Clitics in Ossetic

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ABSTRACT

We face many challenges when researching syntax because the syntactic structure of a sentence cannot be determined on the basis of word order alone, whereas word order is often the only evidence a researcher has when advancing the scientific exploration of syntax. This thesis investigates Ossetic, and uses the properties of a small class of lexical items featured in Ossetic with the aim of finding some leads into the language's clause structure. A general overview clarifies the grammatical categories in terms of which Ossetic clitics are discussed in the literature, a critical analysis is presented for select pieces of previous research on the syntax of Ossetic clitics, and lastly a number of sentences involving clitics are analysed, with some considerations on what they can reveal about the syntactic structure of Ossetic.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER 1: PRELIMINARIES

We face many challenges when researching syntax because the syntactic structure of a sentence cannot be determined on the basis of word order alone, whereas word order is often the only evidence a researcher has when advancing the scientific exploration of syntax. The task is especially complicated when approaching languages that tolerate so many different arrangements of a given string of words that their syntax has until recently been called "flat", "free word-order" and "non-configurational", which essentially means that no systematic behaviour has been uncovered to posit any underlying structure for a given language. My research will take one such language – Ossetic – and use the properties of a small class of lexical items featured in Ossetic with the aim of finding some leads into clause structure.

The lexical items in question are the class of clitics – notable for having a more restrained distribution than other syntactic elements. As such, clitics *lean* on the first stressed element of their domain. The standard reference on clitics, (Zwicky 1977), distinguishes between simple clitics (whose syntax is no different from that of a regular lexical item) and special clitics, (which have special syntactic requirements at the clausal level). The position of a special clitic reveals the clause's left edge and therefore provides an anchor point with which the underlying structure of a sentence can be posited more confidently. I therefore intend to use the clitics present in Ossetic to provide evidence for structure, with some attempts at systematising the language's elusive, seemingly unconstrained word order.

1. Theoretical framework for syntax

Languages include a module called syntax, which structures their sentences. I assume a contemporary generative framework for syntax where the constituents of a sentence are built up in a binary fashion into larger hierarchical structures. Phrasal domains encompass heads and

any additional constituents immediately related to those heads. For example, Verb phrases (VPs) may be built around a verb and its complement.

(1.1) [The quick brown fox] [[jumped over [the lazy dog]]

In sentence (1.1), the added brackets highlight the fact that *brown* is grouped with *fox* while *lazy* is grouped with *dog*. This common-sense notion was noted early on by Otto Behaghel (1923-32, II), who stated the following regarding words' positions within sentences:

> That which is closely connected in the mind is also placed closely together.
>
> (Otto Behaghel 1923-32, II)

While neither contemporary nor detailed, if we accept this general premise, we have the responsibility of explaining sentences whose word orders do *not* seem to correlate with the subgroupings that are 'connected in the mind'.

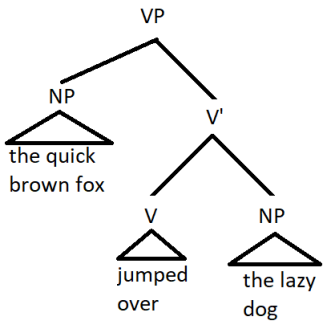
Constituency tests such as *one*-substitution serve as confirmation of how speakers of a language have intuition for the syntactic subdivisions of a sentence

(1.2a) That [quick brown fox] jumped over the lazy dog and this <u>one</u> did too
(<u>one</u> = quick brown fox)
(<u>one</u> = quick *red fox)
(<u>one</u> = *fox)

(1.2b) *That [quick brown] fox jumped over the lazy dog and this <u>one deer</u> did too
(<u>one deer</u> = quick brown)

In example (1.2a), a native speaker's grammaticality judgment confirms that *one* means a 'quick brown fox', rather than simply an unspecified 'fox' or any kind of fox other than a 'quick brown' one. Example (1.2b) shows that *one*-substitution cannot target anything to the exclusion of the noun 'fox', suggesting that 'fox' is a non-optional, central part of that constituent.

Furthermore, the brackets in (1.1) present the observed existence of an asymmetry between the verb and its arguments: The object *lazy dog* is construed with the verb *jumped* while the subject *quick brown fox* is not. As a result, the object is understood as having a closer relationship with the verb than the subject.



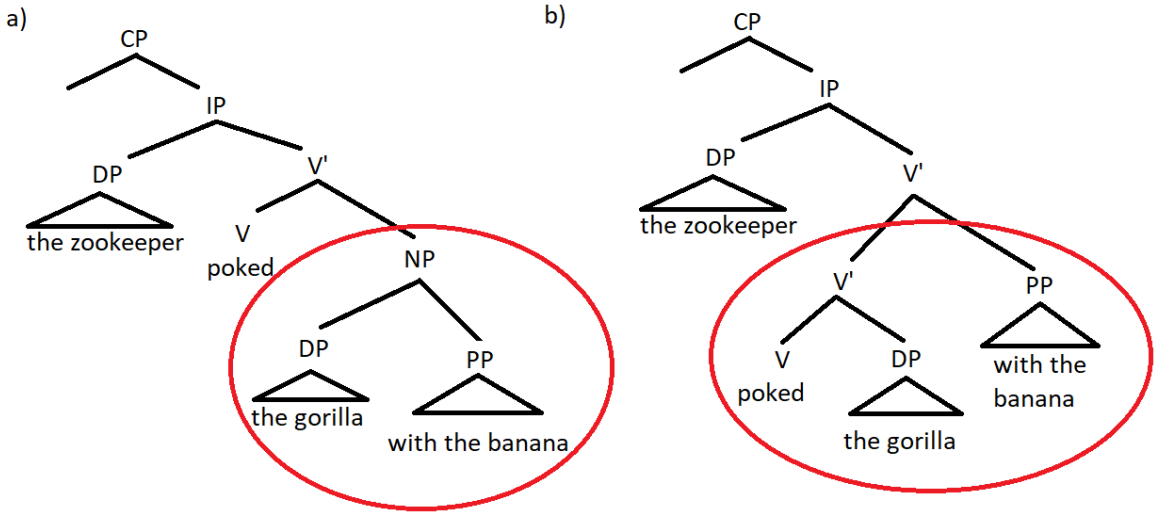
Tree 1.1

The structure of Tree 1.1 may seem unintuitive at first: Considering that intransitive sentences have a subject and verb, transitive sentences have a subject, verb and an object, but no sentence can be trivially constructed with just a verb and an object, the intuition would be that the subject and verb should have the more immediate relationship, while the object should be optionally appended on the side. However, a constituency test called *do so*-replacement can show that the replacing of a verb with *so does / does so* targets a verb with the object and never a verb with the subject

(1.2a) Mary [sees Bobby] and Sammy [does so] too
[does so] replaces [sees Bobby]
= Mary sees Bobby and Sammy sees Bobby

(1.2b) *[Mary sees] Bobby and [so does] Sammy
[so does] replaces [Marry sees]
= Mary sees Bobby and Marry sees Sammy

The structure of a sentence is not reflected in a specific word order which can be observed when the speaker of a language pronounces that sentence. There isn't a one-to-one correspondence between sentence structure and word order.



Tree 1.2

Tree 1.2 shows that two different sentence structures, each with a different interpretation, can have the same surface word order. Structure a) means "The zookeeper poked the gorilla that had a banana", while structure b) means "The zookeeper used a banana to poke a gorilla". Both structures have the same word order, *The zookeeper poked the gorilla with the banana*, which is as a result ambiguous. It is therefore important to note that although word order may indirectly reflect some syntactic relationships, many aspects of sentence structure cannot be recovered from word order alone.

An important initiative in linguistics is to elaborate a theory of the hierarchical structure of utterances, and one of the ways in which that theory can be informed is with evidence from a language's word order. In some cases, an easily-identifiable change in sentence meaning drives a consistent rearrangement in word order.

(1.3) The dog bit Bobby
Subj. Obj.

Bobby bit the dog
Subj. Obj.

Example (1.3) shows how the interpretation of nouns' roles as subjects and objects of a sentence typically corresponds to certain word orders in English-type grammars. However, cases of word order difference are easy to find for which the underlying difference in meanings isn't clear:

(1.4) The ambassador arrived at the party naked

The ambassador arrived naked at the party

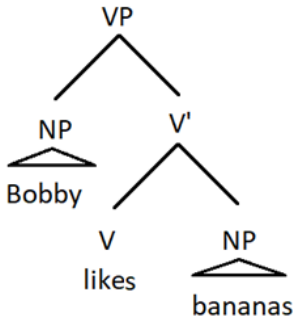
In example (1.4), the two sentences show different word orders but seem to have the same meaning. Specifically, it seems as if the two sentences are interchangeable and that, if prompted to describe the relevant situation, a speaker may arbitrarily choose either one. I reject this assumption because it allows for randomness to be a factor in syntactic theory. If quantum physics appeals to randomness to account for some aspects of the natural world, linguistics in its current state is confronted by data which appears to be too systematic to save us from the obligation of explaining language as a rule-based system. From this point of view, the human mind is reducible to a machine which functions according to rigid, systematic and definable laws. As a result, I do not view the sentences in (1.4) as interchangeable, but as having different meanings – subtle though the differences may be – and the choice between the two isn't arbitrary, but rather driven by which of the two meanings the speaker intended to express. I hold that word order differences are results of information structuring and that each possible permutation in word order corresponds to a separate structure, making it impossible for two word orders to be interchangeable, no matter how alike their resulting meanings seem to be.

I will account for word order by building on a body of research which assumes that sentences have underlying representations that are organised hierarchically as syntactic constituents. If *Syntactic Structures* (Chomsky 1957) introduced the idea that sentences have underlying forms which undergo transformations before they are uttered, more recent scholarship, such as Rizzi's *The Fine Structure of the Left Periphery* (Rizzi 1997), provides syntactic accounts for phenomena (such as focalisation and topicalisation) that have been previously relegated to fields such as pragmatics and discourse analysis, neither of which have enough theoretical architecture to formulate predictions and test them against data in search of correlations between meaning and word order.

(1.5a) Bobby likes bananas

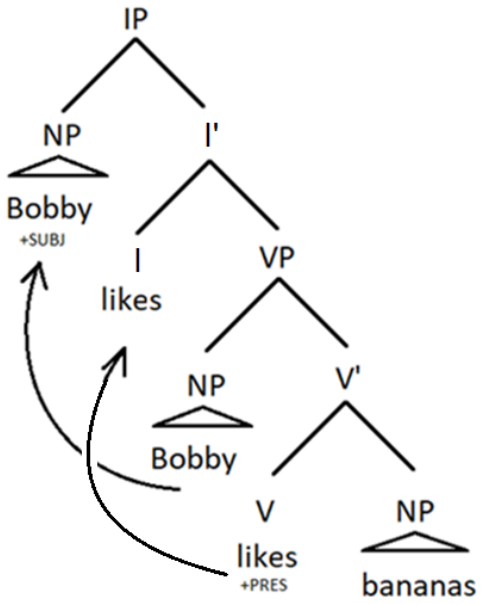
(1.5b) Bananas, Bobby likes

An example of how syntax takes on the role of information structuring is shown by sentences (1.5a) and (1.5b), both of which are considered grammatical in certain varieties of English. Loosely based in the framework of minimalism, I posit a process in which syntactic structure is built by the following stages:



Tree 1.3

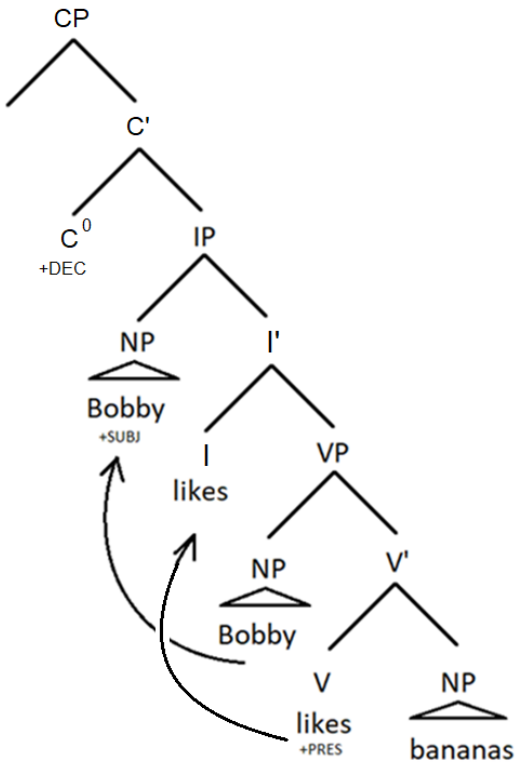
1) The verb and its arguments are initially merged in the VP domain



Tree 1.4

2) The verb enters in a secondary relationship with the head of the IP domain, which specifies the verb's tense and mood. Similarly, the lexical subject enters in a secondary relationship with the SPEC position of the IP domain, where structural subjecthood is instantiated. Such 'movement' of the constituents is motivated by features. With its initial insertion, the noun 'Bobby' is marked with a feature, specifying that 'Bobby' is the subject of the sentence. For the sentence to be grammatical, 'Bobby' then has to join SPEC IP, and its feature as subject must match that of SPEC IP, which hosts subjects.

The fact of 'moving' to these secondary positions does not mean that the moved items will be pronounced in these new positions: 'movement' here only means the lexical item has entered into a relationship with two positions on the tree and, depending on the language, will be pronounced in either one or the other position.

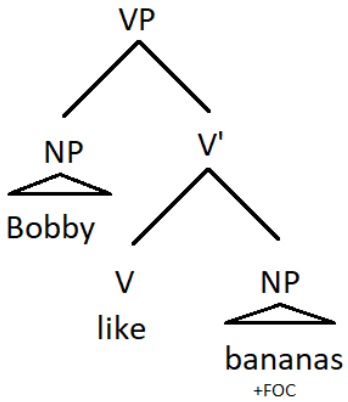


Tree 1.5

2) The added CP domain, containing a null declarative C-head, specifies that the sentence is a declarative one

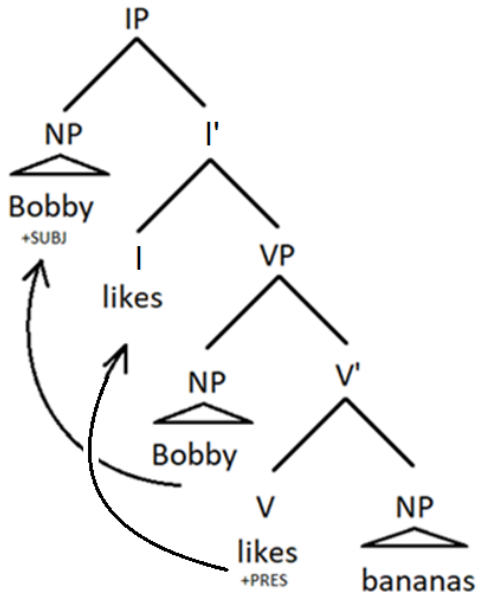
These steps account for the first word order, *Bobby likes bananas.* However, the second sentence presents a violation of Behaghel's law, stated here again: *That which is closely connected in the mind is also placed closely together*. Keeping in mind that verbs and their objects are sisters, it is therefore expected that the object *bananas* be adjacent to the verb *likes*. Based on this alone, *Bananas, Bobby likes* is a violation of Behaghel's Law. In order to reconcile data with this law, I argue, following (Hale 2014), that the construction of a sentence such as *Bananas, Bobby likes*, with emphasis on *bananas*, consists of the insertion of syntactic elements in their initial relationships – which reflect the way they're *connected in the mind* – but among these inserted elements is an operator specific to sentences with emphasised parts: a null +FOC particle which

requires that the emphasised element enter in a relationship with it. The fact that *bananas* has the double relationship of being the object of a verb and the target of a +FOC operator means that it has to satisfy Behaghel's Law in two different positions, and does so, but only one of the two positions is ultimately pronounced.



