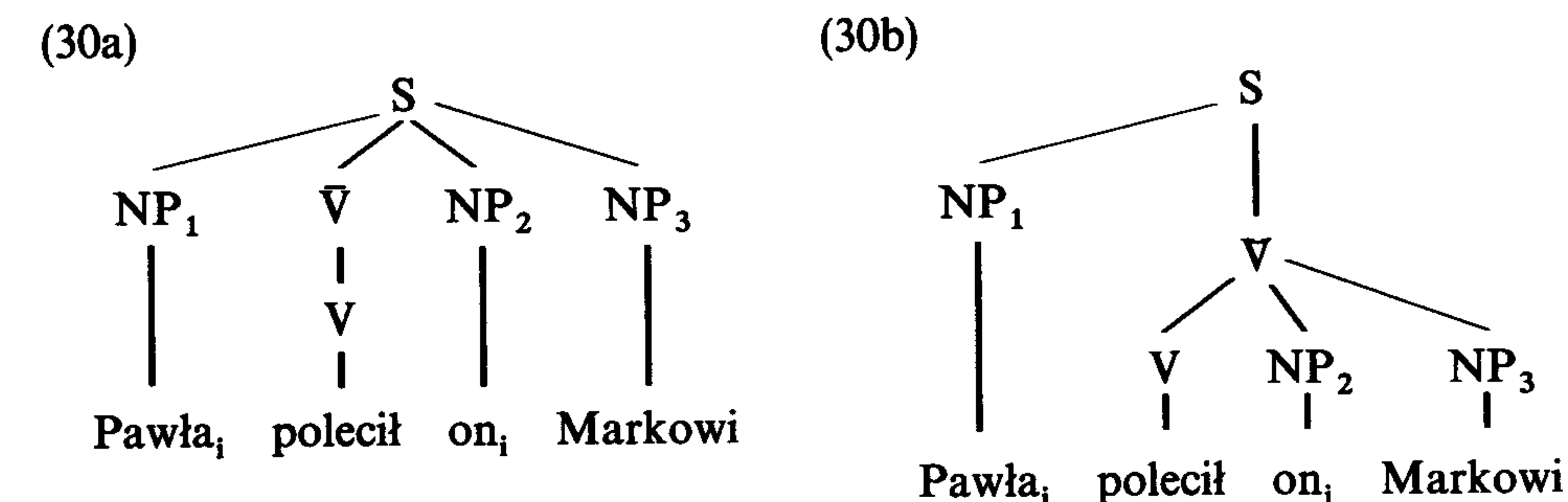
The maximal number of argument positions selected by the verb is in (28) two. Including now in the template the external argument positions, its form should change into (29):



The presence of the three possible argument positions in a sequence as right-branch sisters to V-bar in (29) is motivated by the need to avoid the "crossing of branches" in structures of sentences like (30) below, where a postverbal external argument precedes one of the internal arguments:

- (30) *Pawła_i polecił on_i Markowi.
Paul (he)_i recommended to Mark.

