

# Root gerunds in Old Romanian

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Gerund verbs generate root clauses in Old Romanian (OR), but not in Modern Romanian (MR). We argue that the root clause phenomenon arises from the presence of a null Assertion Operator in OR, which has been lost in MR. This Operator originates from the mapping of discourse features to syntax, but involves a marked option for feature checking (i.e., pragmatic versus syntactic), so it is easier for it to disappear in the process of language acquisition.

## 1. Introduction

This paper focuses on gerund clauses in OR, which occur in both root and adjunct configurations. We propose an account for these constructions and for the diachronic change they undergo by combining the results of historical linguistic studies with formal tests and assessments.

The hypothesis is that a syntactic operation is at work that recovers declarative clause typing and finiteness for root gerunds, in a way that makes them equivalent to root indicative clauses. We argue that, in pre-recorded OR, root gerunds had V-to-T but not higher, plus a null Assertion Operator in ForceP; crucially, the Assertion Operator binds the Fin(ite)-T(ense) domain and allows it to be valued pragmatically, thus equating the properties of the gerund root clause with those of an indicative declarative clause. The weak evidence for the null operator, coupled with the fact that pragmatic (versus syntactic) valuation is marked, triggered the eventual loss of this operator, and changes in verb movement from V-to-T to V-to-C (specifically, V-to-Fin) with gerunds. The OR recorded documents we investigate show some remnant V-to-T occurrences but are predominantly V-to-C, which is the new default for gerunds. This change in verb movement coincides with a decrease in the use of root gerunds. By comparison, in MR all gerunds systematically exhibit V-to-C movement.

## 2. Key data

A gerund form in OR consists of a verbal root to which we add the suffix *-ind(u)/-ând(u)*. For example, *mânca* ‘to eat’ > *mânc-ând* ‘eating’ (OR orthography in the corpus: *mîncînd*). This form is invariable and exclusively verbal, on par with its Latin ancestor (Miller 2000). Thus, the gerund is incompatible with determiners (e.g., \**mâncându* ‘the eating’) (Caragiu 1957; Edelstein 1972).

Historically, gerund clauses are adjuncts, by default, in all Romance languages, and this includes Romanian. However, the OR gerund can also generate declarative root clauses, in “out-of-the-blue” contexts; e.g., the lines in (1) stand by themselves, as a prelude to the chronicle.

- (1) *Traian* *întîiu*, *împăratul*, *supuindu* *pre* ***dahii***, *Dragoș*  
 Trajan first emperor.the conquering DOM Dacians Dragos  
*apoi în moldoveni premenindu* *pre* *vlahi*, *Martor este Troianul*,  
 then in Moldovans turning DOM Vlachs witness is Trojan.the  
*șanțul în țara noastră. Și Turnul Saverinului, munteni*,  
 ditch.the in country our and tower.the Severin.the.GEN Vlachs  
*în țara voastră.*  
 in country your  
 ‘First, Trajan, the Emperor, conquered the Dacians. Then, Dragos  
 turned some Vlachs into Moldavians. Witness is the Trojan ditch,  
 in our country, and the Tower of Severinus, Vlachs, in your country.’  
 (Costin 11)

In (1), the gerund is the only verb in each of the first two clauses. Each gerund displays its own lexical subject in Nominative (***in bold***). Oblique Cases have morphological marking in OR, and the subjects in (1) are not morphologically marked. This leaves either Nominative or Accusative structural Case as potential options for these lexical subjects. However, since the subjects in (1) are proper nouns with a [+human] feature which would trigger an obligatory Differential Object Marker (i.e., DOM *pe* or *pre*; Hill and Tasmowski 2008 a.o.) with Accusative Case, and these subjects do not display DOM, the Case on these DPs is Nominative. Moreover, there is no morphological marking for tense on the gerunds in (1): the past tense reading comes from the discourse context, since the subject matter concerns facts of ancient history, long before the time of the chronicle.

Root gerund clauses may be self-standing, as in (1), or they may occur in coordination with other root clauses, as in (2). Since the coordination in (2) relates the gerund to an indicative, they must have an equivalent syntactic status.

- (2) *Apoi leșii, vădzîndu așè, au început a scrie cu bănat la*  
 then Poles.the seeing so have started to write with anger to  
*Vasilie vodă, iar Vasilie-vodă răspundzînd.*  
 Vasilie king and Vasilie-king answering  
 ‘Then the Poles, seeing this, started to write angrily to  
 King Vasilie, and King Vasilie answered.’ (Neculce 114)

Note that, in (2), the root gerund licenses a lexical subject, which is different from the subject of the coordinated indicative. The tense reading of the gerund is achieved through a combination of the discourse context and the tense of the coordinated indicative verb.

The occurrence of root gerunds in OR, as in (1) and (2), begs explanation. Our hypothesis is that some syntactic operation is at work that recovers declarative clause typing and finiteness for root gerunds in a way that makes them equivalent to indicative clauses. In the rest of the paper, we investigate the syntax of gerund clauses, to see how this might be implemented.