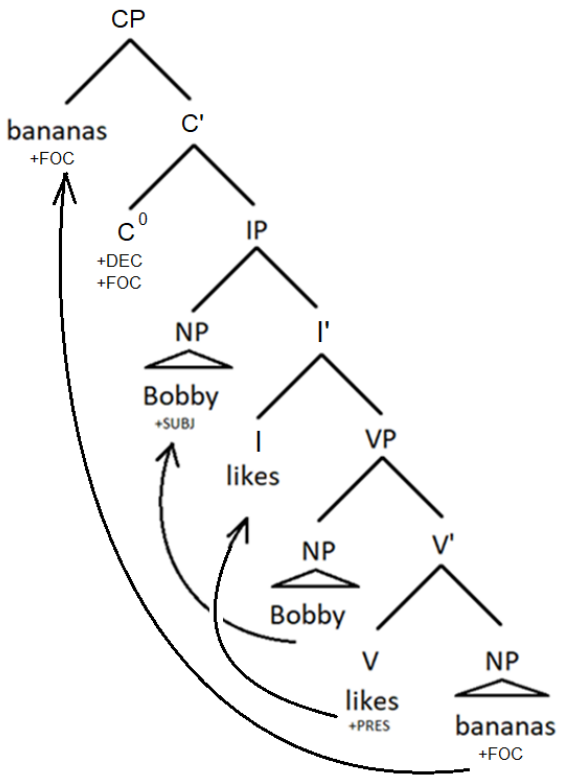
Tree 1.6

1) The sentence's arguments are initially merged in the VP domain with a specification that *bananas* must be the sentence's focus



Tree 1.7

2) The sentence's elements move up to the IP domain, where verbal tense-aspect-mood and structural subjecthood are instantiated.



Tree 1.8

3) The +FOC operator is next inserted at the top of the tree at the C^0 slot and attracts the argument that has received a FOCUS marker, which moves up to the CP domain. As discussed, the theory relies on 'bananas' and SPEC CP to have the same feature, in this case +FOC and to combine with matching features for the sentence to be grammatical.

This framework, which accounts for word order permutations and recognises them as often resulting from differences in information structuring, plays an important role in the analysis of languages which allow the same set of words to come in many sentences with different word orders but resulting in the same interpretation. Ossetic, which will be the focus of this research, is an example of such a language.

Below, (1.6a-d) are three sentences with the same words, combining to mean "Yesterday I gave you a book about Khetagurov", and all three are considered grammatical.

(1.6a)	Знон	дын	радтон	чиныг	Хетæгкаты	тыххæй
	znon	dən	radton	tʃinəg	xetaʁgkatə	təxxʁy
	yesterday	2sg.DAT	give.1sg.PST	book.ACC	Khetagurov.GEN	about
	Yesterday I gave you a book about Khetagurov					

(1.6b) znon dən radton tʃinəg xetaʁgkatə təxxʁy
(1.6c) tʃinəg xetaʁgkatə təxxʁy znon dən radton
(1.6d) xetaʁgkatə təxxʁy dən tʃinəg znon radton

Assuming that one order is 'basic' and the others are derived through movement, this paper will use clitic placement as evidence for proposing a tentative underlying representation for Ossetic sentences. Compared to regular syntactic elements which, in Ossetic, can be very flexible about where they appear in the sentence, clitics are known cross-linguistically to be more rigid in their distribution. In example (1.6a), the dative pronoun *dən* is enclitic, and it can make the sentence ungrammatical if misplaced:

(1.7a)	Знон	**дын**	радтон	чиныг	Хетæгкаты	тыххæй
	znon	**dən**	radton	tʃinəg	xetaʁgkatə	təxxʁy
	yesterday	2sg.DAT	give.1sg.PST	book.ACC	Khetagurov.GEN	about

(1.7b) znon **dən** radton tʃinəg xetaʁgkatə təxxʁy
(1.7c) * **dən** znon radton tʃinəg xetaʁgkatə təxxʁy

Sentences (1.7a-c) show the well-established fact that an enclitic requires a host on its left and cannot appear at the very beginning of a sentence. It is hoped that studying clitics and describing the consistencies and irregularities of their behaviour will in turn bring insight into other phrasal elements of Ossetic, the placement of which inside a sentence is much harder to define.

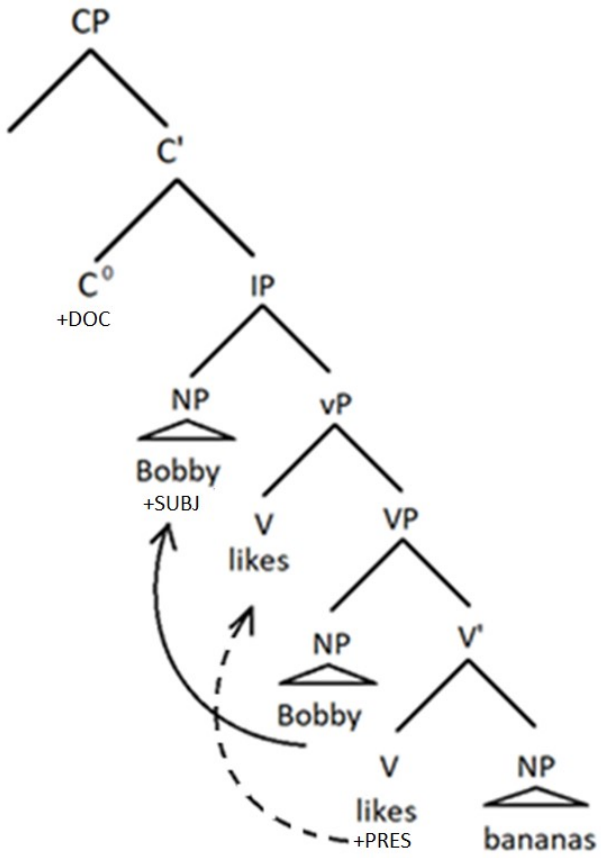
2. Overview of Clitics

To be able to use clitics as a tool for determining syntactic structure, there must first be a working conception of how clitics behave within syntax. The commonly assumed conception is that "clitics tend to land in second position". The notion of "second position", at least in relation to clitics, can be ascribed to Jakob Wackernagel, who, having conducted an analysis of clitic distribution in archaic Indo-European languages, formulated what is now known as Wackernagel's Law: that clitics tend to appear in sentence second position (Wackernagel 1892). Wackernagel did not make use of modern conceptions of syntactic structures and, relying on linear word order alone, he identified a *tendency* for clitics to appear following the first word of the sentence. Significantly, admitting that a law hinges upon tendencies raises the issue of probabilistic generalisations, which don't allow one to use the phenomena they are stated about as reliable tools of the scientific method. If clitics appeared strictly in second position, they could have been used as tests to determine which words a language considers 'fully stressed' (a clitic wouldn't appear second if the first position isn't occupied by a full word) or where the boundaries of a language's sentences are, but since clitics merely *tend* to appear in second position, such tests cannot be reliable.

Incorporating Wackernagel's Law into modern syntactic theory is conceptually untenable as second position becomes a meaningless notion in the framework of syntax assumed here: there cannot be a second position 'slot' in a syntactic structure since all slots are projections of syntactic elements which can occupy various positions depending on what gets specified during the initial lexical insertion. In example (2.1a-b) are two sentences from earlier:

(2.1a) Bobby likes bananas

(2.1b) Bananas, Bobby likes

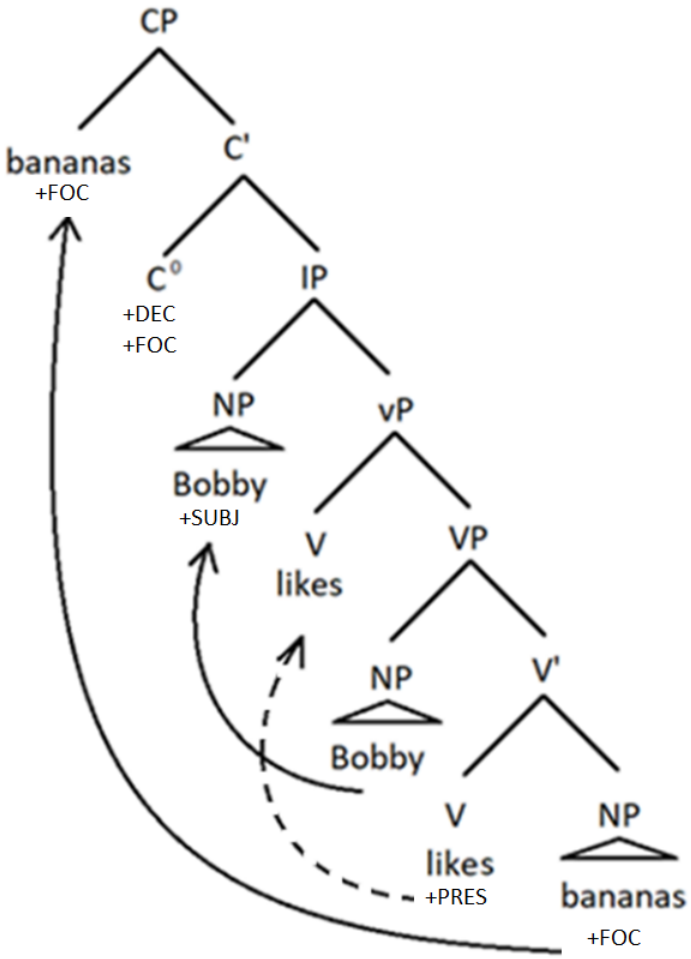


Tree 2.1

These two sentences show that 'first position' can be occupied by *Bobby* when the initial lexical meanings are neutral, and by *bananas* when an emphasis is specified for *bananas* during the initial lexical insertion. As a result, following modern syntactic models, 'first position' in (2.1a) is occupied by an inaudible C^0 element which specifies that the sentence is declarative, while 'first position' in (2.1b) is occupied by *bananas*, marked for focalisation.

'First position' therefore cannot be used as an anchored slot that defines what content fills it but is on the contrary a mere incidental descriptor of whatever syntactic element happens to land

first in a sentence. It follows that if 'first position' cannot be a meaningful term, neither can 'second position' be.



Tree 2.2

Having dismissed the target of 'second position' for clitics to land in, I follow a fairly standard analysis which argues for phrasal clitics to be universally placed adjoining to IP. In what follows, I will look into the details of some cases where modern syntactic machinery accounts for clitic placement. Notably, a number of parallel syntactic phenomena are reckoned with, the operation of which interacts with that of clitic placement. It comes to light that the application of these syntactic phenomena varies depending on a given sentence's constituents and clitic placement comes about as a result of several possible syntactic processes. What finally brings clitics to 'second position' in the linear order of words is shown to be not a unitary

phenomenon, but a result of various interacting and conflicting processes, the postulation of which accounts both for 'second position' landing sites and for the many cases of deviation from 'second position'. Comprehensive syntactic modelling therefore allows one to bypass the probabilistic generalisations which had weakened the robustness of Wackernagel's Law.

Although the emphasis in the sentence *Bananas, Bobby likes* allowed us to theorise about a +FOC operator that obligates the object to move out of its expected position, no emphasis or other regularity can be perceived in sentences with phrasal clitics such as in this French-type grammar example:

(2.2a) Bobby aime [les bananes]
S V O

(2.2b) Bobby les aime
S O V

In (2.2a), the sentence's fully-stressed object, *les bananes*, comes after the verb. In (2.2b), the sentence's object is now the clitic pronoun *les*, and appears in a higher position relative to the verb. However, no 'emphaticness' of the nature *bananas, Bobby likes* is observed in sentence (2.2b) compared to (2.2a).

(2.3) kéna vā te mánasā dāśema
By.what or you intent we.worship

Or by what intent would we worship you? (RV 1.76.1d)

Beyond the problem of motivating clitics' movement is the issue that clitics disrupt constituency in two ways: Example (2.3) shows a clitic object pronoun, *te*, outside of the verbal constituent, *dāśema*, where we expect to find objects. The same clitic interrupts another constituent, *kéna mánasā,* where no interrupting elements are expected.

This behaviour of clitics is useful in what it reveals about constituency for sentences where constituency isn't obvious.

(2.4) Φρύνιχος … | αὐτός τε καλὸς ἦν, καὶ καλῶς ἠμπίσχετο
frunixos autos te kalos en, kay kalos empisxeto
Phrynichus himself both beautiful was and beautifully dressed

Phrynichus...was himself beautiful, and dressed beautifully

Thesm.164-5

The *te* clitic in example (2.4) can theoretically occur in three different positions, each position forcing the analyst to posit a distinct structure and a distinct associated meaning for the sentence. Specifically, sentence (2.4) makes use of *both … and* coordination. Significantly, because *te* is enclitic, its position allows one to determine the left edge of the first element it's conjoining.

(2.5a) frunixos autos kalos te en, kai kalos empisxeto
[[frunixos autos [kalos te en, $_{VP}$] [kai kalos empisxeto $_{VP}$] $_{IP}$]$_{CP}$]
[[Phrynicus himself [beautiful both was $_{VP}$] [and beautifully dressed $_{VP}$] $_{IP}$]$_{CP}$]

Phrynichus himself both was beautiful and dressed beautifully

(2.5b) frunixos te autos kalos en, kai kalos empisxeto
[frunixos te autos kalos en, $_{CP\ or\ IP}$] [kai (pro) kalos empisxeto $_{CP\ or\ IP}$]
[Phrynicus both himself beautiful was $_{CP\ or\ IP}$][and beautifully dressed $_{CP\ or\ IP}$]

Both Phrynicus himself was beautiful and he dressed beautifully

(2.5c) frunixos autos te kalos en, kai kalos empisxeto
[frunixos [autos te kalos en, $_{VP}$] [kai kalos empisxeto $_{VP}$] $_{IP}$]
[Phrynicus [himself both beautiful was $_{VP}$] [and beautifully dressed $_{VP}$] $_{IP}$]

Phrynicus was both himself beautiful and dressed beautifully

Examples (2.5a-c) show three different surface positions of *te* corresponding to three different structures respectively.