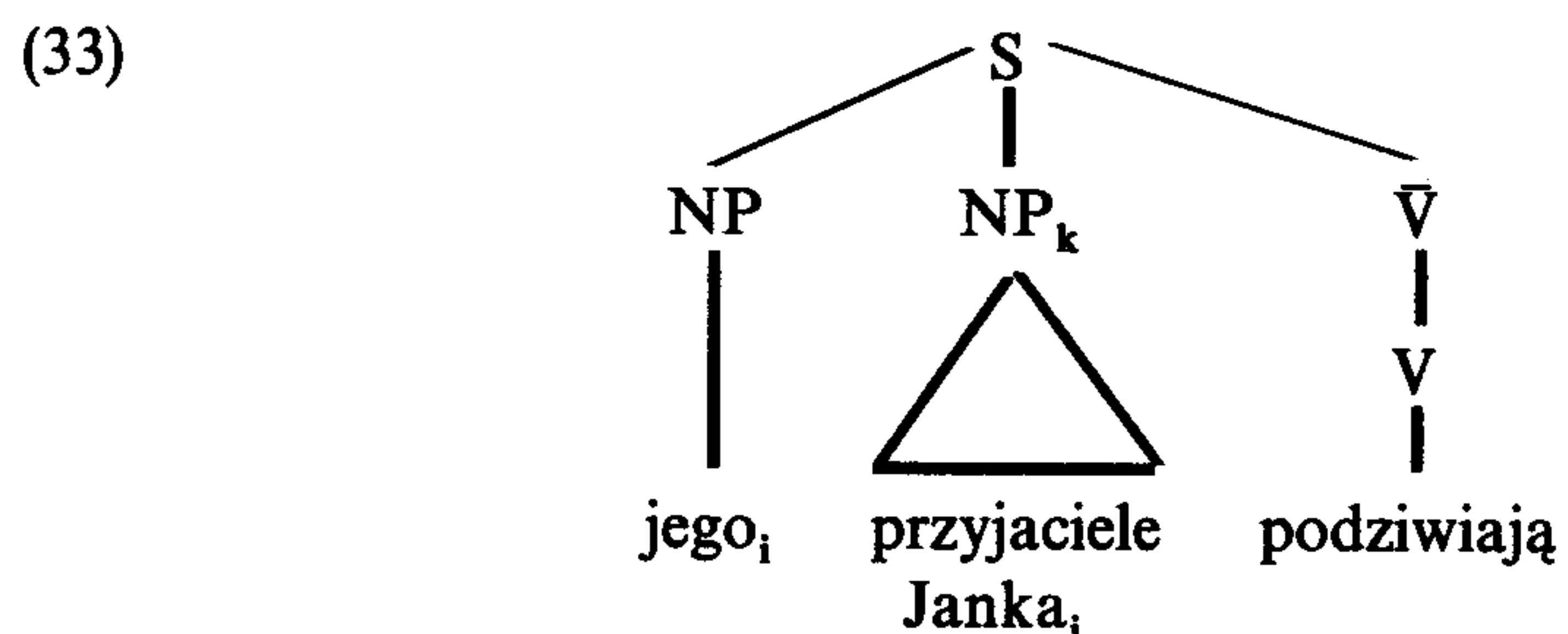
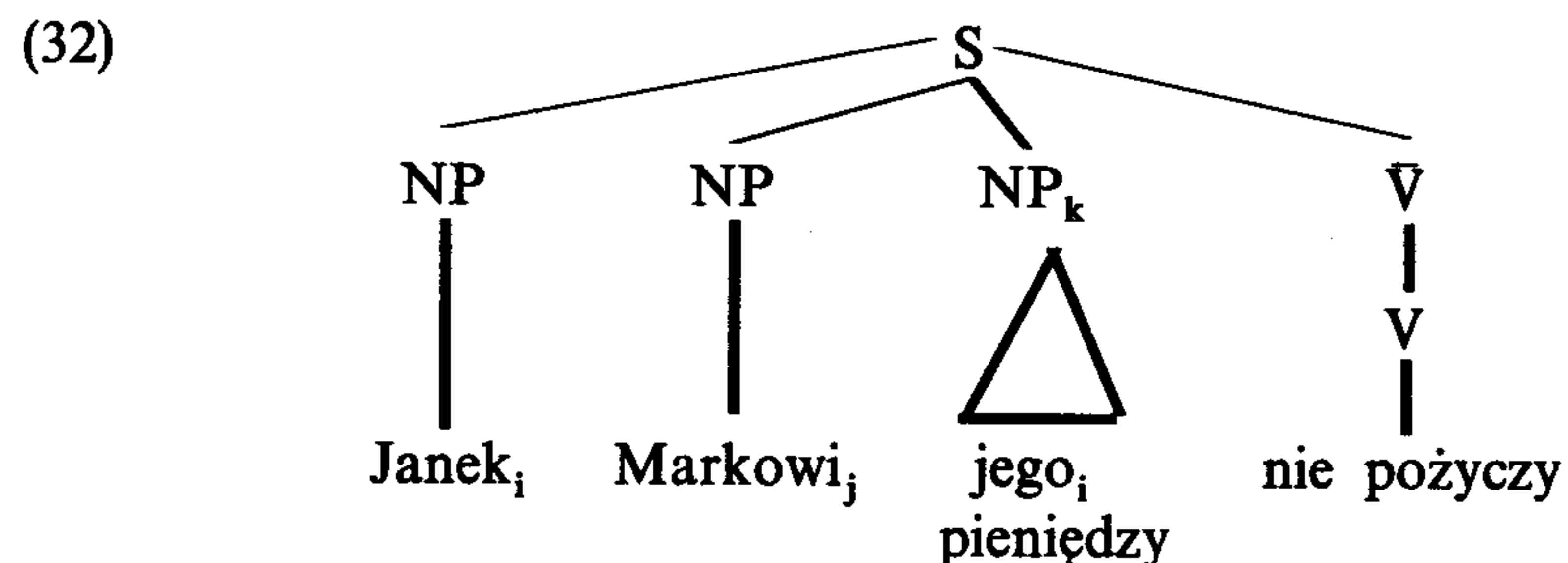