### 3. Corpus

The data come from a corpus of *The Moldavian Chronicles* written directly in Romanian (from 1642 up to approximately 1750) by Ureche, Costin, Neculce, in this chronological order.<sup>1</sup> The combined texts amount to 259,536 words, generating 9,497 sentences. Quantifying the gerunds in these chronicles, Edelstein (1972: 128) found that the percentage of gerunds in relation to the total of verbal forms is 10%, which is double that of infinitives.

Edelstein (1972) does not differentiate the gerunds by clause type in her statistics. For us, that differentiation is paramount, since our focus is on a certain type of gerund clauses. In our corpus, we found 22 examples of root gerunds and over 100 occurrences of gerund clauses in adjunct position (adverbials and relatives).<sup>2</sup> These examples allow for assessments of word order and distribution of gerund verbs, because matrix and adjunct gerunds share most of their morpho-syntactic properties.

1. Traditional Romanian historical linguistics refers to the language of the 16th–18th centuries as ‘Old Romanian’. We maintain this label here, despite the fact that in Old Romance languages the qualification of ‘old’ is confined to pre-medieval texts up to roughly the 13th century.

2. We stopped counting at 100, because this number is sufficient to show the disproportionate preference for gerunds as adjuncts.

#### 4. Theoretical background

The analysis needs to assess the level of verb movement in gerund clauses and compare it with the location of indicative verbs, in similar contexts. For that, we use the cartographic representations, which allow for a precise appraisal in relation to the location of adverbs (Cinque 1999) and of the projections mapping the discourse features (i.e., Topic and Focus, as in Rizzi 1997, 2004).

In particular, the hierarchy of adverbs in Cinque (1999) in (3) helps to identify the position of the gerund verb and of its lexical subject.

- (3)  $T_{\text{past}}$  ‘once’ >  $T_{\text{future}}$  ‘then’ > [ $\text{Asp}_{\text{habitual}}$  ‘usually’ [ $\text{Asp}_{\text{repetitive I}}$  ‘again’ [ $\text{Asp}_{\text{frequentative I}}$  ‘often’ [ $\text{Asp}$  ..... [ $\text{Asp}_{\text{completive II}}$  ‘tutto’ > [ $\text{Voice}$  ‘well’ ]]]]]]]

For the CP field we adopt the mapping in Rizzi (1997, 2004), shown in (4). This map allows us to test the constructions for constituent fronting to Topic and Focus, and for the availability of complementizers (in Force or Fin).

- (4) ForceP > TopP > FocusP<sub>contrast</sub> > (ModP) > FinP > TP

In addition, we use the reference points provided by the presence of negation and clitics. Unlike in English, where T is higher than Neg (Laka 1990), in Romance, the Neg head selects TP (Haegeman and Zanuttini 1996; Zanuttini 1997 a.o.), and this is also valid for Romanian (Alboiu 2002). Clitic pronouns are located in T in OR (Alboiu et al. 2014), which is also unexceptional for Romance languages (Kayne 1991). In OR, auxiliary verbs are also clitics (which is not typical for Romance languages), and they belong to the clitic cluster in T, together with clitic pronouns. Accordingly, in (5a) Neg selects a TP with proclitics on the (indicative) verb that moved to T. Data as in (5b), where the verb precedes the subject and the vP adverb *des* ‘often’, indicate V-to-T in OR.

- (5) a. *Ce împăratul Rîmului alt ajutoriu nu*  
but king.the Rome.the.GEN other help not  
*i-au făgăduit.*  
to.him-has promised  
‘But the Emperor of Rome has not promised him other help.’  
(Ureche 68)
- b. *au început a strănuta Barnovschii-vodă des și tare*  
has started to sneeze Barnovsky-king often and strongly  
‘King Barnovsky started to sneeze often and strongly.’ (Neculce 113)

The triggers for verb movement within the hierarchies in (3) and (4) are justified through feature checking mechanisms. In particular, the [tense] feature of T is

interpretable but not valued, and it probes a verb that has an uninterpretable [tense] feature, but an intrinsically (morphologically) specified tense value (Pesetsky and Torrego 2007). While this operation is unexceptional with indicative verbs, more needs to be said about OR gerund verbs that can occur in similar root contexts.

## 5. Distribution in the sentence

In this section we survey the distribution of OR gerunds in subordinate contexts and point out that gerund clauses are adjuncts (versus arguments). The conclusion is that gerunds are verbal in nature, unlike infinitives and supines, which have nominal properties and occur as arguments more productively.

### 5.1 Relative clauses

In this paper, we include the relatives in the class of adjuncts, on par with adverbial clauses. This classification is in line with **recent** analyses where relatives are defined as adjoined to NP or DP (Demirdache 1991 a.o.).

Gerund relative clauses may have a visible or a null relative phrase, as in (6a, b).