Inside a clause, material that doesn't form a constituent with either *both … and* conjunct is understood to be shared by both conjuncts[1]. If *te* is placed as in example (2.5a), the first conjunct has no subject, since 'Phrynicus himself' falls outside the boundary determined by *te*. The first conjunct, [kalos te en]. must therefore be analysed as a VP and since coordination in principle combines two *same* structures, the second conjunct, [kai kalos empisxeto] must be a VP as well. As a result, the sentence's interpretation is that two qualities hold true of 'Phrynicus himself', and these qualities are 'being beautiful' and 'dressing beautifully.'

In (2.5b), the clitic *te* includes *frunixos* in the first conjunct. Since no other subject is found outside the two conjuncts, there isn't any material that both conjuncts can share. Therefore, the conjuncts can't be VPs, since lacking a subject makes the latter ungrammatical. The analysis works if the conjuncts are seen as either IPs or CPs, with the first conjunct having 'Phrynicus himself' as its subject, while the subject position in the second conjunct is filled by an unpronounced 3rd person pronoun.

Lastly, (2.5c) has the *te* clitic appear after *autos*, delimiting the first conjunct in such a way that *frunixos* falls outside of it. As a result, the second conjunct must be analysed as a VP, since it has no subject inside itself and since no unpronounced 3rd person can be posited because it would conflict with *frunixos* which, lying outside both conjuncts, can't be left unattached and must be the two conjuncts' shared subject. Greek *autos*, unlike English 'himself', can behave as a standalone pronoun, but to avoid the ungrammaticality of *frunixos* and *autos* conflicting over subjecthood, it is more productive to analyse *autos* as an adjectival modifier of *frunixos*, similar to how French 'eux-mêmes' behaves in examples (12a-b):

[1] This understanding comes in conflict with the VP-internal hypothesis regarding where lexical material is initially merged. Grimshaw 1992 addresses this conflict.

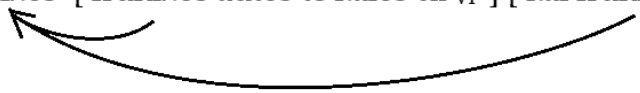
(2.6a) [Les hommes sont [eux-mêmes tombés $_{VP}$] $_{IP}$]

(2.6b) [Les hommes sont [les hommes eux-mêmes tombés $_{VP}$] $_{IP}$]

The adjective 'eux-mêmes' is in the VP, lower than IP, in which the verb has received tense. The fact that 'eux-mêmes' agrees in number and gender with the noun indicates that it is adjectival and that 'les hommes eux-mêmes' formed a constituent from which 'les hommes' moved out, stranding 'eux-mêmes'.

An issue appears when transferring this model to the 'Phrynicus' example, since the postulation that subjects must be generated in the VP leads to two subjects *frunixos* being generated in a coordinated sentence:

(2.7) [frunixos [frunixos autos te kalos en $_{VP}$] [kai frunixos kalos empisxeto $_{VP}$] $_{IP}$]



The fact that *frunixos* gets repeated violates a theoretical necessity that a subject be only generated once for a sentence, while accommodating a single subject in a coordinated sentence requires much theoretical machinery which is subject to debate among syntacticians[2].

Ultimately, although the difficulty above challenges some important aspects of syntactic theory, it doesn't undermine the demonstration of examples (2.5a-c): Clitic placement in examples (2.5a) and (2.5b) organises the sentence constituents in such a way that two independent properties are attributed to Phrynicus: Two things hold true of Phrynicus – 1. He was beautiful and 2. He dressed beautifully, whereas the clitic in (2.5c) organises the

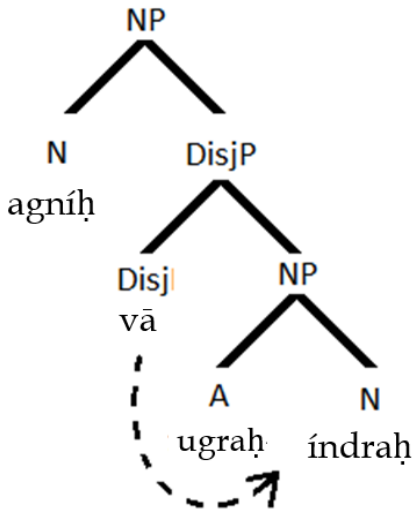
[2] See Burton & Grimshaw 1992, Hornstein 1999, Nunes 2001, Nunes 2004

constituents to have a causal connection, rather than enumerate them: Phrynicus was beautiful and as a result of that, he dressed beautifully too. This discrepancy shows how the clitics, in the framework of constituency syntax, can be used to refine our understanding of sentence structuring and of the meanings that underlie the structures.

An important property of clitics that we will argue for and which we will use to account for data provided by Ossetic is the phenomenon of phonological movement. It has been demonstrated by (Halpern 1992) that beyond undergoing syntactic movement, clitics are exceptional sentence elements in that they require a 'phonological host'. Being prosodically deficient, proclitics will require an element to their right, while enclitics will require an element to their left, to 'lean on'. This phenomenon can be observed in Sanskrit "disjunctive" clitics:

(2.8) agníḥ ugró =vā índraḥ
Agni mighty =or Indra

Agni or mighty Indra



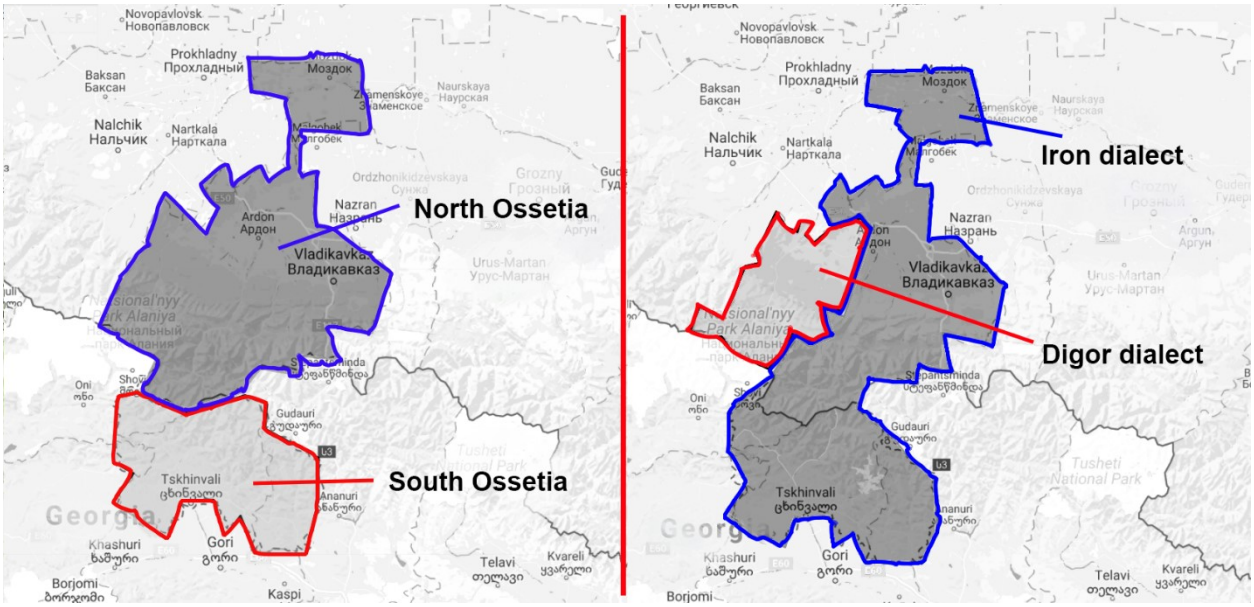
Tree 2.3

No position exists inside the NP [*ugráḥ índraḥ*] to serve as a syntactic position for the disjunctive clitic *vā*, which suggests that the movement of *vā* is driven by a mechanism other than syntax. Tree 2.3 captures this notion

3. Overview of Ossetic

Ossetic is an Eastern Iranian language spoken in Ossetia, a region located in the Southern Russia (North Ossetia) and partly disputed with the Republic of Georgia (South Ossetia). The language is spoken by about 578,000 people and is divided into two main dialects, Iron and Digor. The dialectal differences do not map onto the political divisions, as shown on maps 3.1 and 3.2.

Map 3.1. Ossetic language area



Map 3.2. Political and dialectal divisions of Ossetia

Ossetic is a member of the Iranian branch of the Indo-European language family.

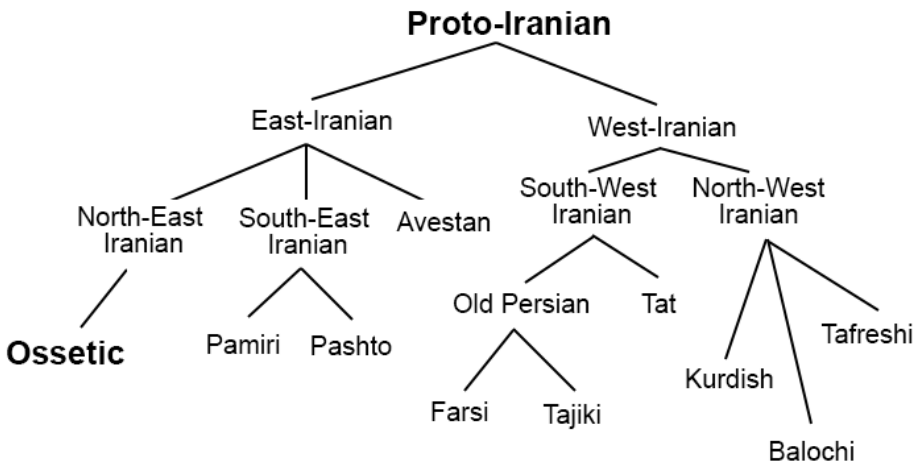
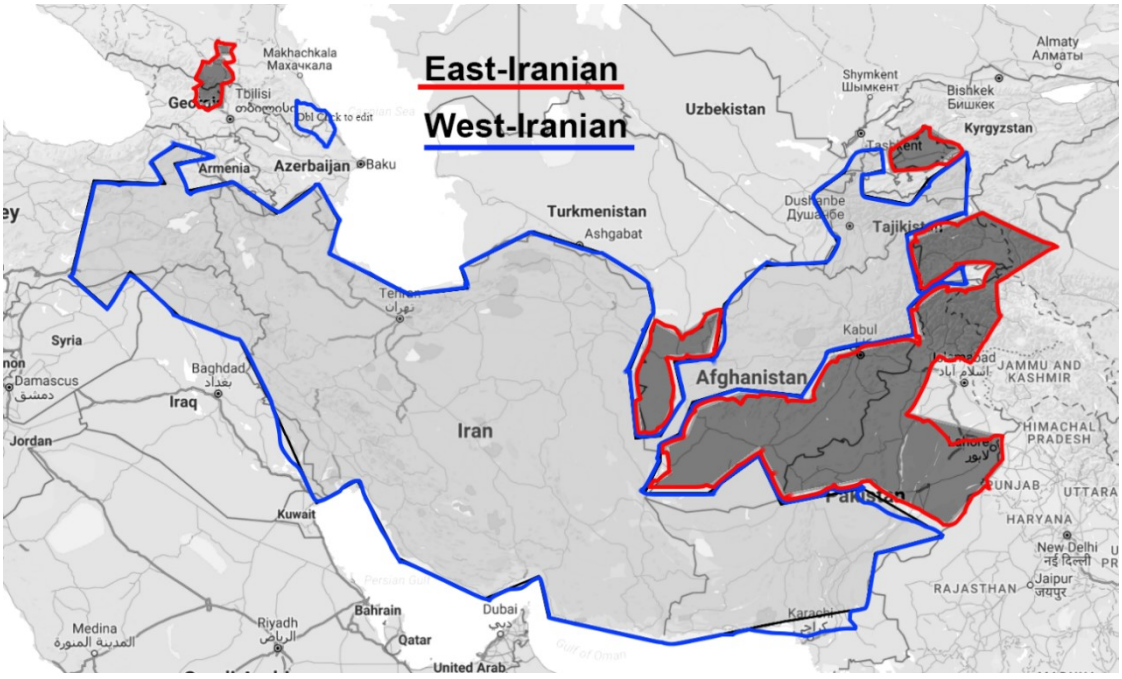


Figure 3.1. The Iranian language family

Within the Iranian family, Ossetic belongs to the East-Iranian branch, which is geographically split wide apart by the West-Iranian branch, as shown on map 3.3.



Map 3.3. East and West-Iranian languages

Despite its unlikely location with relation to other East-Iranian languages, membership of Ossetic in that group is confirmed by several innovations shared with its siblings, notably voicing of Old Iranian **ft* and **xd* to *vd* and *ɣd*, as shown on Table 3.1

Old Iranian **hafta* "seven"	Khotanese Tumshuqese Chorasmian Shughni Sanglichi Wakhi Munji Pashto Ossetic	*hauda* **hoda* *'βd* *ūvd* *ōvδ* *i̊b* *ōvda* *ōwə* *avd*	Farsi Gilaki Balochi Kurmanji Tati	*haft* *haf* *hapt* *heft* *hæft*
Old Iranian **duxtā* "daughter"	Khotanese Tumshuqese Chorasmian Bactrian Yazghulami Sanglichi Wakhi Yidgha Ossetic	*δū(d)a* *du̲da* *δuɣda* *logda* *δoɣd* *wuδəɣδ* *δəɣd* *luɣdo* *-diɣd* (in *xodiɣd* "sister-in-law")	Farsi Tati Balochi Kurmanji Mazenderani	*doxtar* *dətar* *dohtir* *dot* *deter*

*Table 3.1. Voicing of *ft and *xd clusters as shared innovation in Eastern Iranian*

Ossetic uses a writing system that has been adapted from the Cyrillic alphabet. This writing system will be used for example sentences over the course of this paper. Significantly then, unless stated otherwise, the IPA that I will use to notate Ossetic will *not* be a representation of the phonetic data uttered by a speaker of the language. Rather, it will be the result of a symbol-for-symbol transliteration of the Cyrillic alphabet that is used to notate the Iron 'dialect' of Ossetic, which is the most commonly used standard in Ossetic literature.

Below, Table 3.2 shows an approximate correspondence of Ossetic Cyrillic to IPA.