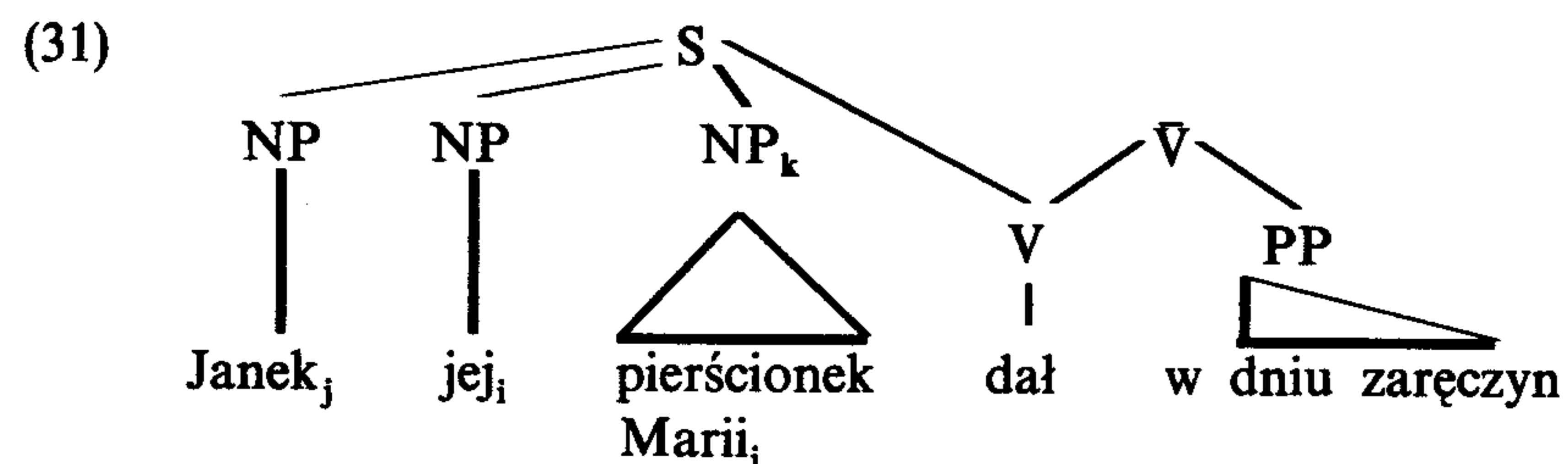
The structure of (30) must be (30a), not (30b):