- (6) a. *Ințelegîndu aceasta [boierii [carii **fîndu** pribegi în  
finding.out this boyars.the which.the being refugees in  
Țara Leșască]] ce s-au lucrat la Moldova,  
country.the Polish what REFL-has worked at Moldova  
degrabă s-au adunatu cu toții de au sfătuit  
fast REFL-have gathered with all.the DE have consulted  
în pripă.  
in hurry*

‘Finding out what was maneuvered in Moldova, the boyars who were exiled in Poland assembled themselves promptly for immediate consultations.’ (Ureche 170)

- b. *Au și prinsu [un omu<sub>j</sub> [viind<sub>j</sub> cu cărți<sub>k</sub> de la Sibiiu  
has also caught a man coming with letters of from Sibiu  
la comendatul de Bistrița], [scriind<sub>k</sub> precum au  
to commander.the of Bistrita writing as has  
bătut pre veziriul.]  
defeated Vizir.the*

‘He also caught a man *who* was coming with letters from Sibiu to the commander at Bistrita, letters *in which* it was written that he had defeated the Vizir.’ (Neculce 328)

## 5.2 Adverbial clauses

The gerund is extensively used in non-selected contexts, for a variety of adverbial clauses (as it is in Romance languages in general). From a theoretical standpoint, adjuncts (and subject) clauses are phasal domains, as evidenced by the fact that they are islands to movement, among other things. Consequently, relative and adverbial OR gerund clauses are complete, fully fledged CP domains, as also confirmed by their empirical properties. Specifically, in OR, these constructions license Nominative (lexical or *pro*) subjects as in (7a, b). The subject may also be co-referent to an argument of the matrix clause, as in (7c), but this does not entail control, since at Spell-out the subject may lexicalize in the gerund instead of the matrix, as shown in (7d).

- (7) a. [*Singur Ieremia-vodă fiindu în beserică la sfînta leturghie*],  
 alone Ieremia-king being in church at saint mass  
*i-au dat ştire, cum oştile lui Răzvan amu*  
 to.him-have given news that armies.the of Razvan now  
*să văd...*  
 REFL see  
 ‘When King Ieremia was alone in church for Mass, they gave him news,  
 that Razavan’s army could now be seen...’ (Costin 16)
- b. [*Acolo pro tocmindu-şi oastea*] *ca să margă asupra*  
 there gathering-REFL army.the that SUBJ go against  
*lui Alexandru vodă Cornea, iată boierii ţării*  
 him Alexandru king Cornea there boyars.the country.the.GEN  
*Moldovei prinseră de veste cum domniia ieste data lui*  
 Moldova.GEN caught of news that throne.the is given to  
*Pătru vodă...*  
 Petru king  
 ‘While he (i.e., King Peter) was hiring army there (i.e., in Brăila), to  
 fight King Alexandru Cornea, the boyars of Moldova found out that  
 the throne has been granted to King Peter...’ (Ureche 161)
- c. *şi au iernatū de multe ori, [pro bătîndu-să uneori*  
 and have wintered of many times fighting-REFL sometime  
*cu sciïii sau tătarii, uniori cu Bosna şi cu*  
 with Scythes or Tartars sometimes with Bosna and with  
*Rumele [şi la perşi trecîndū.]*  
 Rume and to Persians crossing  
 ‘and he has wintered many times, fighting sometimes against the  
 Scythes or the Tartars, sometimes against Bosna and Rume, and  
 crossing over to the Persians.’ (Ureche 67–68)

- d. [...] *ce l-au îmbărbătat numai să meargă la Poartă,*  
 but him-have encouraged only SUBJ go to Porte  
*că apoi, nemărgînd el, va aduci perirea țării*  
 for then not.going he will bring destruction.the country  
*și boierimei.*  
 and boyars  
 ‘... but they strongly encouraged him to go to the Ottoman Porte, for  
 if he didn’t, he’d cause the destruction of the country and the boyars.’  
 (Neculce 227)

To conclude, OR adjunct gerund clauses share important properties with root gerunds, because they are unselected, unrestricted in their distribution (i.e., they occur pre- or post-verbally in relation to the matrix verb, or at long distance from the modified noun), and have the ability to license subjects (i.e., Nominative lexical subjects or null pronouns). On par with root clauses, these are phasal CP domains.

## 6. The TAM system

In light of the above conclusions, it is theoretically desirable to surmise that matrix gerunds and adjunct gerunds have some similar morpho-syntactic properties and underlying structure, yet also diverge on some level, since MR preserved gerund adjuncts (with identical properties as in OR) but not root gerunds. In this section, we show that the syntactic similarity (i.e., phasal CP status) is corroborated by identical properties in their TAM systems: the TAM values are unspecified.

### 6.1 Tense

Adjunct gerunds show independent values for the tense feature. For example, in (8) the matrix verb is constantly in present perfect, but the reading on the gerund is past in (8a), but future in (8b).

- (8) a. *Mărs-au... la un sat a lui, avîndu și curți acolo.*  
 gone-has to a village of his having and courts there  
 ‘He went to one of his villages, because he had a house there.’  
 (Neculce 69)
- b. *Apoi au vinit la Moldova cu neșuitorie[...] lipindu-să*  
 then has come to Moldova with merchandise attaching-REFL  
*de curte, fiind și Vasilie-vodă tot de un neam.*  
 to court being and Vasilie-king same of a kin  
 ‘Then he **came** to Moldova as a merchant, and will become  
 attached to the court, since King Vasilie was his kin.’ (Neculce 119)

The two different tense values for the gerund in relation to the same matrix tense indicate that the tense reading is context-dependent (rather than structure-dependent).