А а	Æ æ	Б б	В в	Г г	Гъ гъ	Д д	Дж дж	Дз дз	Е е
[a]	[ɐ]	[b]	[v]	[g]	[ʁ]	[d]	[dʒ]	[dz]	[je]

Ё ё	Ж ж[3]	З з	И и	Й й	К к	Къ къ	Л л	М м	Н н
[jo]	[ʒ]	[z]	[i]	[j]	[k]	[k’]	[l]	[m]	[n]

О о	П п	Пъ пъ	Р р	С с	Т т	Тъ тъ	У у	Ф ф	Х х
[o]	[p]	[p’]	[r]	[s[4]]	[t]	[t’]	[u]/[w]	[f]	[χ]

Хъ хъ	Ц ц	Цъ цъ	Ч ч	Чъ чъ	Ш ш	Щ щ	Ъ ъ	Ы ы	Ь ь
[q]	[ts]	[ts’]	[tʃ]	[tʃˀ]	[ʃ]	[ɕ]	-	[ə]	-

Э э	Ю ю	Я я
[ɛ]	[ju]	[ja]

Table 3.2

[3] The letters ё, ж, ш, щ, ъ, ь, э, ю, and я are only used in loanwords

[4] Sibilants undergo assibilation in the standard literary dialect, Iron: [s] merges with [ʃ], [z] with [ʒ], [ts] with [tʃ], [dz] with [dʒ], [ts’] with [tʃˀ] and [dz’] with [dʒ’]

The object of interest in the discussions that follow will be the behaviour of pronominal clitics in Ossetic. Having historically become surrounded by languages of the Caucasian family, the latter being known to have elaborate case systems, Ossetic has acquired a variety of noun cases as well, presumably through contact with these Caucasian neighbours. Ossetic includes the following cases: NOMINATIVE, ACCUSATIVE, GENITIVE, DATIVE, ALLATIVE, ABLATIVE, INESSIVE, ADESSIVE, EQUATIVE and COMITATIVE. Of these, the nominative and accusative cases serve primarily as structural syntactic cases, while the others are inherent (adverbial, local cases) (Thordason 1989:469)

- The NOMINATIVE case, as is standard, marks the subject of a sentence.

  Мит тайы
  mit tajə
  Snow.NOM melts

  The snow is melting (Abaev 1964:17 §43.1)

- The ACCUSATIVE case marks the object of a sentence.

  Суг æрсæтт
  sug ʁrsʁtt
  Firewood.ACC chop.IMP

  Chop the firewood ! (Abaev 1964:17 §43.2)

  a. Grammars of Ossetic do not list an accusative case – the conventional analysis is based on overt morphology and states that animate direct objects are marked genitive, while inanimate direct objects are zero-marked and identified with the nominative (Akhvlediani 1963:94). Table 3.2 below shows this syncretism:

Лæппу уыны чыжгы lɐppu uənə tʃəʒgə boy.NOM sees girl.ACC *The boy sees the girl*	Тагъд дон у taʁd don u fast river.NOM is *the river is fast*
Чыжг уыны лæппуйы tʃəʒg uənə lɐppujə girl.NOM sees boy.ACC *The girl sees the boy*	Уый федта дон uəj fedta don he saw river.ACC *He saw the river*
Лæппуйы цæстытæ цъæхтæ сты lɐppujə tsɐstətɐ tsʼɐxtɐ stə Boy.GEN eyes.NOM green are *The boy's eyes are green*	Доны кæсагтæ тагъд ленк кæнынс donə kɐsgtɐ taʁd lenk kɐnəns river.GEN fish.NOM fast swim do *the river's fish swim fast*

	Animate лæппу 'boy'	Inanimate дон 'water'
Nominative	lɐppu	don
Accusative	lɐppujə	don
Genitive	lɐppujə	donə

Table 3.3

As can be seen from Table 3.2 above, the accusative of Ossetic lacks its distinct overt marking as its word-forms are homophonous with those of the genitive or the nominative, depending on the noun's animacy. I argue in favour of using structural case to gloss the accusative in Ossetic and in a subsequent section I will show how structural accusative can be revealed on the basis of the syntax and phonology of pronominal clitics.

- The GENITIVE case is used to mark pre-nominal segments, which it marks as possessors.

  Мады равдыд
  madə ravdəd
  mother.GEN caress

  A mother's caress Abaev (1964:18 §44.1)

a. As highlighted in the discussion above, the accusative morphology for animate nouns is identical to the genitive.

Мæ	мады	рагæй	нал	федтон
mɐ	madə	ragɐj	nal	fedton
1sg.NOM	my.mother.ACC	long.time	Neg	see.1sg.PST

I haven't seen my mother in a long time Abaev (1964:18 §44.3)

- The DATIVE case can:

a. Indicate a beneficiary or a goal

Бæхæн	холлаг радт
bɐxɐn	xollag radt
Horse.DAT	fodder give.IMP

Give the horse fodder Abaev (1964:18 §45.1)

b. Indicate abstract motion towards somebody or something

Садуллæ	царды	фæрæзæн	цуан кæнын	æрымысыд
sadullɐ	tsaed	fɐrɐzɐn	tsyan kɐnən	ɐrəməsəd
Sadullah.NOM	existence.GEN	means.DAT	hunt do.INF	decide.3sg.PST

Sadullah, for (earning) the means to live, decided to engage in hunting

Abaev (1964:18 §45.3)

c. Denote possession

Лæппуйæн йæ	мад	рæшугъд	у
lɐppujɐn jɐ	mad	rɐʃuʁd	u
boy.DAT 3sg.GEN	mother	beautiful	is

This boy's mother is beautiful

- Three locative cases exist in Ossetic:

a. INESSIVE, denoting a general point in time or place ("in, into")

Кæсаг доны	хъазыд
kɐsag donə	qazəd
Fish water.INESS	play.3pl.PST

The fish played in the water Abaev (1964:19 §48)

b. ALLATIVE, denoting proximity ("at, by, near, towards")

Дæ бæх махмæ ис
dɐ bɐx maxmɐ is
2sg.GEN horse 1pl.ALL is

Your horse is with us Thordason (1989:469)

c. ADESSIVE, denoting above-ness ("upon")

Бæхыл абадти
bɐxəl abadti
Horse.ADESS sit.3sg.PST

He sat on the horse Abaev (1964:19 §49.1)

- The ABLATIVE case marks a point of departure in space or time

Изæрæй райсоммæ
izɐrɐj rajsommɐ
Evening.ABL morning.ALL

From evening until morning Abaev (1964:19 §47.1)

- The EQUATIVE case expresses likeness

Фатау атахти
fatau ataxti
Arrow.EQ fly.3sg.PST

He flew like an arrow Abaev (1964:19 §50)

- The COMITATIVE case indicates a participant who shares an action

Æрсимæ хъæбысæй хæцы
ɐrsimɐ qɐbəsɐj xɐtsə
Bear.COM wrestle do.3sg.PRS

He is wrestling with a bear Abaev (1964:19 §51)

Ossetic pronouns, both their fully stressed and cliticised forms, show overt morphological marking for all these cases:

FULLY STRESSED FORMS			
singular			
	1st person	2nd person	3rd person
Nominative	*æз*	*ды*	*уый*
Accusative	*мæн*	*дæу*	*уый*
Genitive	*мæн*	*дæу*	*уый*
Dative	*мæнæн*	*дæуæн*	*уымæн*
Allative	*мæнмæ, мæммæ*	*дæумæ*	*уымæ*
Ablative	*мæнæй*	*дæуæй*	*уымæй*
Inessive	-	-	*уым*
Adessive	*мæныл*	*дæуыл*	*ууыл*
Equative	*мæнау*	*дæуау*	*уыйау*
Comitative	*мемæ* (from *мæнимæ*)	*демæ* (from *дæуимæ*)	*уыимæ*
plural			
	1st person	2nd person	3rd person
Nominative	*мах*	*сымах*	*уыдон*
Accusative	*мах*	*сымах*	*уыдон(ы)*
Genitive	*мах*	*сымах*	*уыдон(ы)*
Dative	*махæн*	*сымахæн*	*уыдонæн*
Allative	*махмæ*	*сымахмæ*	*уыдонмæ*
Ablative	*махæй*	*сымахæй*	*уыдонæй*
Inessive	-	-	*уыдоны*
Adessive	*махыл*	*сымахыл*	*уыдоныл*
Equative	*махау*	*сымахау*	*уыдонау*
Comitative	*махимæ*	*сымахимæ*	*уыдонимæ*
CLITICISED FORMS			
singular			
	1st person	2nd person	3rd person
Accusative	*мæ*	*дæ*	*(йæ) æй*
Genitive	*мæ*	*дæ*	*(йæ) æй*
Dative	*мын*	*дын*	*(й[5])ын*
Allative	*мæм*	*дæм*	*(й)æм*
Ablative / Inessive	*мæ*	*дæ*	*дзы*
Adessive	*мыл*	*дыл*	*(й)ыл*
Equative	-	-	-
Comitative	*мемæ*[6]	*демæ*	*йемæ*
plural			
	1st person	2nd person	3rd person
Accusative	*нæ*	*уæ*	*сæ*
Genitive	*нæ*	*уæ*	*сæ*
Dative	*нын*	*уын*	*сын*
Allative	*нæм*	*уæм*	*сæм*
Ablative / Inessive	*нæ*	*уæ*	*сæ, дзы*[7]
Adessive	*ныл*	*уыл*	*сыл*
Equative	-	-	-
Comitative	*немæ*	*уемæ*	*семæ*

Table 3.4

[5] Parentheses indicate changed form when clitic follows a vowel-final word
[6] Comitative case forms are "short" insofar as they are distinct from the full ones, but do have independent stress
[7] Variation between *сæ* and *дзы* has not been accounted for

FULLY STRESSED FORMS			
singular			
	1st person	2nd person	3rd person
Nominative	ɐɜ	dɘ	wɘj
Accusative	mɐn	dɐw	wɘj
Genitive	mɐn	dɐw	wɘj
Dative	mɐnɐn	dɐwɐn	wɘmɐn
Allative	mɐnmɐ, mɐmmɐ	dɐwmɐ	wɘmɐ
Ablative	mɐnɐj	dɐwɐj	wɘmɐj
Inessive	-	-	wɘm
Adessive	mɐnɘl	dɐwɘl	wwɘl
Equative	mɐnaw	dɐwaw	wɘjaw
Comitative	memɐ (from mɐnimɐ)	demɐ (from dɐwimɐ)	wɘimɐ
plural			
	1st person	2nd person	3rd person
Nominative	max	sɘmax	wɘdon
Accusative	max	sɘmax	wɘdon(ɘ)
Genitive	max	sɘmax	wɘdon(ɘ)
Dative	maxɐn	sɘmaxɐn	wɘdonɐn
Allative	maxmɐ	sɘmaxmɐ	wɘdonmɐ
Ablative	maxɐj	sɘmaxɐj	wɘdonɐj
Inessive	-	-	wɘdonɘ
Adessive	maxɘl	sɘmaxɘl	wɘdonɘl
Equative	maxaw	sɘmaxaw	wɘdonaw
Comitative	maximɐ	sɘmaximɐ	wɘdonimɐ
CLITICISED FORMS			
singular			
	1st person	2nd person	3rd person
Accusative	mɐ	dɐ	(jɐ) ɐj
Genitive	mɐ	dɐ	(jɐ) ɐj
Dative	mɘn	dɘn	(j[8])ɘn
Allative	mɐm	dɐm	(j)ɐm
Ablative / Inessive	mɐ	dɐ	dzɘ
Adessive	mɘl	dɘl	(j)ɘl
Equative	-	-	-
Comitative	memɐ[9]	demɐ	jemɐ
plural			
	1st person	2nd person	3rd person
Accusative	nɐ	wɐ	sɐ
Genitive	nɐ	wɐ	sɐ
Dative	nɘn	wɘn	sɘn
Allative	nɐm	wɐm	sɐm
Ablative / Inessive	nɐ	wɐ	sɐ, dzɘ[10]
Adessive	nɘl	wɘl	sɘl
Equative	-	-	-
Comitative	nemɐ	wemɐ	semɐ

[8] Parentheses indicate changed form when clitic follows a vowel-final word
[9] Comitative case forms are "short" insofar as they are distinct from the full ones, but do have independent stress
[10] Variation between *sɐ* and *dzɘ* has not been accounted for

Note the following regarding the pronominal forms in Table 3.3:

1) Ossetic's clitic pronoun inventory does not include nominative forms
2) The surface morphology of Ossetic merges some cases for the cliticised versions of its pronouns: 1st and 2nd persons, both singular and plural (shaded above), use the same forms for genitive, accusative, ablative and inessive cases. 3rd person has more unique forms as it is derived from a demonstrative pronoun.

Like the traditional analysis of noun cases, the traditional classification of Ossetic clitics merges the expected accusative form with what is considered an identical genitive form. In discussing possessives, Abaev notes that "insofar as the genitive bears another important function – the direct object, it is necessary to treat the possessive function of this case separately" (Abaev 1964:26). In spite of this statement, Abaev's list of enclitic forms assumes that genitive and accusative are non-distinct (Abaev 1964:23). Hettich refers to his vacillation as "an unnecessary complication of the description and inconsistent with his analysis of genitive in nouns. If it is acceptable for the genitive case of a noun to be used for both direct objects and possessors, the same should be true for pronouns." (Hettich 2010:67) Evidence from clitic behavior in Ossetic shows however that the accusative and genitive forms behave differently in terms of their semantics, syntax and phonology. They should therefore be analyzed and listed as distinct elements:

(3.1a)	Æз	дæ	знон	федтон
	ɐz	dɐ	znon	fedton
	1sg.NOM	2sg.ACC	yesterday	saw
	I saw you yesterday			

(3.1b)	Дае	чиныг	рæсугъд	у
	dɐ	tʃinəg	rɐsuʁd	u
	2sg.GEN	book.NOM	beautiful	is
	Your book is beautiful			

Even if all other properties of these clitics' surface forms were identical, there is no question regarding the existence of a difference in meaning that the speaker intends to express when referring to a direct object as opposed to a possessor. Therefore, at the very least, the two elements should be analysed as homonymous but distinct: *də*$_1$ '2sg.ACC' for sentences such as (3.1a) and *də*$_2$ '2sg.GEN' for sentences such as (3.1b).

The strongest evidence in favour of analysing accusative and genitive clitics as separate items comes from the fact that they show different behaviours in the syntax of clitic chains:

(3.2a) Æмæ **дзы** **дæ** зæрдыл ницы бадардтай?
ɐmɐ **dzə** **dɐ** zɐrdəl nitsə badardtay?
and it.ABL 2sg.GEN heart nothing stayed
And from that, nothing stayed in your heart
(i.e. And you haven't remembered any of that)

(3.2b) ɐmɐ ***dɐ dzə*** zɐrdəl nitsə badardtay? (ONC)

Sentence (3.2a) shows that the genitive clitic *dɐ* follows the ablative clitic *dzə*. Sentence (3.2b) shows that changing their order results in ungrammaticality

(3.3a) Иу зонгæ хъæлæс **дæ** **дзы** йæхимæ ælвасдзæн
iu zongɐ qɐlɐs **dɐ** **dzə** yɐximɐ ɐlvasdzɐn
one familiar voice 2sg.ACC it.ABL towards.itself pulls
one familiar voice pulls you out of there towards itself (ONC)

(3.3b) фидар ныфс **мæ** **дзы** бацыд,
fidar nəfs **mɐ** **dzə** batsəd
strong spirit 1sg.ACC it.ABL entered
a hearty spirit entered me from him (ONC)

(3.3c) цыдæр фыссын **æй** **дзы** хъæуын ныpма
tsədɐr fəssən **ɐy** **dzə** qɐwən nərma
something write.INF 3sg.ACC it.ABL necessary also
It's necessary for him to write something else from there

Examples (3.3a-c) show that when these same clitic forms precede the ablative *dzɘ*, they are always interpreted as accusative. In example (3.3c), *ɐy*, the subject of the lower clause, gets its accusative case assignment from *qɐwɘn*, the verb of the matrix clause.