In (30b) the R-expression is not bound, hence there is no explanation of the unacceptability of (30) in terms of the Binding Theory.

It should be clear, that the role of the template (29) is purely expository. It represents the options in ordering of noun phrases in a Polish sentence. What it shows is the freedom of argument order in a structure. Notice, that all possible linear orderings of arguments may be derived from (29).

Adopting the approach to scrambling advocated here, the explanation of the unacceptability of the examples (10), (11), and (12) above, becomes straightforward. Their S-structures will now be (31), (32), and (33) below:



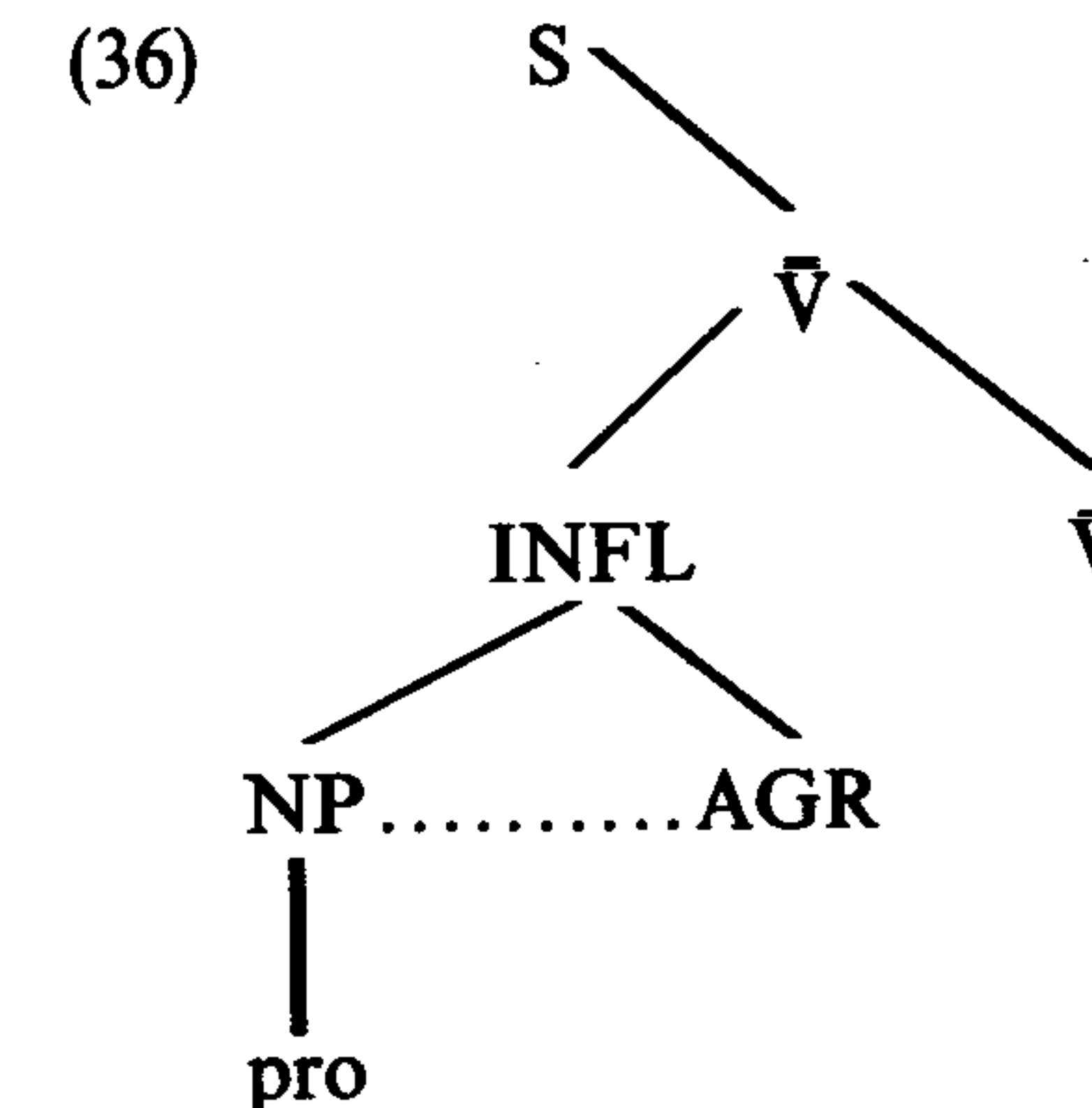
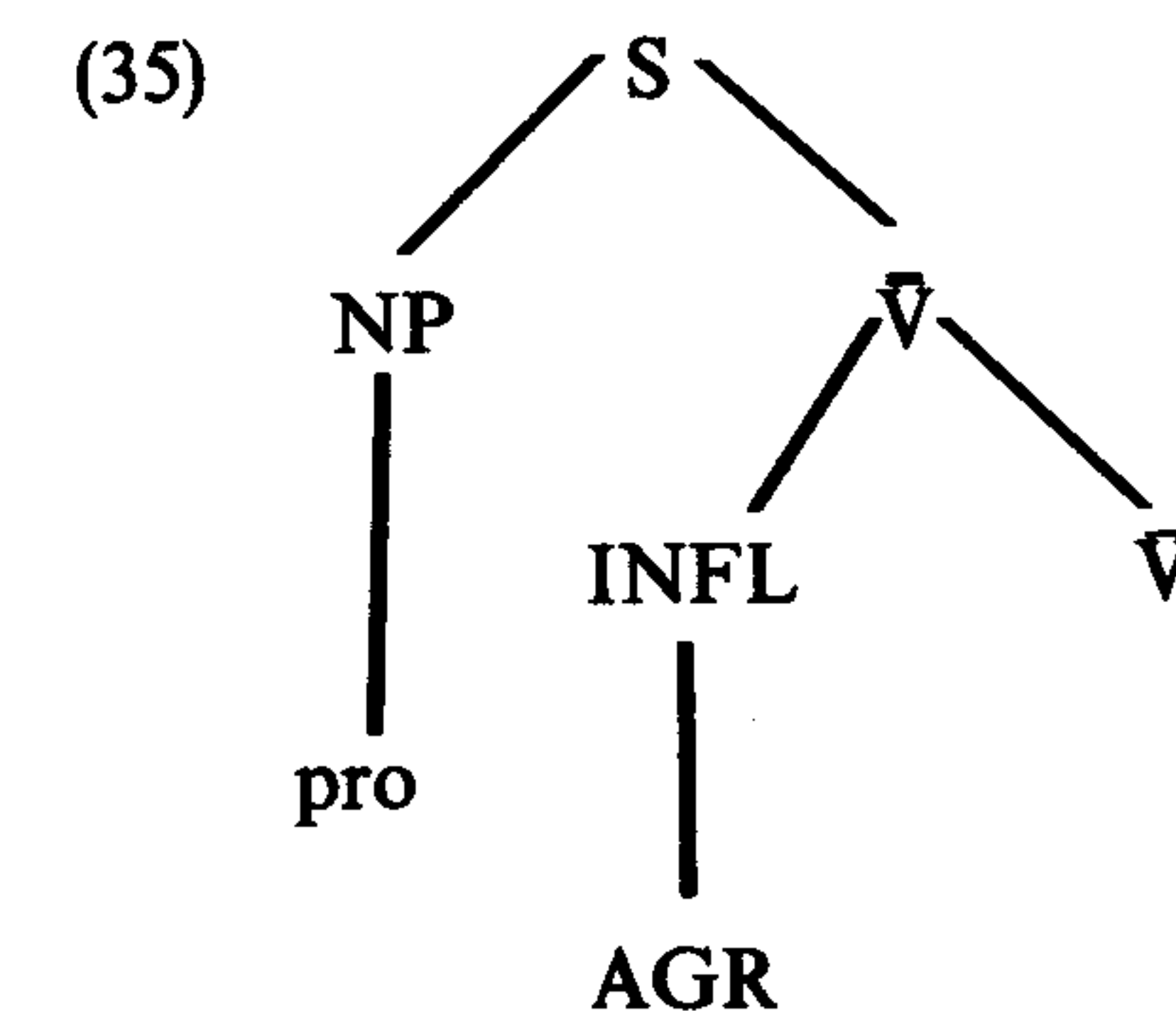
In (31) and (33) there are violations of the binding condition C with the R-expressions bound. In (32) the subject *Janek* binds the pronominal *jego* in violation of the binding condition B.