The same context-dependent reading for tense occurs in matrix gerunds:

- (9) *Duca-vodă gătindu conace și poduri peste toate pârile*  
 Duca-king providing mansions and bridges over all rivers.the  
*cu multă grijă, să nu-i afle împărăția vro pricină,*  
 with much care SUBJ not-him finds Empire any blame  
*să-șă puie capu.*  
 SUBJ-REFL put head  
 ‘King Duca had provided mansions and bridges over all the rivers, with  
 much care, so that the Empire would not find him any blame, and he would  
 not risk his head.’ (Neculce 131)

In (9) the Turks had already entered the country, so King Duca’s actions were finished prior to this event. The other verbs in (9) are in the present, and would have provided no clues for a past perfect interpretation of the gerund out of the relevant context.

## 6.2 Aspect

OR gerunds may have a progressive aspect, but they can also be perfective (10a), punctual (10b), or iterative (10c).

- (10) a. *Muftiul s-ascunse, și găsindu-l, l-au muncit...*  
 priest.the REFL-hid.had and finding-him him-have worked  
 ‘The elated priest had hid himself, but when they found him, they  
 tortured him.’ (Neculce 167)
- b. *l-au pus viziriul de au ședzut înaintea viziriului pre*  
 him-has put vizir.the DE has set before vizir.the.GEN on  
*măcat, și n-au fost avînd meștei la nădragi*  
 carpet and not-has been having slippers with pants  
 ‘the Vizir made him sit in front of him (the Vizir), on the carpet, and he  
 didn’t have slippers with his pants’ (Neculce 109)
- c. *Ș-au mârșu la Ieși, dirji și sămeți, așteptînd din*  
 and-have gone to Iassy strong and proud waiting from  
*ceas în ceas să le vie cărți de la*  
 hour to hour SUBJ to.the come letters from  
*Antohie vodă.*  
 Antohie King  
 ‘And they went to Iassy, strong and proud, waiting hour on end, to  
 receive letters from King Antohie.’ (Neculce 192)

### 6.3 Mood and modality

While the grammatical mood suffix *-ind* indicates the gerund paradigm in OR, this mood marker is not associated with a specific semantic modality. Thus, in adverbial clauses, the gerund is flexible for modal interpretation, and gets its value from the syntactic context. For example, the gerund is hypothetical in (11a) but **realis** in (11b).

- (11) a. *Nedînd război cazacilor, să le închidză hrana...*  
 not.giving war Cosacks.the.DAT SUBJ to.them close food.the  
*ce ar hi făcut cu tabăra Timuș?*  
 what would be done with camp.the Timus  
 ‘If he had not fought the Cosacks in order to cut their supply lines,  
 what would Timus have done with his camp?’ (Costin 146)
- b. *Că ei nefiînd tocmiți de război, nimica de arme*  
 because they not.being prepared for war nothing of weapons  
*nu s-au apucatu*  
 not REFL-have taken  
 ‘They did not arm themselves because they had not prepared  
 themselves for war.’ (Ureche 93)

Root gerunds are different in this respect, insofar as the modality is always **realis**, as with root indicatives. Since *-ind* does not intrinsically bring a value for modality (as seen in (11)), something else must force the **realis** interpretation in root gerunds.

## 7. Clause structure

The next step in our analysis is to determine the internal structure of the gerund clause, for which we use the theoretical tools presented in Section 3. First, we show that, by default, OR gerund clauses involve V-to-Fin. Then, we show that there are traces of V-to-T that can reasonably be attributed to systematic low verb movement in gerund clauses before the recorded times.

### 7.1 V-to-C

The first step is to show that the gerund moves out of the vP. This is tested with adverbs and with subjects in situ. In (12), *auzîndu* ‘hearing’ is higher than the subject in situ, in Spec, vP (OR is a VSO language); whereas *avîndu* ‘having’ precedes the adverb *încă* ‘still’, which is high in the inflectional field (i.e., above Voice in (3) above).

- (12) *Aceste neașezdări a lui Ștefan-vodă auzindu doamna lui*  
 these troubles of of Stefan-king hearing lady.the of  
*Ieremie-vodă, avîndu încă rămas un fecior copil mic, anume*  
 Ieremia-king having still left a son child young namely  
*Bogdan-vodă, au îndemnatu pre ginerii săi, ....*  
 Bogdan-king has persuaded DOM sons.in.law.the her  
 ‘King Ieremia’s widow, finding out about King Stefan’s attempts, and  
*still* having a young son left [alive], that is, prince Bogdan, persuaded her  
 sons-in-law to...’ (Costin 35)

The same can be seen in root gerunds, as in (13), with the subject in situ.

- (13) *Pentru aceia, întrebîndu un împărat pre un dascăl: cum ar*  
 for that asking a king DOM a teacher how would  
*fi împăratu să hie drag tuturora?*  
 be king.the SUBJ be.3SG pleasant all.DAT.PL  
 ‘Therefore, a king asked a teacher: what would it take for a king to be loved  
 by everybody?’ (Costin 33)

Second, negation, enclitics and adverbs situated in  $T_{past}$  indicate that the gerund moves out of TP. Gerund negation surfaces as the prefix *ne-*, instead of the free morpheme *nu* ‘not’ that occurs with other (finite or non-finite) verbs. This is valid for both root (14a) and adjunct gerunds (14b).