(3.4a) Арвитын **æй** **дзы** **дæ** писмо хъæуы
arvitən **ɐy** **dzɘ** **dɐ** pismo qɐwɘ
send.INF 3sg.ACC it.ABL 1sg.GEN letter necessary
It's necessary for him to send my letter from there

(3.4b) *arvitən **dzɘ yɐ dɐ** pismo qɐwɘ
(3.4c) *arvitən **dzɘ dɐ yɐ** pismo qɐwɘ

Example (3.4a) shows that when compelled to express all three meanings in a sentence, a speaker will place them in the order of accusative-ablative-genitive. Examples (3.4b-c) show that any reordering of this sequence makes the sentence ungrammatical.

Additional evidence shows that the genitive pronoun clitic must be proclitic to its noun.

(3.5a) Æз **йæ** чиныг **дæ** райштон
ɐz **yɐ** tʃinɘg **dɐ** rayʃton
I 3sg.GEN book 2sg.ABL take.1sg.PST
I took his book from you

(3.5b) ɐz **dɐ** rayʃton **yɐ** tʃinɘg
(3.5c) *ɐz **dɐ yɐ** rayʃton tʃinɘg

Examples (3.5a-c) show that the genitive clitic is separable from the clitic chain but not from the noun to which it procliticises.

The proclitic nature of the genitive pronoun is additionally made clear by its phonological properties, which distinguish it from the homophonous accusative pronoun.

	Underlying representation	Surface representation		Underlying representation	Surface representation
1	*“мæ æмбал”* / mɐ= / + / ɐmbal / 1sg.GEN comrade	*ме ’мбал*[11] [membal]		*“дæ æнгуылдз”* /dɐ= / + / ɐnguəldz / 2sg.GEN finger	*де ’нгуылдз* [*denguəldz*]
2	*“мæ зонгæ”* /mɐ= / + / zongɐ / 1sg.GEN pal	*мæ зонгæ* [mɐzongɐ] *[mezongɐ]		*“дæ къух“* / dɐ= / + / k’ux / 2sg.GEN hand	*дæ къух* [dɐk’ux] *[dek’ux]
3	*“ӥу æмбал”* / ju / + / ɐmbal / one comrade	*ӥу æмбал* [juɐmbal] *[jumbal]		*“ӥу æнгуылдз”* / ju / + / ɐnguəldz / one finger	*ӥу æнгуылдз* [juɐnguəldz] *[junguəldz]

(Akhvlediani 1963:181)

Table 3.5

As can be seen in (Table 3.4, row 1), the proclitic genitive undergoes sandhi with the noun it modifies when the latter begins with the vowel [ɐ]. When the noun is not ɐ-initial (row 2), no sandhi is observed, and no sandhi is triggered by other determiners (row 3) Although (Akhvlediani 1963:58) also gives cases of such sandhi between fully stressed words : *Нана æрбадзырдта телефонæй - Нана ’рбадзырдта телефонæй* (*nana ɐrbadzərdta telefonɐj - nana ’rbadzərdta telefonɐj* ‘Nana called on the phone’), no such behaviour can be observed on the part of accusative clitic pronouns when they are followed by ɐ-initial elements:

(3.6a) Уый схуытта **мæ** æмбалæм
uəj sxuətta **=mɐ** ɐmbalɐm
3sg.NOM call.3sg.PST 1sg.ACC comrade
He called me comrade

[11] The apostrophe in the standard Ossetic writing system seems to indicate word-initial vowel dropping - ‘aphaerisis’ - similar to English *it is – it’s*, although in Ossetic, this is also accompanied by a change in quality of the remaining vowel *ɐ > e*. Additional evidence in support of the word-initial *ɐ* dropping (rather than the word-final one) can be found in (Akhvlediani 1963:58).

(3.6b) /uəj / + / sxuətta / + / =mʁ / + / ʁmbalʁm /
(3.6c) […mʁ̲ʁ̲mbalʁm]
(3.6d) […*me̲mbalʁm]

Example (3.6a) presents a sentence with the accusative enclitic *mʁ* being followed by an ʁ-initial word. Example (3.6b) shows the underlying representation of this sentence, example (3.6c) shows the observed absence of sandhi between the noun and proclitic in the surface representation of [mʁ̲ʁ̲mbalʁm] while example (3.6d) shows that applying special sandhi following the pattern for the genitive proclitic *mʁ* results in ungrammaticality. Stronger evidence is found in sentences that elicit different interpretations depending on whether their ʁ-initial noun is preceded by an enclitic or a proclitic:

(3.7a) Уый **дæ** æнгульдзæй бацамта
uəj **=dʁ** ʁnguldzʁj batsamta
3sg.NOM 2sg.ACC finger.ABL point.3sg.PST
He pointed at you with a finger
**He pointed with your finger*

(3.7b) Уый **де'**нгульдзæй бацамта
uəj **de=** nguldzʁj batsamta
3sg.NOM 2sg.GEN finger.ABL point.3sg.PST
He pointed with your finger
**He pointed at you with a finger*

Reading [dʁ̲ʁ̲nguldzʁj] as in example (3.7a) only yields the accusative pronoun interpretation and is ungrammatical for a genitive pronoun interpretation. Reading [de̲nguldzʁj] as in example (3.7b) only yields the *genitive* pronoun interpretation and is ungrammatical for an *accusative* pronoun interpretation.

Recognising the nature of enclitics and proclitics, it is possible to give a less stipulative account for Ossetic pronominals than one given in (Bagaev 1965:237):

> The full pronouns can be used in the beginning, middle and end of a sentence. The short forms in the beginning of a sentence can only be in the genitive and comitative cases. For example: *нæ дзыллæйы зæрдæ – мæ хуымгæнды хай, нæ бæсты сагъæстæ – мæ фæззыгон най* (Kosta, Nyfs) (*nв dzəllвyə - mв хиəmgвndə хay, nв bвstə saввstв - mв fвzzəgon nay* "The heart of our people is my tilling ground, the thoughts of our birthland is my autumn threshing.") […]

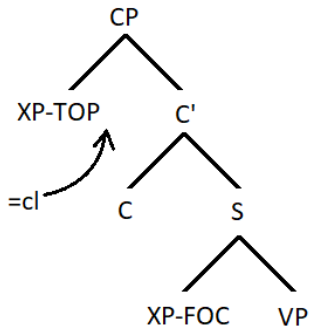
Given the evidence that shows possessive pronouns to be proclitic, it is clear why they can appear at the beginnings of sentences to the exclusion of all other pronoun cases: Other pronouns, being enclitics, need a host to their left, which isn't available at the beginnings of sentences. Possessive pronouns are not affected by that restriction, while pronouns in the comitative case, as noted in the chart above, are not prosodically deficient and therefore do not share the restrictions imposed on clitics. Bagaev goes on to say:

> At the end of a sentence, the short forms of personal pronouns appear in every noun case except the genitive, if the sentence consists only in a simple verb-predicate and personal pronoun (without a subject). For example: *Загътон ын* (*zaвton эn* "(I) told him"), *Бацыдтæн сæм (batsədtвn sвm* "(I) came to their place"), *Райстон сæ* (*rayston sв* "(I) received them"), *Федта йæ* (*fedta yв* "(He) saw him"). (Bagaev 1965:237)

The flip-side of the same phenomenon is described here, whereby possessive pronominals, being proclitic and requiring a host on their right, are excluded from appearing at the ends of sentences, since this places them on a sentence's rightmost edge with no available host. The other pronoun cases, being enclitic, are not affected.

CHAPTER 2: REVIEW OF PREVIOUS ANALYSES

Lowe & Belyaev (2015) attempt to map out Ossetic clause structure and make a number of statements about where clitics are inserted in the Ossetic sentence. They argue for a structure that places topics on the left edge of the clause, before the complementizer position, while foci (focused elements) appear between the verb complex and the complementizer.



Tree 4.1

According to Lowe & Belyaev (2015), "clitics generally follow the first clause-level XP" (Lowe & Belyaev 2015:233). There isn't an assumed definition in the literature about what a "clause-level XP" is, nor do Lowe & Belyaev provide one. Based on their prose about it, I will assume they mean "clause-level XPs" to be "XPs that are in the C-domain". For sentences with topicalisation, this will mean that the first XP is identical to the first topicalised constituent. As a result, for the sentence *Zaur* ***mɐm*** *ɐrbatsəd*i, "Zaur came to me", in which ***mem*** is a clitic, the following grammaticality judgments are predicted:

(4.1a) Заур **мем** æрбацыди
zaur **mɐm** ɐrbatsəd*i*
Zaur 1sg.ALL come.3sg.PST
Zaur came to me

(4.1b) [zaur $_{NP}$] **mɐm** ɐrbatsədi
(4.1c) ***mɐm** [zaur $_{NP}$] ɐrbatsədi
(4.1d) *[zaur $_{NP}$] ɐrbatsədi **mɐm**

Following Lowe & Belyaev (2015), sentence (4.1c) is ungrammatical since the clitic is inserted before the first clause-level XP, [zaur $_{NP}$] and (4.1d) is ungrammatical because the clitic is inserted after the second XP, the verb [ɐrbatsədi $_{VP}$].

Lowe & Belyaev (2015) similarly cite an example sentence which features a topicalised XP in the form of the phrase *zaurə rɐsuʁd tʃəndz*:

(4.2a) [Зауры рæсугъд чыӈдз] **дæм** бадзырдта
zaurə rɐsuʁd tʃəndz **dɐm** badzərdta
Zaur.GEN beautiful bride 2sg.ALL call.3sg.PST
Zaur's beautiful bride called for you

(4.2b) [zaurə rɐsuʁd tʃəndz] **dɐm** badzərdta
(4.2c) *[zaurə **dɐm** rɐsuʁd tʃəndz] badzərdta
(4.2d) *[zaurə rɐsuʁd **dɐm** tʃəndz] badzərdta
(4.2e) *[zaurə rɐsuʁd tʃəndz] badzərdta **dɐm**

(Lowe & Belyaev 2015:233)

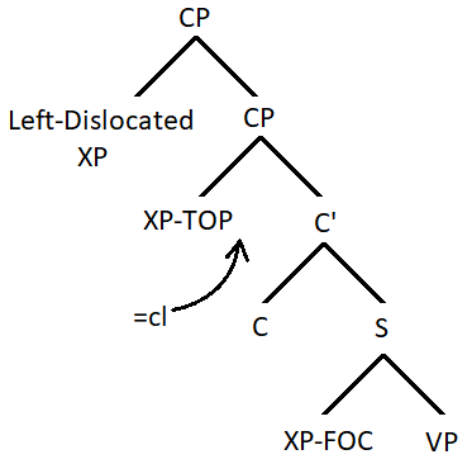
According to Lowe & Belyaev (2015), clitics can only grammatically be inserted following the NP [zaurə rɐsuʁd tʃəndz], as in (4.2b), whereas inserting it inside the NP (4.2c), (4.2d), is ungrammatical, as is inserting it anywhere other than directly after the first NP (4.2e).

Ossetic presents sentences where the clitic appears in positions other than what Lowe & Belyaev (2015) construe as "first clause-level XP". The positioning of a clitic very low in a clause regularly leads to the response that the sentence feels divided and that "a pause is needed". In examples (4.3a-b) a slash indicates where the speaker felt it necessary to pause in sentences with this specific word order.

(4.3a) Мæ чиныг Хетæгкаты тыххæй / лæг **дын** радта
mæ tʃinəg xetæɣkatə təxxæy / læg **dən** radta
1sg.GEN book Khetagurov about man 2sg.ACC give.3sg.PST
The man gave you my book about Khetagurov

(4.3b) Мæ тынг стыр чиныг Хетæгкаты тыххæй / лæг **дын** радта
mæ təng ʃtər tʃinəg xetæɣkatə təxxæy / læg **dən** radta
1sg.GEN very long book Khetagurov about man 2sg.ACC give.3sg.PST
The man gave you my very long book about Khetagurov

The pauses in elicited strings (4.3a-b) are strong indicators that left dislocation has occurred[12]. For sentences where clitics appear later than "after the first XP", Lowe & Belyaev (2015) posit that clitics still follow the initial XP, while all the additional preceding syntactic objects are "considered to be outside the core CP" (Lowe & Belyaev 2015:233) as a result of left dislocation. In Lowe & Belyaev's structure there is therefore an additional extra-clausal domain to which a constituent can move, without affecting the landing site for clitics.



Tree 4.2

[12] Pauses can indicate many syntactic phenomena and aren't especially connected to left dislocation. Nevertheless, the pauses in the given Ossetic sentences seem to reflect a phenomenon comparable to English "Bananas, Bobby likes", where a comma indicates a measurable pause that native speakers of English consistently produce following a focused constituent. Such a pause cannot be observed for sentences without focused constituents, such as "The bananas Bobby likes are yellow". It seems that for speakers of Ossetic, a similar pause appears in the place of a constituent break.

In sum, Lowe & Belyaev (2015) view all clitic behaviour as governed by the rule "clitics land in second position" (Lowe & Belyaev 2015:232). When clitics appear elsewhere, the authors rely on two analyses to justify the deviation:

1) They assign 'positions' to whole constituents, such that if a constituent can be analysed as occupying 'first position', a clitic following it will occupy 'second position':

(4.4a)	Зауры	рæсугъд	чындз	**дæм**	бадзырдта
	zaurə	rɐsuʁd	ʧəndz	**dɐm**	badzərdta
	[Zaur.GEN	beautiful	bride]	=2sg.ALL	call.3sg.PST

Zaur's beautiful bride called for you

In example (4.4a), *dem* is analysed as being in 'second position' because *Zaur's pretty bride* is a constituent and counts as a single block.

2) If the clitic is preceded by more phrasal elements than can be analysed as a single constituent, Lowe & Belyaev (2015) consider them to be left-dislocated:

(4.5a)	Зоныс,		Мерет,	æз	ирон	дæрæстæ	кæй	дарын,	фылдæр
	zonəs	/	meret /	ɐz	iron	dɐrɐstɐ	kɐj	darən	/ fəldɐr
	know.2sg.PRS		Meret	I	Ossetian	clothing	that	wear.1sg.PRS	more

мæ	уый	тыххæй	нæ	уарзы
mɐ	uəj	təxxɐj	nɐ	uarzə
1sg.ACC	that	for	Neg	love.3sg.PRS

You know, Meret, he doesn't like me more because I'm wearing Ossetian clothes

In example (4.5a), *me* is analysed as being in 'second position' because the material preceding it – the discourse marker *zonəs*, and vocative *Meret* - are not part of the core sentence, while [*because I'm wearing Ossetian clothes*] is considered a correlative phrase which lies dislocated outside of the core sentence.