The explanation of the unacceptability of (13) contrasted with a well-formed (4) is not straightforward and requires some stipulation. It may be postulated, that the above contrast arises from the difference in structural configurations between (4) and (13) related to the content of the subject NP node, i.e. filled with a lexical or empty pronominal.

Let us suppose that we adopt Bouchard's view on the status of the category INFL (Bouchard 1983:143). INFL, within this approach, is not an independent syntactic node immediately dominated by S, which is essentially the position taken by Chomsky (1981), but it is attached to the V in the lexicon and then percolates to the \bar{V} , and forms with it a complex node. This may be represented as in (34) below:

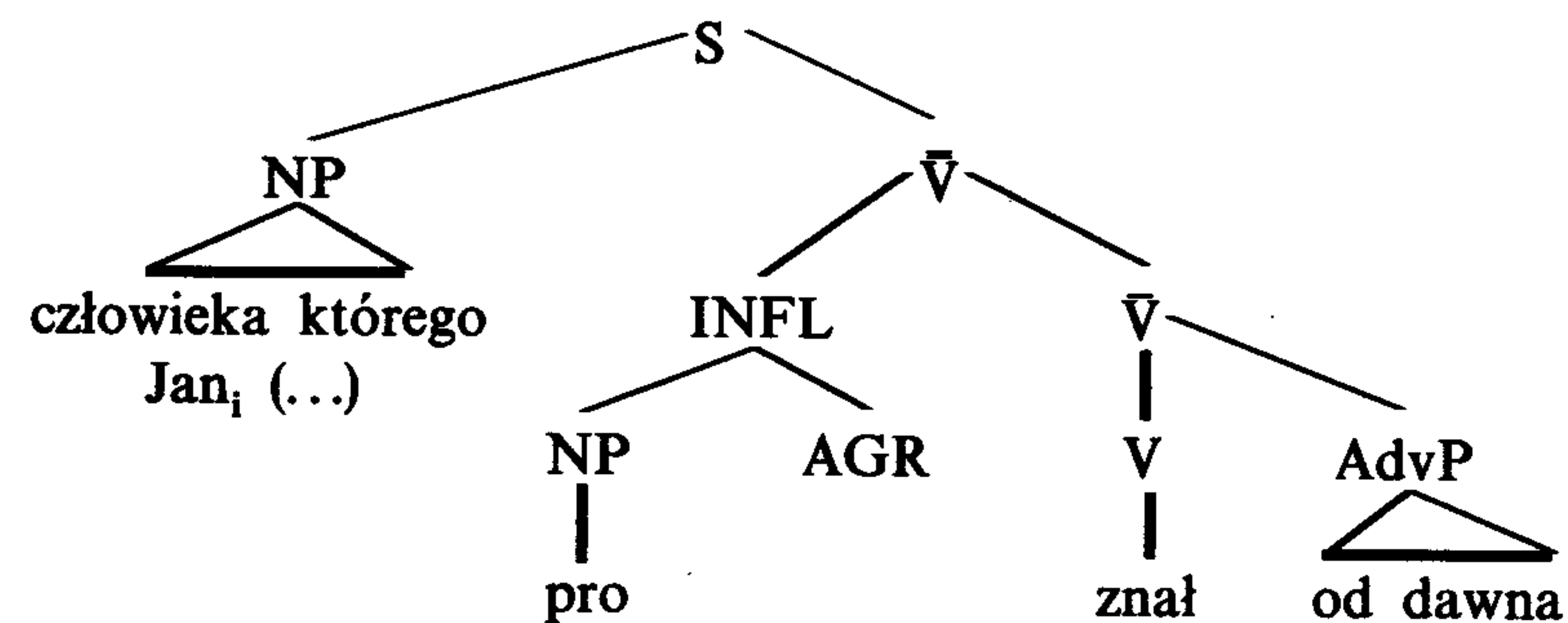


The empty subject in (4) is *pro* which must be locally determined by AGR, which is a part of INFL. The local determination, which may be understood as government by AGR (cf. Chomsky 1982:85) is needed for the transfer of features to *pro*. If the local determination of *pro* is under the government from AGR, and INFL is a barrier to government, the subject NP node cannot be a sister node to \bar{V} , like in (35) below, but a sister to AGR like in (36):