- (14) a. *Decii Roman vodă neputîndu să-și îngăduiască cu*  
 so Roman king not.being.able SUBJ-REFL put.up with  
*văru-său, cu Pătru, ficiorul lui Ștefan vodă, pentru domnie,*  
 cousin-his with Petru son.the of Stefan king for throne  
*că cerea Roman să omoară pe Pătru, de i-au căutatu*  
 that asked Roman SUBJ kill DOM Petru **de** him-has caused  
*a fugi lui Pătru vodă la unguri.*  
 to run to Petru King to Hungarians  
 ‘Therefore, King Roman was not able to put up with his cousin,  
 Peter, King Stefan’s son, in their co-reigning; that is why Roman was  
 asking to have Peter killed, and made Peter run to the Hungarians.’  
 (Ureche 84)
- b. *Și neavîndu cu nime nici un război nicăiure în*  
 and not.having with nobody not one war nowhere in  
*Țara Muntenească, au mărșu la București*  
 country.the **Vallachia** has gone to Bucharest  
 ‘And not having any war with anyone, anywhere, he went to Bucharest.’  
 (Costin 21)

The affixal negation does not concern the properties of T (T must be present since the gerund occurs in root clauses), but, rather, is a by-product of the fact that the gerund verb moves out of T into C, and this movement would be blocked by the free morpheme *nu* ‘not’. The intervener property of *nu* has been discussed in Rivero (1993) for Long Head Movement (LHM), which is a form of V-to-C.

T-to-C movement of gerunds is confirmed by the location of clitic pronouns (i.e., enclitics in (15)) and of post-verbal temporal adverbs, see *odată* ‘once’ in T<sub>past</sub> in (16).

- (15) *Și Ștefan vodă tocmisă puțini oameni preste lunca Bîrladului, ca*  
 and Stefan king organized few men over valley Birlad.the.GEN  
*să-i amăgească cu buciune și cu trîmbițe, dîndu*  
 that SUBJ-them tease with oboes and with trombones giving  
*semnū de războiū; atuncea oastea turcească întorcîndu-să la*  
 sign of war then army.the Turks turning-REFL at  
*glasul buciunelor și împiedicîndu-i și apa și*  
 voice.the oboes.the.GEN and blocking-them and water.the and  
*lunca și negura acoperindu-lu-i, tăindu lunca și*  
 valley.the and fog.the covering-them cutting valley.the and  
*sfărămîndu, ca să treacă la glasul bucinilor.*  
 crushing that SUBJ cross to sound.the oboes.the.GEN

‘King Stefan organized a few men across the Birlad valley in order to tease them (the enemy) with oboes and trombones, by emitting the signs of war; then the Turkish army turned towards the sound of oboes, but the water delayed them, and the valley and the fog covered them when they were cutting through the valley and trampling it, trying to cross towards the sound of the oboes.’ (Ureche 100)

- (16) *Ștefăniță-vodă vrînd odată să scoată fumărit pe țară*  
 Stefanita-king wanting once SUBJ impose smoke.tax on country  
*cîte șase orti de casă, și înainte vreme era obicei de da*  
 each six units per house and before time was costume DE give  
*numai cîte un leu de casă, iar Toma vornicul și cu*  
 only each one leu per house and Toma judge.the and with  
*Iordachi, frate-său, Cantacozineștii nu-l lăsa..., că*  
 Iordachi brother-his Cantacuzins.the not-him let for  
*nu-i bine.*  
 not-is good

‘King Stefanita wanted *at one time* to impose the smoke tax on the country, at six units per home, while in the old times the usual tax was only one leu per home, so judge Toma and his brother, Iordachi, the Cantacuzins, advised him not to do it, because it didn’t look good.’ (Neculce 120)

We next identify the level of the CP field to which the gerund moves. In this respect, we work with the mapping in (4). ForceP may be occupied in gerund clauses, either by the complementizer *că* ‘that’, (17a), or by a relative phrase, (17b). Furthermore, there is material interfering between the gerund and the relative operator in (17b) indicating that the gerund verb does not target Force.

- (17) a. *Că fiindu-i nepot și-n cinste la dînsul,*  
 for being-him.DAT nephew and in honor to him  
*îl știè.*  
 him knew.3SG  
 ‘He knew him, for he was his nephew and in great esteem with him’  
 (Neculce 179)
- b. *De care lucru cu norocǔ semețindu-să Baiazitu, iară*  
 of which thing with luck swelling-REFL Baiazid again  
*s-au vîrtejitu la Tarigrad.*  
 REFL-has stormed to Istanbul  
 ‘For which reason being swollen of his luck, Baiazid stormed back to Istanbul’  
 (Ureche 129)

Moreover, constituents with Topic and contrastive Focus readings always precede the gerund verb, as shown in (18a, b).