The native speaker judgements that I have obtained put into question the predictions made by Lowe & Belyaev (2015). the statement in (Lowe & Belyaev 2015:233), that "clitics generally follow the first clause-level XP" doesn't give a sufficient definition of XP to account for the following data:

(4.6a) Мæ чиныг Хетæгкаты тыххæй **дын** лæг радта
mɐ tʃinəg xetaɐgkatə təxxɐy **dən** lɐg radta
[My-GEN book Khetagurov about] 2sg.ACC man give.3sg.PST

The man gave you my book about Khetagurov

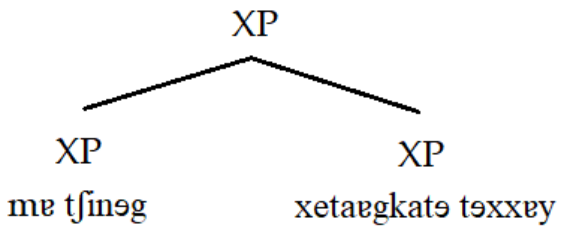
(4.6b) mɐ tʃinəg **dən** xetaɐgkatə təxxɐy lɐg radta
(4.6c) xetaɐgkatə təxxɐy **dən** mɐ tʃinəg lɐg radta

Examples (4.6a-b) show that the clitic **dən** can be inserted following the clause-level XP [mɐ tʃinəg xetaɐgkatə təxxɐy] as well as following an XP nested inside it, [mɐ tʃinəg]. As stated, Lowe & Belyaev (2015) don't define XP clearly enough to account for the differences in placement in (4.6a) and (4.6b).

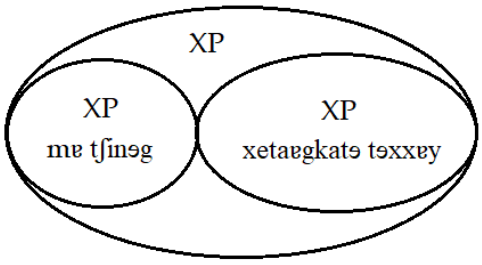
On purely formal grounds, the problem of explaining where the clitic goes in [mɐ tʃinəg xetaɐgkatə təxxɐy], and the inadequacy of applying "first XP" arguments to it, can be shown by means of three equivalent representations of a constituent nested within another, as shown below:

(4.7a) [Ø [mɐ tʃinəg $_{XP}$] [xetaɐgkatə təxxɐy $_{XP}$] $_{XP}$]

(4.7b)



(4.7c)



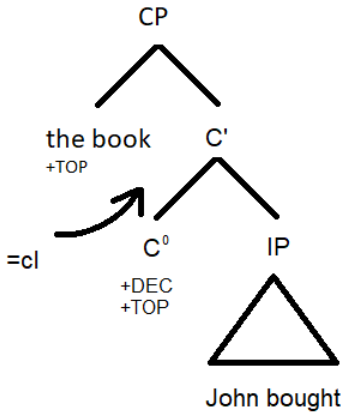
We note that one of these two constituents doesn't "come first" in [mɐ tʃinəg xetaɐgkatə təxxɐy], as (4.7a) shows that there isn't *any* (Ø) distance between the mother XP and the nested XP, as can be seen in (4.7b-c), where the left edge of the mother XP is 'mɐ tʃinəg' and the left edge of the daughter XP is the *same* 'tʃinəg'.

Lowe & Belyaev (2015) don't use the clitic as a heuristic for determining where the edges of a topicalised XP are, rather they posit a rule that states that clitics should follow the "first XP". While this rule can place the clitic in the expected positions for sentences in which a topicalised XP is demonstrable by other means – such as broken constituency when [xetaɐgkatə təxxɐy] is sentence-initial in (4.6c) – this same rule cannot account for whether the clitic should be inserted after [tʃinəg] or after [[tʃinəg] [xetaɐgkatə təxxɐy]] for sentences without left dislocation and without topicalisation. Overall, the formulation "insert clitics after the first XP" isn't viable because "first XP" isn't a syntactic notion:

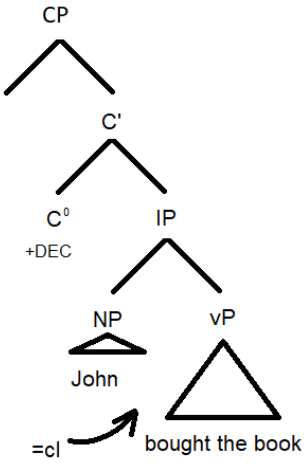
(4.8a) John bought the book

(4.8b) The book, John bought

Sentences in (4.8a-b) are represented with two different trees:



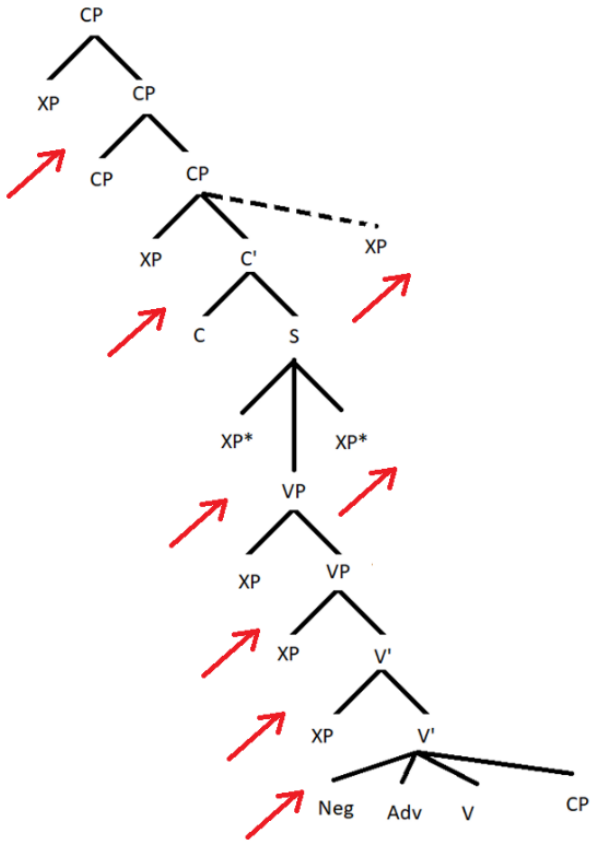
Tree 4.3



Tree 4.4

Inserting the clitic "after the first XP" places the clitic in two different syntactic positions in these trees, - after SPEC CP in Tree 4.3 and after the NP 'John' in Tree 4.4 – since the clitic lands in different syntactic positions, it cannot be said that "after the first XP" is an operation that refers to syntactic mechanisms. "After the first XP" is therefore not a correct analysis.

Lowe & Belyaev (2015) propose a sentence structure for Ossetic, reproduced in Tree 4.5 below:



Tree 4.5

Lowe & Belyaev (2015) state of this tree that "all (terminal) nodes are optional" (Lowe & Belyaev (2015:231). In itself, such a statement is problematic because it frees the theory of all responsibility, since if all terminal nodes are optional, none of them are necessary. Tree 4.5 further shows that depending on whether an XP position is filled or not, there can be 8 different syntactic positions for a clitic to be inserted in, all following from the instruction that clitics are inserted "after the first XP". Therefore when Lowe & Belyaev argue for "after the first XP" to be a syntactic position, as they do when they state it as the means by which "the Ossetic clause can

be unproblematically analysed in purely syntactic terms", they cannot be coherent since in their own model a *single* syntactic position refers to *multiple* positions in a tree.

After testing Lowe & Belyaev's (2015) predicted patterns with a native speaker, I find that their predictions are correct for sentences (4.7b) and (4.7c), but do not match the speaker's grammaticality judgments for sentence (4.7d):

(4.9a) Заур **мем** æрбацыди
zaur **mɐm** ɐrbatsədi
Zaur 1sg.ALL come.3sg.PST
Zaur came to me

(4.9b) zaur **mɐm** ɐrbatsədi
(4.9c) ***mɐm** zaur ɐrbatsədi
(4.9d) *zaur ɐrbatsədi **mɐm**

The native speaker I consulted judged sentence (4.9b) to be grammatical and (4.9c) to be ungrammatical, agreeing with Lowe & Belyaev's (2015) predictions. However, the native speaker judged (4.9d) to be a grammatical sentence as well, which goes counter to Lowe & Belyaev's (2015) prediction. A similar mismatch is observed for sentences (4.10a-e):

(4.10a) [Зауры æсугъд чындз] **дæм** бадзырдта
zaurə rɐsuʁd ʧəndz **dɐm** badzərdta
Zaur.GEN beautiful bride 2sg.ALL call.PST

Zaur's beautiful bride called for you

(4.10b) [zaurə rɐsuʁd ʧəndz] **dɐm** badzərdta
(4.10c) *[zaurə **dɐm** rɐsuʁd ʧəndz] badzərdta
(4.10d) *[zaurə rɐsuʁd **dɐm** ʧəndz] badzərdta
(4.10e) *[zaurə rɐsuʁd ʧəndz] badzərdta **dɐm**

The native speaker agrees with Lowe & Belyaev's predictions for sentences (4.10b-d), but does not confirm their prediction about the acceptability of (4.10e) which, in his judgment, is a grammatical sentence. It is worth noting the structural similarities of sentences (4.9d) and

(4.10e), as both have the clitic at the end of the string. Therefore, the model suggested in (Lowe & Belyaev 2015) is too restrictive as it rules out sentence structures that a native speaker considers grammatical[13].

Other commentators in the literature explicitly claim that sentence-final clitics are possible, contrary to the assertion of Lowe & Belyaev (2015:233). Bagaev (1965) writes: "At the end of a sentence, short forms of personal pronouns, of any noun case save the genitive, can be inserted, provided the sentence only consists in a simple predicate and personal pronoun (without a subject)" (Bagaev 1965:237). I will interpret 'without a subject' as meaning 'without an overt subject' and posit that a subject exists for all Bagaev's example sentences, listed below in (4.11). Though the corresponding pronouns are not expressed overtly, verbal agreement morphology on Bagaev's sentences suggests a (pro) with the corresponding person/number/gender features in each.

(4.11) Загътон **ын**
zaʁton **ən**
(pro) tell.PST.1sg 3sg.DAT
I told him

Бацыдтæн **сæм**
batsədtɐn **sɐm**
(pro) visit.PST.1sg 3pl.ALL
I visited them

Райстон **сæ**
rayston **sɐ**
(pro) receive.PST.1sg 3pl.ACC
I received them

[13] Barring the always-possible circumstance that Lowe & Belyaev (2015) received their data from a speaker whose specific variety of Ossetic has yielded grammaticality judgments that differ from those of the native speaker whom I consult

Федта **йæ**
fedta **yɐ**
(pro) see.PST.3sg 2sg.ACC
he saw him

Лæппу, базыдтон **дæ**
lɐppu, bazədton **dɐ**
Boy.VOC (pro) recognise.PST.1sg 2sg.ACC
Boy, I recognised you

Similarily, Arys-Djanaïeva (2004:88) writes: "All the short forms other than the genitive can be used at the end of a sentence when the subject is implied" Arys-Djanaïeva then lists:

(4.12) Хъусын **дæм**
qusən **dɐm**
(pro) listen.PRS.1sg 2sg.ALL
I'm listening to you

Нана, æрбацæдзынæ **нæм**?
nana ɐrbatsɐdzənɐ nəm
Grandmother (pro) visit.INTR.FUT.2SG 1pl.ALL
Grandmother, will you visit us?

It can be seen from the example sentences (4.11) and (4.12) that Bagaev (1965) and Arys-Djanaïeva (2004) are intent on listing only two-word-long example sentences, where describing a clitic as being in second-position is identical to describing it as sentence-final. The data in (4.13), with multiple positioning options which aren't present in two-word utterances, indicates that Ossetic sentence-final clitics are grammatical.

(4.13) Чиныг радтон асламаей **дын**
tʃinəg radton aslamɐy **dən**
book give.1sg.PST cheaply 3sg.DAT
I gave him a book for cheap

Тар	хъæды	бæлас	калын	нæ	комы	**нын**
tar	qɐdə	bɐlas	kalən	nɐ	komə	**nən**
dark	woods.INESS	tree	felling	not	it.is.allowed	1pl.DAT

In the dark woods, we aren't allowed to fell trees

Радтон	дын	аежнон	**аей**
radton	dən	znon	**ɐy**
give.1sg.PST	2sg.DAT	yesterday	it.ACC

I gave it to you yesterday

As demonstrated, the existing literature paints an incomplete picture of clitic behaviour in Ossetic: The commentary of Bagaev (1965) and Arys-Djanaïeva (2004) offer little in terms of analysis for clitic positions in a sentence, and the examples they do discuss do not delve beyond short sentences where a sentence-final clitic is equivalent to a second-position clitic. The analysis offered by Lowe & Belyaev (2015) has the flaw of using "first position" and "second position" as theoretical concepts. This is an unproductive approach considering Lowe & Belyaev (2015) seek to explain clitic behaviour using structure, which relies on hierarchical relations, rather than positions in a linear order. The Ossetic clause structure proposed by Lowe & Belyaev (2015) on one hand gives so many possible landing sites for clitics that it can conceivably account for a clitic even in positions that a native speaker would consider ungrammatical. On the other hand, Lowe & Belyaev's (2015) model makes a number of predictions for clitic positions that make a sentence ungrammatical, and some of their predictions disagree with the judgments of a native speaker. In what follows, I intend to analyse a selection of syntactic phenomena in Ossetic that involve clitics. My primary data consists of grammaticality judgments I have procured from a native speaker, and I will use a minimalist framework of syntax to account for the distribution of clitics in this data.

CHAPTER 3: ANALYSIS

As discussed in the previous chapter, existing analyses of clitics in Ossetic don't account for several aspects of clitics' behaviour. In what follows, I provide sentences that are representative of some of this behaviour, and tentative explanations for the factors that determine whether these sentences are grammatical or ungrammatical. Section A introduces some uncontroversial characteristics of Ossetic clitics on the basis of a sentence with negation, section B accounts for clitics' positions in a set sentence that make the sentence ungrammatical, section C considers clitics' phonological movement and Section D discusses more general aspects of Ossetic syntax by looking at the relation of verbs and question particles.

Section A

The first environment that gives solid evidence for the special behaviour of clitics in Ossetic is between the verb and the negative particle.

(5.1a) Знон радтон дæуæн чиныг
znon radton dɐwɐn tʃinəg
Yesterday give.1sg.PST 2sg.DAT book
Yesterday I gave you a book

(5.1b) Знон нæ радтон дæуæн чиныг
znon nɐ radton dɐwɐn tʃinəg
Yesterday Neg give.1sg.PST 2sg.DAT book
I didn't give you a book yesterday

Examples (5.1a-b) show that negation in Ossetic consists of the Neg particle *nɐ* appearing before the verb.