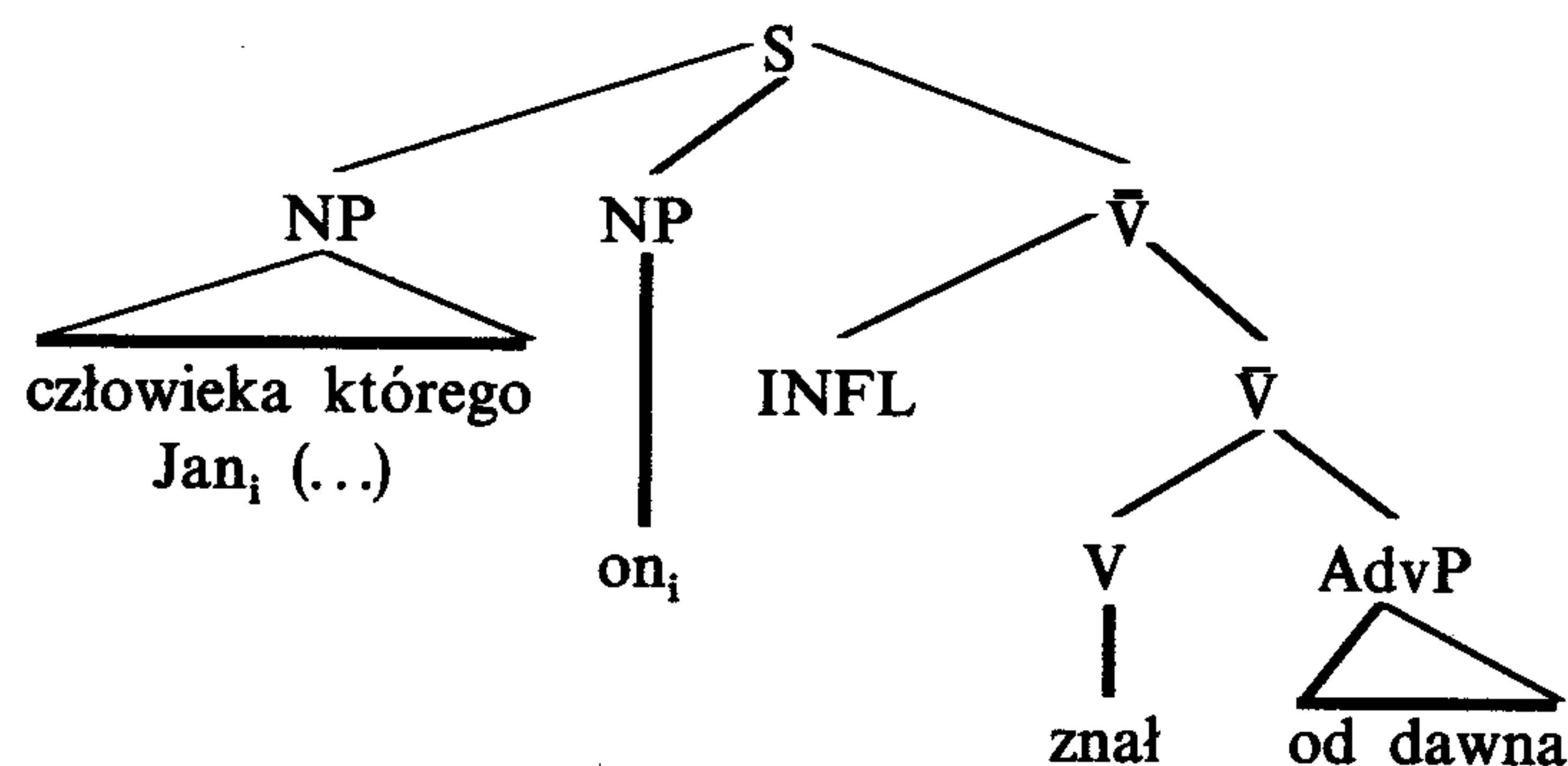
Following these proposals, the structure of (4) should be represented as (37) below:

(37)



The pronoun *on* in (13) does not need determination from AGR, and its position is attached to S, like in (38) below:

(38)



It becomes clear now why (4) is acceptable with the R-expression free (*pro* does not c-command the R-expression) and (13) is unacceptable with *on* binding *Jan* in violation of the condition C.

5. Conclusions

The main aim of the above discussion was to advocate a non-movement hypothesis on the nature of the phenomenon of scrambling in Polish. It was argued that 'scrambled' phrases are base-generated in A-positions. Such an approach offers solutions to the problems raised by the examples (10), (11), (12) and (13). The standard movement analysis fails in such instances and generally, appears helpless whenever 'scrambled' phrases happen to be noun phrases with pronominal subjects co-indexed with a 'scrambled' R-expression.

There remain still many unresolved problems in this connection. For example, there are troublesome cases of 'anaphor scrambling' like in (39) below, where the anaphor evidently improperly A-binds the R-expression, but without consequence for the acceptability of (39):

- (39) *Siebie_i Janek_i uważa za najmądrzejszego.*
 Himself_i John_i regards as most intelligent.
 John considers himself to be most intelligent.

For the time being, no explanation of this phenomenon can be suggested within the approach defended here. Also, it should be investigated in detail whether the proposals regarding scrambling presented above could have a bearing on the analysis of Wh-extraction in Polish.

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