- (18) a. *carii*  $\blacktriangle$  *făr*  $\blacktriangle$  *nici o grijă*  $\blacktriangle$  *și*  $\blacktriangle$  *de primejdie*  $\blacktriangle$  *ca*  
 which.the without no one worry and to danger like  
*acea*  $\blacktriangle$  *negîndindu-să,*  
 that not.thinking-REFL  
 ‘who without worries and not thinking of a danger like that’  
 (Ureche 190)
- b. *Și*  $\blacktriangle$  *de acolo*  $\blacktriangle$  *multe*  $\blacktriangle$  *luund*  $\blacktriangle$  *și*  $\blacktriangle$  *lipindu*  $\blacktriangle$  *de ale noastre,*  
 and from there many taking and sticking to of ours  
*potrivindu vremea și anii, de au scris acest letopiseț.*  
 adjusting time.the and years.the DE has written this chronicle  
 ‘And from there MANY (data) he took and added to ours, adjusting  
 the periods and the years, so that he ended up writing this chronicle.’  
 (Ureche 64)

In (18a), two coordinated constituents with contrastive topic reading follow the relative in Spec,ForceP. The root gerund in (18b) is preceded by an *aboutness* Topic *de acolo* ‘from there’, and the direct object *multe* ‘many’ fronted to contrastive Focus.

This word order indicates that V-to-C means V-to-Fin for the gerund. The same word order appears in MR, though MR does not support root gerunds.

## 7.2 V-to-T

The *Moldavian Chronicles* display a few gerund constructions that are an exception to the above word order rule: there are a few examples with the negation *nu* (instead of *ne-*); and some folk poems (ballads) display the possibility of proclitics with the gerunds.

The rare possibility of the gerund co-occurring with the free negative morpheme *nu* ‘not’ instead of the prefix *ne-*, as in (19), confirms that the gerund verb must have moved to T (not to C) in pre-recorded stages of the language, and that such rare examples are traces of this situation in OR.

- (19) *Ce nu lăsîndu in voia căpăteniilor de Ardeal împăratul*  
 but not leaving at will.the captains.the.GEN of Ardeal emperor.the  
*nemţescu, au socotit şi cu sabiia să-i supuie, avîndu*  
 German has decided and with sword.the SUBJ-them repress having  
*tocmeli cu Bator.*  
 deals with Bator  
 ‘But the German Emperor, not leaving things at the will of Ardeal’s captains,  
 decided to repress them by sword, having arrangements with Bator.’  
 (Costin 19)

The presence of this negation is possible only if the gerund verb stays in TP.

Outside of the *Moldavian Chronicles*, we find further traces of V-to-T in gerunds in folk poetry, as in (20). Although the ballad in (20) has been recorded in the 19th century, it reproduces a very old word order, fixed by the nature of the rhythm and rhyme, and transmitted orally from generation to generation.

- (20) *Cînd în tîrg ca-n Tarigrad intrînd, Soarele răsărînd, dughenele*  
 when in town as-in Istanbul entering sun.the rising shops.the  
*deschizînd. Iar cuconu mirele cu ochi negri le privînd,*  
 opening and mister groom.the with eyes black them watching  
*Si cu galbeni le cumpărînd, Feţisoarei dumitale*  
 and with money them buying face.DAT yours  
*le potrivînd.*  
 them fitting  
 ‘When he entered town as if in Istanbul, the sun was rising and the shops  
 were opening. The groom watched them [the earrings] with black eyes and  
 bought them, and fitted them to your face.’ (Gabinschi 2010: 83)

The relevance of (20) is that it displays proclitics to gerund verbs, which corroborates the conclusion drawn on the basis of the negation *nu* ‘not’ in the previous examples: there was a time in OR when the gerund verb stayed in T (i.e., adjacent to proclitics

in T), and this configuration favored the use of gerunds in root clauses, because V-to-T with null CP is typical for root declaratives in the language (versus interrogatives or imperatives).

### 7.3 Summary

The data indicate two subsequent configurations for non-selected gerund clauses:

- i. Pre-recorded OR (i.e., before 16th century): gerund V-to-T  
 The gerund is lower than Neg *nu* ‘not’, and displays clitic > V order. The gerund is higher than frequency adverbs and the subject in situ, hence outside of vP.
- ii. Recorded OR (i.e. mid-16th to end of 18th centuries):  
 V-to-Fin and some V-to-T.  
 In V-to-Fin, the gerund is higher than  $T_{\text{past}}$ , it has affixal negation, and it displays V > clitic order. Concurrently, rare occurrences of V-to-T can be found, exhibiting the properties in (i).

Accordingly, OR represents a system in transition, undergoing a change in the gerund syntax, which becomes stabilized as V-to-Fin in MR. The stabilization of V-to-Fin in MR also coincides with the disappearance of root gerunds.