(5.2a) *znon **radton nɐ** dɐwɐn tʃinəg

(5.2b) *znon **nɐ** tʃinəg **radton** dɐwɐn

(5.2c) *tʃinəg **nɐ** znon **radton** dɐwɐn

Example (5.2c) shows that the particle must appear to the left of the verb. Examples (5.2b-c) show that fully stressed elements cannot separate the Neg particle from the verb.

(5.3a) *znon nɐ dɐwɐn radton tʃĭnəg

(5.3b) Знон нæ **=дын** радтон чиныг
znon nɐ **=dən** radton tʃĭnəg
Yesterday Neg =1sg.DAT give.1sg.PST book
I didn't give you a book yesterday

Example (5.3a) shows that the fully stressed pronoun *dɐwɐn* likewise makes the sentence ungrammatical if inserted between the Neg particle and the verb, however sentence (5.3b) shows that if the 2sg pronoun is expressed with the enclitic *dən*, it exceptionally *can* be inserted between the Neg particle and the verb. Enclitics therefore have the ability to interrupt a sequence that no other element can interrupt. The most viable way to account for this exception is by stating that syntactic computation does not have a mechanism that places elements between the verb and its negative particle, therefore making it impossible for anything to land between *nɐ* and *radton*. Enclitics, however, are bound not only by syntactic requirements, but also by *phonological* ones. Not being fully stressed, enclitics must lean on an adjacent element to their left. If one is not present following the enclitic's syntactic movement, a phonological operation makes the enclitic undergo the minimal movement required to have a left-side element to lean on. Through this lens, example (5.3b) suggests that the enclitic could not lean on the left-side element *znon* and had to phonologically insert itself to the right of the negative particle. However:

(5.4a) znon **dən** nɐ radton tʃĭnəg
yesterday 2sg.DAT Neg give.1sg.PST book
yesterday I didn't give you a book

(5.4b) *znon, **dən** nɐ radton tʃĭnəg

(5.4c) znon, nɐ **dən** radton tʃĭnəg (=5.3b)

Examples (5.4a-c) show that *znon* is fully capable of hosting the enclitic and that the conditions for its phonological movement are created when a prosodic separation occurs between *znon* and the rest of the sentence, making *znon* unavailable as a host.

Hand-in-hand with clitics' special placement comes their special ungrammaticality:

(5.5a) dɐwɐn znon tʃinəg nɐ radton
2sg.DAT yesterday book Neg give.1sg.PST
I didn't give you a book yesterday

(5.5b) *=**dən** znon tʃinəg nɐ radton
=2sg.DAT yesterday book Neg give.1sg.PST
I didn't give you a book yesterday

Examples (5.5a-b) show that, contrary to their fully stressed counterparts, enclitic pronouns cannot be inserted in the beginning of a sentence.

(5.6a) xetaɐgkatə təxxɐy tʃinəg, dɐwɐn znon radton
Khetagurov about book 2sg.DAT yesterday give.1sg.PST
Yesterday I gave you a book about Khetagurov

(5.6b) *xetaɐgkatə təxxɐy tʃinəg, =**dən** znon radton
Khetagurov about book =2sg.DAT yesterday give.1sg.PST
Yesterday I gave you a book about Khetagurov

(5.6c) *nɐ, =**dən** radton tʃinəg znon
Neg =2sg.DAT give.1sg.PST book yesterday
I didn't give you a book yesterday

Examples (5.6a-b) show that, similarly, enclitic pronouns cannot appear following a pause (indicated by a comma), example (5.6c) shows that a clitic's ability to separate a Neg particle from a verb is nullified if the Neg particle is followed by a pause.

Section B

Of multiple possible positions in which the enclitic dative pronoun *nən* might be placed in sentence (5.7a), some are ungrammatical.

(5.7a) Тар хъæды бæлас нын калын нæ комы
tar qɐdə bɐlas **nən** kalən nɐ komə
dark woods.INESS tree 1pl.DAT felling Neg allow.3sg.PRS
In the dark woods, we aren't allowed to fell trees

(5.7b) ***nən** tar qɐdə bɐlas kalən nɐ komə

Being an enclitic, *nən* needs to have preceding material to lean against, which makes (5.7b) ungrammatical.

(5.8a) *[tar **nən** qɐdə] [bɐlas kalən nɐ komə]

(5.8b) tar qɐdə **nən** bɐlas kalən nɐ komə

Sentence (5.8a) has the clitic *nən* interrupt a PP that lies outside of the clitic's sentential domain: The PP [tar qɐdə] specifies the location of the entire VP [bɐlas nən kalən nɐ komə] and as such lies outside the scope of the clitic's movement. While *nən* cannot interrupt the PP [tar qɐdə], it can lean on it as in (5.8b).

(5.9) *tar qɐdə bɐlas kalən nɐ **nən** komə

In (5.9), the enclitic comes between the verb and the negative particle, which form a constituent. However, examples (5.3b) and (5.4b) from above, repeated here for convenience as (5.10a-b), show that Ossetic enclitics can grammatically interrupt this constituent.

(5.10a) Знон нæ =дын радтон чиныг
znon nɐ =dən radton tʃinəg
Yesterday Neg =2sg.DAT give.1sg.PST book
I didn't give you a book yesterday

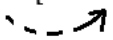
(5.10b) *znon, dən nɐ radton tʃinəg

In the case of (5.10a) however, the first element of the sentence, *znon*, can be trivially separated by a prosodic boundary and be made unavailable for the clitic to lean on. When the prosodic boundary is clearly articulated, as in (5.10b), the enclitic makes the sentence ungrammatical and *needs* to be placed between the Neg particle and the verb. An explanation for the ungrammaticality of sentence (5.9) could be that a prosodic boundary is impossible inside the VP [kalən [nɐ komə]], making sentence (5.11), with a comma indicating the prosodic boundary, ungrammatical:

(5.11) *tar qɐdə bɐlas kalən, nɐ komə
dark woods.INESS tree felling Neg allow.3sg.PRS
In the dark woods tree felling, is not allowed

Assuming that sentence (5.11) is ungrammatical and that a prosodic boundary after the fully-stressed element kalən is impossible, the enclitic *nən*, when in position [kalən **nən** [nɐ komə]], is necessarily hosted by kalən. As a result, no variant sentence is possible where a prosodic boundary, [kalən // **nən** [nɐ komə]], would block *nən* from encliticising on kalən. Had such a boundary existed, *nən* would undergo a 'prosodic flip', (which will be discussed below), and would move to find a host in the nearest available fully-stressed element, as shown in sentence (5.12):

(5.12) [kalən // **nən** [nɐ **nən** komə]]



Section C

As previously discussed, being defined by the property of lacking stress, enclitics are known to require a phonological host. Enclitics by definition require this host to be on their left.

This property entails that, if syntactic movement brings a clitic to a position where it cannot find a host, it has to undergo additional movement to satisfy its phonological requirements. Clitics therefore undergo movement on two levels of grammar:

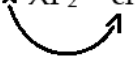
- An enclitic can move at the level of syntax, undergoing head movement to some well-defined syntactic position (Hale 2007), which is a familiar property of fully-stressed lexical items.
- A clitic can move at the level of phonology, undergoing what is known as a 'prosodic flip' (Halpern 1992). This property distinguishes clitics from fully-stressed lexical items because the prosodic flip relies on the absence of stress. For an enclitic, in cases where there is no host to its left, the enclitic will move to the left of the closest stress-bearing element. This procedure is crucially not syntactic and isn't sensitive to syntactic categories but rather to phonological ones. A 'stress-bearing' element can be a number of things, such as an intonational group, a phonological phrase or a phonological word.

Understanding that enclitics can be subject to these two kinds of movement, we can assume two possible underlying representations for a sentence that features a clitic:

(5.13a) SR: XP_1 XP_2 =cl XP_3

(5.13b) UR 1: XP_1 XP_2 =cl XP_3

(5.13c) UR 2: XP_1 ~~XP_2~~ XP_2 =cl XP_3



Example (5.13a) shows the surface representation of a given sentence. Example (5.13b) is the first possible underlying representation of (5.13a), in which the clitic is either base-generated in the position between elements XP_2 and XP_3 or lands in that position as a result of syntactic

movement. Sentence (5.13c) is the second possible underlying representation of (5.13a), in which the enclitic either originates in or syntactically moves to the position between XP_1 and XP_2 but, failing to find a phonological host, moves to the closest position where a phonological host is available. Therefore, if the surface form of a sentence of the type (5.13a) is ungrammatical because of its clitic, two explanations for this ungrammaticality are possible.

(5.14a) Знон **дын** радтон чиныг Хетæгкаты тыхаей
znon **dən** radton tʃinəg xetaʁgkatə təxxʁy
yesterday 2sg.DAT give.1sg.PST book Khetagurov about
yesterday I gave you a book about Khetagurov

(5.14b) *znon radton [tʃinəg [xetaʁgkatə =**dən** təxxʁy $_{PP}$] $_{NP}$]

(5.14c) *znon radton [popugay [kletkayə =**dən** χuəlfə $_{PP}$] $_{NP}$]
yesterday give.1sg.PST parrot cage you.DAT inside

(5.14d) *znon radton [tʃinəg $_{NP}$] [bʁlasə =**dən** bən $_{PP}$]
Yesterday give.1sg.PST book tree under

(5.14e) znon radton [tʃinəg =**dən** [xetaʁgkatə təxxʁy $_{PP}$] $_{NP}$]

Sentence (5.14b) is ungrammatical, and its ungrammaticality seems to be caused by the presence of the enclitic inside the postpositional phrase. Sentences (5.14c) show that this stays true for lexically different postpositional phrases, sentence (5.14d) shows that this stays true when the postpositional phrase is sentential rather than specifying a noun phrase. This sentence type becomes grammatical (5.14e) once the clitic is outside the PP [xetaʁgkatə təxxʁy].

(5.15a) SR: *tʃinəg [xetaʁgkatə =**dən** təxxʁy]

(5.15b) UR 1 : XP_1 [XP_2 =cl XP_3]

(5.15c) UR 2 : XP_1 ✖[XP_2 =cl XP_3]

In (5.15a), tʃinəg [xetaɐgkatə =**dən** təxxɐy] is equivalent to the string XP_1 [XP_2 =cl XP_3]. With the insight that clitics can have two underlying representations behind their surface position, (5.15b) and (5.15c), we note that (5.15b) is theoretically impossible because it would mean that a clitic syntactically originates inside a constituent. A string like (5.15a) can therefore only theoretically occur if the clitic has moved to a position directly in front of it and, not finding a host, has moved after the closest available fully-stressed element, as in (5.15c). The ungrammaticality of (5.15a) therefore lies in the fact that 'tʃinəg' in [tʃinəg xetaɐgkatə =**dən** təxxɐy] is unequivocally a fully-stressed element and the phonological movement of an enclitic, which is the only process by which an enclitic could occur in the middle of a PP, is precluded.

(5.16a) … *tʃinəg [xetaɐgkatə =**dən** təxxɐy]

(5.16b) … radton [tʃinəg =**dən** [xetaɐgkatə təxxɐy $_{PP}$] $_{NP}$]

(5.16c) UR 1: XP_1 [XP_2 =cl XP_3]

(5.16d) UR 2: XP_1 ✖[XP_2 =cl XP_3]

The grammatical sentence (5.16b), challenges this explanation, because [tʃinəg =**dən** [xetaɐgkatə təxxɐy $_{PP}$] $_{NP}$] is as much a constituent as [xetaɐgkatə təxxɐy $_{PP}$] is, so the enclitic *dən* cannot have syntactically originated inside a constituent as per scenario (5.16c) and must have landed there as a result of phonological movement (5.16d). Further, much as in (5.16a), which has the fully-stressed element *tʃinəg* in front of the PP, sentence (5.16b) has the fully-stressed element *radton* in front of the NP. Therefore, the same conditions that made (5.16a) ungrammatical are present in (5.16b), yet (5.16b) is a well-formed sentence. Significantly, we cannot ascribe these results to the difference between an NP and a PP, because these are syntactic categories, whereas the only movement we can take into consideration is phonological movement, which isn't sensitive to syntactic categories.

As a result, the proposed explanation for these differing grammaticality judgments is that elements can move out of NPs but aren't free to move out of PPs.

(5.17a) Ваня любит желтые бананы
vanʲa lʲubʲit ʒoltɨye bananɨ
Ivan love.3sg.PRS yellow bananas
Ivan loves yellow bananas

ʒoltɨyə vanʲə lʲubʲit bənanɨ
It is the yellow bananas that Ivan loves

(5.17b) Банан лежит на деревянном столе
banan lʲeʒɨt na dʲerʲevʲannəm stəlʲe
Banana lie.3sg.PRS on wooden.PREP table.PREP
The banana lies on a wooden table

*dʲerʲevʲannəm banan lʲeʒɨt na stəlʲe

In these examples from Russian, sentence (5.17a) shows that you can move an adjective out of an NP, sentence (5.17b) shows that you cannot move an adjective out of a PP.

(5.18a) ɐʒnon radton ✗ tʃinəg **=dən** [tʃinəg kutuzovə təxɐy $_{NP}$]

(5.18b) * ɐʒnon radton tʃinəg ✗ kutuzovə **=dən** [kutuzovə təxɐy $_{PP}$]
*

It may therefore be argued that (5.18a) is acceptable because *tʃinəg* can move out of its NP and host the clitic while (5.18b) *xetaɐgkatə* cannot move out of its PP to do the same.

(5.19a) ɐʒnon radton / ✗ [tʃinəg **=dən** kutuzovə təxɐy $_{NP}$]

(5.19b) * znon radton tʃinəg=dən [xetaɐgkatə təxxɐy $_{PP}$]

Another possible explanation is the positing of a prosodic boundary in (5.19a), forcing the clitic to interrupt an NP in search of a fully-stressed host, but no prosodic boundary can be posited in

(5.19b), making the interruption of a PP unmotivated. However, sentences in (5.20) show that any interruption, or reordering, or both, of the PP [xetaʁgkatə təxxʁy] leads to ungrammaticality:

(5.20) * znon radton təxxʁy xetaʁgkatə **dən** tʃinəg
* tʃinəg xetaʁgkatə **dən** təxxʁy znon radton
* xetaʁgkatə radton təxxʁy **dən** tʃinəg znon
* radton xetaʁgkatə **dən** təxxʁy tʃinəg znon
* kʁd xetaʁgkatə tʃinəg **dən** təxxʁy radton znon
* xetaʁgkatə kʁd tʃinəg təxxʁy **dən** znon radton
* xetaʁgkatə tʃinəg təxxʁy kʁd **dən** znon radton

For examples in (5.20), positing a prosodic boundary for each sentence is an inelegant ad hoc solution. Moreover, an enclitic often cannot flip into constituents even from the front of the sentence, where it is clearly lacking a host on its left:

(5.21a) *xetaʁgkatə **dən** təxxʁy radton tʃinəg

(5.21b) *зæронд **йын** чиныг радтон
*zʁrond **yən** tʃinəg radton
old 3sg.DAT book.ACC give.1sg.PST
I gave him an old book

(5.21c) ?тынг **йын** зæронд чиныг радтон
?təng **yən** zʁrond tʃinəg radton[14]
very 3sg.DAT old book.ACC give.1sg.PST
I gave him a very old book

It is ungrammatical for an enclitic to interrupt a PP (5.21a), an NP (5.21b) and an AdjP (5.21c).

(5.22) * [xetaʁgkatə =**dʁr** təxxʁy PP] tʃinəg radton
* [xetaʁgkatə =**ta** təxxʁy PP] tʃinəg radton
* [xetaʁgkatə =**ma** təxxʁy PP] tʃinəg radton
* [təng =**dʁr** zʁrond AdjP] tʃinəg radton
* [təng =**ma** zʁrond AdjP] tʃinəg radton

[14] Speaker conceded with great strain that this sentence is acceptable, then rejected it upon a subsequent review

These restrictions are true for pronominal clitics as much as for sentential clitics such as *dær* 'also', *ta* 'again, but', and *ma* 'still, more, just' (5.22)

(5.23) [təng =**dam** zærond $_{AdjP}$] ʧinəg radton
[təng zærond =**dam** ʧinəg $_{NP}$] radton
[xetaægkatə =**dam** təxxæy $_{PP}$] ʧinəg radton

One clitic that seems more capable of interrupting constituents is the quotative *dam* 'they say' clitic. However, there are both grammatical cases of constructions such as in (5.22) and ungrammatical cases of constructions such as (5.23)

Section D

Another regularity that can be observed in Ossetic is revealed by the following grammaticality judgments:

(5.24a) kæd radton **=dən** znon ʧinəg
When give.1sg.PST =2sg.DAT yesterday book
When did I give you a book yesterday?

(5.24b) *radton kæd **=dən** znon ʧinəg

(5.24c) ʧinəg **=dən** znon kæd radton xetaægkatə təxxæy
book =2sg.DAT yesterday when give.1sg.PST Khetagurov about
When did I give you a book about Khetagurovyesterday?

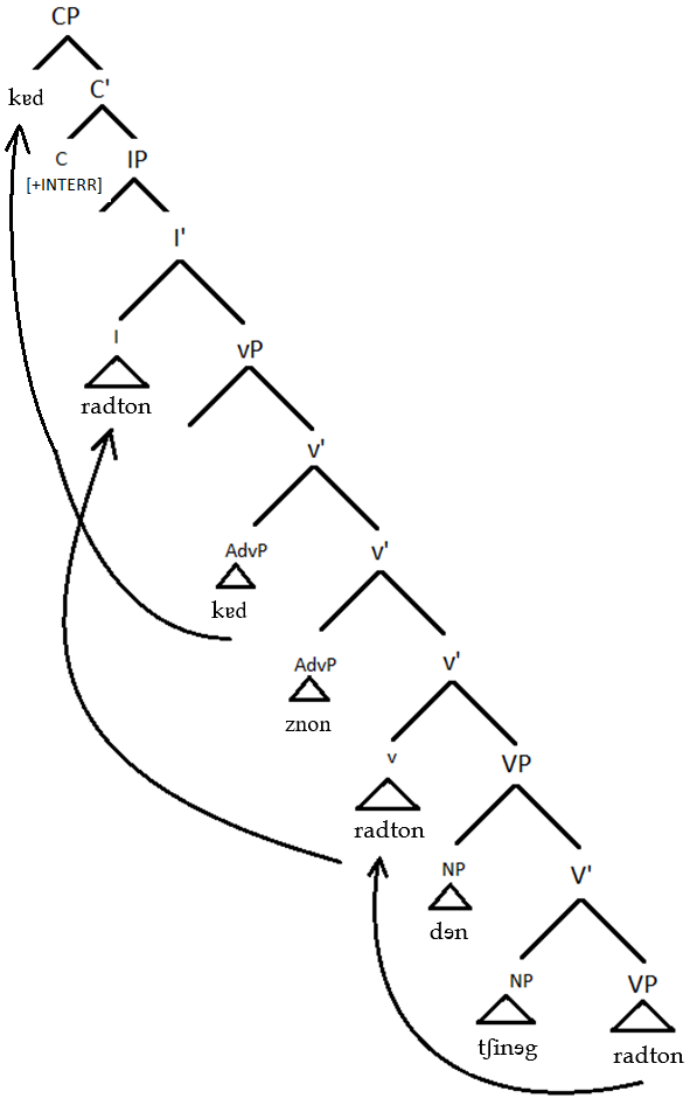
(5.24d) *radton ʧinəg **=dən** znon kæd xetaægkatə təxxæy

Sentences in examples (5.24a, c) show the question word *kæd*, 'when', appearing before the verb of the sentence. Examples (5.24b, d) show that, all other things being equal, placing the verb anywhere in front of *kæd* results in ungrammaticality. These patterns reinforce the postulation of V-I-C movement, as presented in Belletti (1990), which holds that the highest position in a tree structure is reserved for wh-words and operator-type elements, while verbs undergo movement from the V domain which they initially project, to the I domain in which they receive agreement

morphology, to the C domain where they move for information structuring. Due to the head-to-head movement constraint and *kɐd*'s assumed position as the specifier of C, the verb *radton* cannot appear ahead of *kɐd* without making the sentence ungrammatical.

The structure for a grammatical string (5.25a) is outlined in Tree 5.1 below.

(5.25a) kɐd radton znon **=dɔn** tʃinɔg
When give.1sg.PST yesterday =2sg.DAT book
When did I give you a book yesterday?

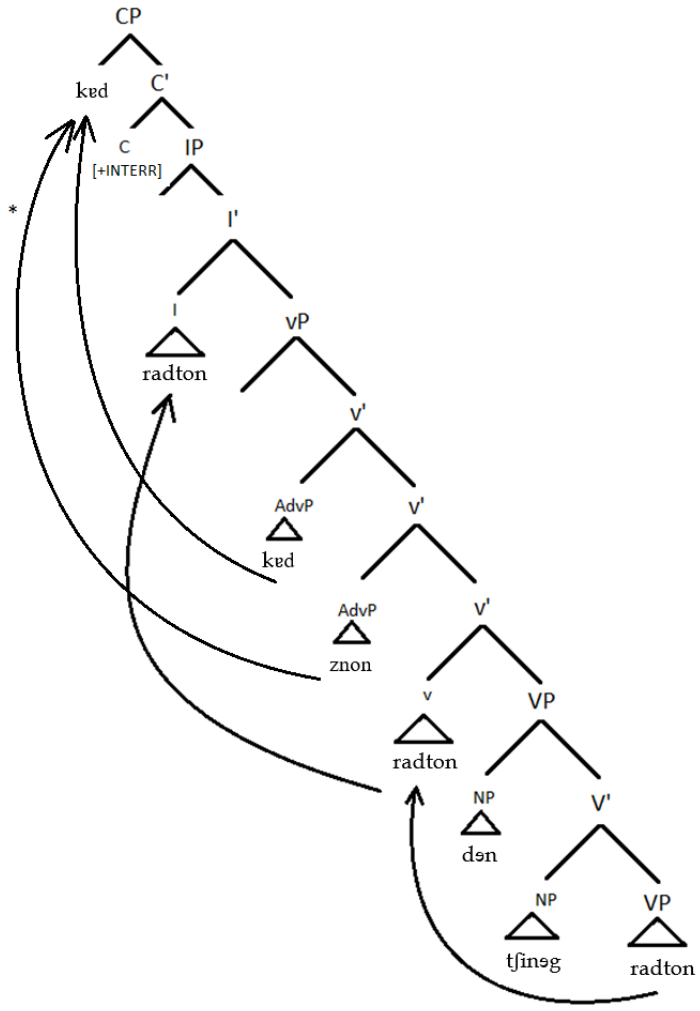


Tree 5.1

Tree 5.1 illustrates the movement of *kæd* SPEC, CP to satisfy question formation in Ossetic. This can account for the ungrammaticality of sentence (5.26a), in which the adverb *znon* can only appear in front of the verb *radton* if structurally it has a landing site in SPEC, CP.

(5.26a) *kæd znon radton **=dən** tʃinəg
When yesterday give.1sg.PST =2sg.DAT book
When did I give you a book yesterday?

In sentence (5.26a) however, SPEC, CP is already filled with the raised question *kæd*, as seen in Tree 5.2 below.

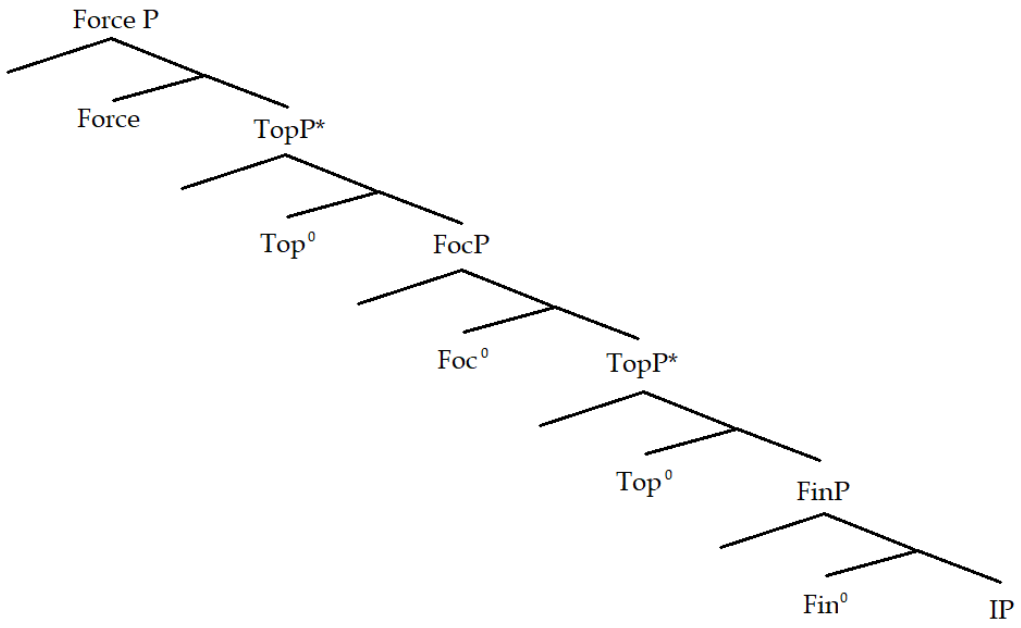


Tree 5.2

Rizzi (1997) offers an expanded CP which potentially provides more landing sites to account for the movement of additional elements. Rizzi (1997) subdivides the CP into the following positions:

1. FORCE, which expresses the sentence's clausal type (declarative, interrogative, relative, etc.)
2. TOPIC, which fronts elements that reiterate information from previous clauses.
3. FOCUS, which fronts elements that introduce new information.
4. FINITENESS, which sets agreement specifications between C and I (the English complementizer *that* specifies for tensed verbs in I; the complementizer *for* specifies for infinitives.)

These distinctions lead Rizzi (1997) to a map of the C domain, seen in Tree 5.3 below.



Tree 5.3

Tree 5.3 allows Rizzi (1997) to account for various phenomena in Italian, such as the difference in ordering relative pronouns versus question pronouns with respect to a Topic phrase (Rizzi

1997:298) and the possible permutations of Topic and Focus phrases (Rizzi 1997:295). However Rizzi finds that Focus phrases and question pronouns are incompatible in Italian:

(5.27a) *A chi IL PREMIO NOBEL dovrebbero dare?
To whom the prize Nobel have.COND.3pl give?

The *Nobel Prize*, whom should they give to?

(5.27b) *IL PREMIO NOBEL a chi dovrebbero dare?

Sentences (5.27a-b) show that the question pronoun *a chi* and the Focus phrase *IL PREMIO NOBEL* are ungrammatical no matter their order. On this basis, Rizzi argues that the question operator must land in SPEC Foc, "hence focalised constituents and question operators compete for the same position and cannot co-occur." (Rizzi 1997:298)

Ossetic seems to share this restriction:

(5.28a) kæd radton **=dən** znon tʃinəg
When give.1sg.PST =2sg.DAT yesterday book
When did I give you a book yesterday?

(5.28b) *radton kæd **dən** znon tʃinəg
*radton **dən** znon kæd tʃinəg
*znon tʃinəg radton kæd **dən**
*znon tʃinəg radton **dən** kæd

For sentence (5.28a), any movement of the verb *radton* in front of the question word *kæd,* as in (5.28b), is ungrammatical.

CHAPTER 4: CONCLUDING REMARKS

This paper sought to highlight clitics as behaving in a way that can be used to gain insight into sentence structures that are otherwise hidden from observation. Chapter 1 first gave a brief summary of some aspects of theoretical models in minimalist syntax, then gave an overview of the special behaviour of clitics in syntactic contexts and finally gave an overview of the Ossetic language as well as the specifics of its own clitic inventory. Chapter 2 provided a summary of previous literature that treated clitics in Ossetic, commenting on Bagaev's (1965) and Arys-Djanaïeva's (2004) observations on the linear distribution of clitics, and especially discussing Lowe & Belyaev's (2015) analysis within an LFG framework. Chapter 3 examined several cases of observed ungrammaticality in sentences with clitics, offering explanations for what makes them ungrammatical based on structure and on syntactic as well as phonological movement.

As shown, a single sentence can be structurally ambiguous, meaning that the way its syntactic elements are grouped together can sometimes not be obviously deduced from its word order, yet different subgroupings can significantly affect how the sentence is interpreted. Seeing how clitics shed light on some cases of structural ambiguity, more careful research into their behaviour will lead to a better method of interpreting the meanings that languages convey.

The language I have focused on, Ossetic, uses a repertoire of clitics, yet most research that concerns the language predates or ignores analyses that rely on the theoretic notion of

constituency[15]. It is hoped that research that takes this direction will contribute to a more precise and better-informed grammar of the Ossetic language.

Significantly, Ossetic is a living language with native speakers against whose judgments one can test theoretically constructed sentences. Moreover, an online written corpus of Ossetic exists, which gives quick access to a great amount of data (12 million tokens) and serves as a preliminary verification for whether a given structure is frequent, occurs in questionable contexts or is altogether unattested.

By using Ossetic as a fertile grounds for clarifying aspects of clitic behaviour, I hope to contribute to the toolkit used for analysing the syntax of natural human language as a whole. The broader goal is then to achieve a better understanding of the organisation of the human mind, since syntax is a critical component of the human mental computational system. It is hoped that a further careful examination of clitic behaviour in living languages such as Ossetic will allow for a better way of interpreting the meanings encoded by languages' syntax and, more broadly, lead to an understanding of the workings of the human mind.

[15] Although some research on Ossetic that uses modern conceptual frameworks exists, notably Lowe & Belyaev (2015)

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