## 8. Formalization

The analysis we develop in this section is that root gerund V-to-T is possible because of the mapping of an Assertion Operator in ForceP, in the spirit of Meinunger (2004). This operator values the clause-typing feature as declarative and, therefore, selects Fin with a **realis** modality, so, as with root indicatives, only V-to-T need apply. In the absence of the Assertion Operator, Fin is unvalued and triggers V-to-C so that the verb can check the modality feature of Fin. This movement, however, fails to value Fin as **realis**, hence the loss of the root gerund. This accounts for our previous observation, namely, that the loss of root gerunds coincides with the spread of V-to-Fin in these constructions.

### 8.1 Modality versus [mood]

In Rizzi’s (1997, 2004) system, Fin is the head associated with finiteness and modality. D’Alessandro and Ledgeway (2010) further refine this definition, by showing that Fin encodes semantic modality, whereas the grammatical [mood] feature is associated with T (versus Fin), since it belongs to the inflectional properties of the verb. Accordingly, the fact that the gerund verb has the inflectional mood mark *-ind* is irrelevant

for the level of verb movement. In particular, following D'Alessandro and Ledgeway, [<sub>T</sub> GER-ind] would not automatically entail V-to-C. In general, when V-to-C takes place, it is triggered either by a clause typing probe (in Force) or by a feature in Fin (e.g., (i)realis, (non)-finite). The presence of grammatical mood, however, is of no consequence for the modality feature of Fin.

In configurations with root indicatives, T is by default [+finite] and [+tense], so Fin is [+finite]. For clause-typing, lack of an operator or any complementizer in root Force is taken by default to indicate a [declarative] value of this feature. Hence, the modality of Fin is valued as [+realis] under selection by [declarative] Force. If root gerunds are the counterpart of root indicatives, then we have to account for the following questions: (i) Why does the gerund verb in T count as [+finite], [+tense], when its form is invariable? and (ii) How is the [declarative] value of the clause typing feature achieved (which would predictably restrict the modality value of Fin to [realis])?

## 8.2 Underspecification

Since the gerund verb is unspecified for TAM, it has no inherent value to bring to T or to Fin. Further confirmation comes from its use in predicate cleft constructions, as in (21).

- (21) *Imblîndu îmbla și plînge.*  
 wandering wanders and cries  
 'As for wandering, s/he wanders and cries.' (PS apud Edelstein 1972: 81)

Predicate clefting fronts the V(P) for focus/topic purposes, with a copy of the V(P) in clause-internal position (Abels 2001; Roberts 2010: 198 a.o.). Importantly, while the clause-internal copy is fully inflected for TAM values, the fronted verb must be realized in a *default* form (see also Landau 2006). Therefore, (21) demonstrates that the OR gerund is an underspecified default form, which explains its plurifunctionality. Its underspecification does not, however, account for how the gerund acquires the various TAM values illustrated in Section 6.

## 8.3 Free variation and feature valuation

With respect to tense and aspect features (associated with T), Pesetsky and Torrego (2007) assume that interpretability and valuation are two distinct properties: both interpretable and uninterpretable features need to be valued. Thus, the [+tense] feature is interpretable but unvalued, and so acts as a probe targeting the finite lexical verb, which has an uninterpretable tense ( $\iota$ T). Tense valuation obtains from the intrinsic values on V (i.e. indicative inflectional endings), as in (22). We extend the same analysis to the [aspect] feature, since tense/aspect are generally clustered in the morpho-syntactic mapping of OR/MR.

$$\begin{array}{lcl}
 (22) \quad \dots \text{Tense} \dots [v \text{ finite}] & \Rightarrow & \dots \text{Tense} \dots [v \text{ finite}] \\
 \quad \quad \quad iT [ ] \dots uT + \text{value} & \Rightarrow & \dots iT [ \checkmark ] \dots \#T + \text{value}
 \end{array}$$


With gerunds, the verb is not inflectionally specified for a Tense value, so is incapable of valuing  $iT [ ]$ . Hence, temporal deixis is acquired contextually, and valuation in (23) is pragmatic, not syntactic.<sup>3</sup>

$$\begin{array}{lcl}
 (23) \quad \dots \text{Tense} \dots [v] & \Rightarrow & \dots \text{Tense} \dots [v] \\
 \quad \quad \quad iT [ ] \dots uT & \Rightarrow & \dots iT [ \checkmark ] \dots \#T
 \end{array}$$

The feature-checking system in (22) and (23) offers an explanation for temporal/aspectual deixis in both gerunds and indicatives, hence their free variation.

As for the speaker's choice between (22) and (23), we follow Adger and Smith (2005), who argue that intra-speaker variation follows from a system where competing syntactic derivations yield different Spell-Outs with identical semantics. Accordingly, we have to account for the fact that both the gerund and the indicative are propositional and have a **realis** interpretation (i.e. are identical in all of their semantic features).

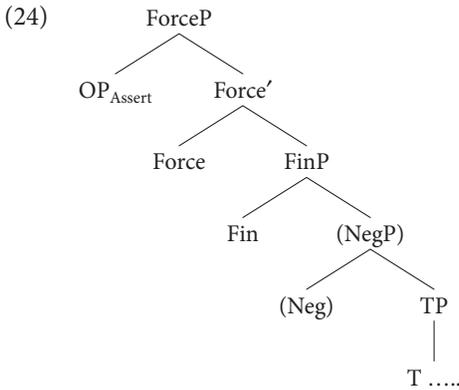
#### 8.4 The Assertion Operator

In semantics, Meinunger (2004) shows that root clauses are split between illocutionary force and propositional content. He argues that declaratives with indicative verbs have the illocutionary force realized through an Assertion Operator (Assert OP) in Spec,ForceP that takes the structured proposition as its argument. Hence, we infer that if an Assert OP is present in the semantic component of indicatives, it must be equally present in that of root gerunds.

Refining Meinunger's analysis, we suggest that root indicatives are parsed as declaratives by default (i.e. in the absence of any operator syntactically present in ForceP) since their Fin is intrinsically [+finite] and compatible with [+realis]. However, since gerunds are underspecified for all their TAM values, an Assert OP must obligatorily map to syntax in these cases. In other words, root gerunds need explicit declarative clause-typing, which can only be a consequence of merging the Assert OP in their Spec,ForceP, as in (24).

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3. Pragmatic valuation takes place in the semantic component when interpretable features (e.g.,  $iT$ ) do not receive a value upon feature-checking. This valuation is derived contextually, akin to situations of logophoric licensing of nominals (e.g., Landau 2013).



In (24) the Assert OP takes scope over Fin and T and, crucially, binds Fin as [+finite, +realis]. This explains the possibility of root gerunds with V-to-T, since T depends on Assert OP for its valuation.

Confirmation for the presence of Assert OP in (24) comes from the unavailability of gerunds in interrogatives: all the root gerunds we found are declaratives. This is predictable, since interrogatives need specific operators with propositional scope, whose merging in Force is blocked by the Assert OP.<sup>4</sup>

As for the change from V-to-T to V-to-Fin with root gerunds, we point out that the Assert OP is null, which weakens the evidence for its presence. Our inference is that *The Moldavian Chronicles* point to a system in transition, with the Assert OP present in some cases—specifically, with V-to-T—but not in others (i.e. V-to-Fin). Specifically, the 22 examples of root gerunds with V-to-Fin denote the absence of [+finite, +realis]-valuation by the Assert OP and a ‘recuperating’ mechanism of T-to-C raising. However, since [<sub>T</sub> GER] is not specified as [+finite, +realis], this system cannot be maintained and root gerunds are lost.

The situation in gerund adjuncts is somewhat different. Not all adjuncts would map an Assert OP even when this was available in the language. For instance, relative clauses contain a relative OP, which rules out an Assertion OP. Following Haegeman (2010:307, and earlier work), adverbial clauses are of two types: ‘central’ adverbial clauses, whose function is “to structure the event expressed in the associated main clause” and ‘peripheral’ adverbial clauses, which provide a background proposition for the main clause event and are more root-like in that they have independent temporal deixis and illocutionary force. Central adjuncts are not propositional, so cannot have an Assert OP to begin with. Hence, the loss of this OP would not affect them. They

4. Note that lower operators are not expected to interfere with the Assert OP, which explains the presence of operators in Spec,FocusP in OR gerunds, as in (18b). Unlike wh-phrases, focused constituents do not require specific clause-typing in Force.

continue to function in MR as they did in OR, by virtue of being associated with the speech act of the main clause. Peripheral adjuncts, on the other hand, do instantiate Force and require relevant anchoring. Following Haegeman (2010), who, in turn refers to Aboh's (2005) work on factives in Gungbe, this anchoring can be realized via an operator or via V-to-C. This explains why V-to-Fin/C generalizes with gerunds once the Assert OP is lost. However, unlike with root gerunds, which necessarily require a [+finite] specification, adjuncts have no such requirement, which explains the survival of gerund adjuncts into MR.

## 9. Conclusions

The key goal of this paper was to explain the possibility for gerund clauses in OR to occur in free variation with indicatives, either as root declaratives or under coordination (see (1) and (2)). The data showed that gerund clauses are overwhelmingly adjuncts (adverbial or relative). Tests of distribution and word order indicated that adjunct and root gerunds are phasal domains (i.e., CPs that license Nominative subjects), and have the same TAM properties (i.e., they are unspecified). For their internal structure, the tests showed that the older stages of OR had V-to-T, whereas the OR of the 16th century and later has primarily V-to-Fin in the same configurations.

The analysis we developed capitalized on the above observations and on the semantic equivalence between root gerunds and root indicatives. Following Meinunger (2004), we proposed that an Assertion Operator is mapped to syntax in root gerunds (though not in root indicatives). The Assertion OP scopes over the proposition and binds Fin-T, ensuring a [+finite, +realis] valuation.

This loss of root gerunds was derived from the presence of two mechanisms that could value the clause-type feature as declarative in OR: with a null OP and no operator (i.e. by default in indicatives). Since both instances lack overt phonological features, the language learner could easily mistake one for another. The consequence was V-to-Fin (instead of V-to-T), since the absence of the Assert OP in Spec,ForceP entailed failure to value the features of Fin. Thus, the stabilization of V-to-Fin in MR coincided with the complete loss of root gerunds, as these can no longer recover a [+finite] specification. However, phasal gerunds have been maintained as adjuncts in MR, with pragmatic tense valuation.

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