

A typological analysis of the *Chained-Aorist* construction in Ayt Atta Tamazight (Berber)

Simone Mauri

Clause-linking mechanisms are subject to cross-linguistic variation. As far as non-subordinate clauses are concerned, any combination of two clauses may show two predicates mutually equal or different in terms of finiteness: these are known as co-ranking and clause-chaining structures, respectively (Longacre 2007: 375). Clause-chaining constructions show two structural possibilities, namely medial-final and initial-medial chaining, depending on whether the more-finite verb follows or precedes the less-finite one. Clause-chaining constructions are found in unrelated language families scattered across the globe, including Afroasiatic (Longacre 1990). However, the existing typological literature on the topic has totally neglected Berber, another Afroasiatic language. This work focuses on a clause-linking strategy found in Ayt Atta Tamazight (Berber, henceforth AAT) and in other Berber languages, the so-called *Chained-Aorist* construction (henceforth C-AOR). Stemming from my fieldwork on AAT, this paper provides an innovative typological analysis of C-AOR, analysing it in terms of initial-medial clause chaining.

Keywords: Berber, Aorist, clause linking, clause chaining, discourse structure

1. Introduction¹

Berber languages (Afroasiatic) are spoken in the whole Maghreb over a vast area from Mauritania and Morocco in the west, through Algeria and Tunisia into Libya in the east, and even further east in Egypt, where the oasis of Siwa hosts its easternmost variety; in the south, Berber is spoken by the Tuareg populations of southern Algeria and Libya, Mali, Niger, and Burkina Faso.

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Ayt Atta Tamazight (henceforth AAT) is part of the Tamazight dialect continuum (ISO 639-3: *tzm*), a cluster of closely-related Berber varieties spoken from the Middle Atlas down to the Anti Atlas region, in South-East Morocco (Amaniss 2009, Hart 1981, 1984, Mauri 2015, Taïfi 1991). The AAT variety described here² is the one spoken by the Ayt Lfrsi community in the eponymous village situated in the Jbel Saghro area. The Ayt Lfrsi are a small fraction of the larger Ayt Atta “supertribe” (Hart 1981, 1984).

AAT displays a number of morphosyntactic characteristics which make it similar to many other Berber varieties, notably the use of non-concatenative morphology, VSO order, and the presence of a *state* alternation, a case-like distinction which has generated considerable debate in the literature (Aikhenvald 1995, Mettouchi and Frajzngier 2013, Sasse 1984).

The verbal system of AAT includes several stems, notably the Perfective, the Imperfective, and the Imperative/Aorist.³ Formal differences among stems are achieved via non-concatenative morphology and affixation. The Perfective and the Imperfective are inflected by person, number, and gender, while expressing meanings generally associated with their corresponding semantic category: a Perfective verb form mainly expresses the notion of completion, whereas an Imperfective one has durative/progressive/habitual meaning, depending on the TAM particle preceding it. Two examples are provided below:

- (1) *t-mmut* *mma=nsn*
 3SG.F-die.PFV mother=3PL.M.POSS
 ‘Their mother died’
- (2) *j-kk* *a-brid* *a-jffas* *ar* *j-ttini*
 3SG.M-TAKE.AOR AS-road AS-right TAM 3SG.M-say.IPFV
 ‘[...] he took the road on the right and started saying [...]’

On the other hand, the Imperative (used for commands) and the Aorist (see below) essentially share the same stem, although they differ in that the Imperative has its own set of subject agreement endings, whereas the Aorist carries person-number-gender agreement, as shown in (3) and (4):

- (3) *ddu-Ø*
 go.IMP-2SG
 ‘Go!’

2. As far as AAT data are concerned, these are transcribed according to IPA conventions, whereas all glosses and translations are the author’s responsibility. As for other Berber varieties, the published data are here as closely as possible adapted to the conventions used in this paper. English translations have been provided by the author whenever necessary. Finally, all non-Berber data have been glossed based on the grammatical information originally provided by the authors.

3. One more stem is attested, namely the Negative Perfective, which is used in negative clauses.

- (4) *is t-ri-t* *ad t-ddu-t*
 Q 2SG-want.PFV-2SG TAM 2SG-go.AOR-2SG
 'Do you want to go?'

Another feature of the AAT verbal system is the presence of a number of preverbal particles carrying TAM semantics, as seen in (2) and (4), above. This paper adopts the expression *TAM-V* as a unifying tag indicating any TAM-marked form, including both verbs alone (e.g. an Imperative form) and particle-verb compounds (e.g. *ar-Imperfective*).

The Aorist can be either preceded by one of a number of TAM particles or used alone, in its *bare* form: these two scenarios are here referred to as *TAM-AOR* and *B-AOR*, respectively. Both TAM-AOR and B-AOR subsume a number of constructions, as schematically summarised in Figure 1:

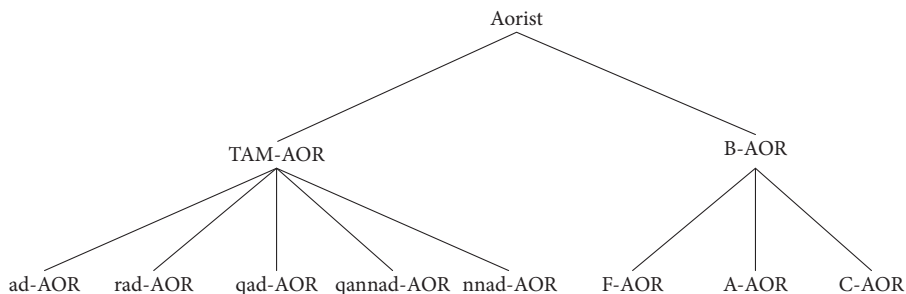


Figure 1. The Aorist in AAT

The TAM-AOR forms listed above express a number of meanings pertaining to the temporal/modal domains. A detailed presentation of all the TAM forms is beyond the scope of the present paper. However, a couple of AAT examples are given below (for an overview of the semantics of Aorist across Berber, see Belkadi 2013):

- (5) *ku jan ad j-amz^ɛ lhq=nns*
 every one.M TAM 3SG.M-take.AOR share=3SG.POSS
 'Everybody is going to take his own share'
- (6) *ra ddu-k s ssuq*
 TAM go.AOR-1SG to market
 'I will go to the market'

In (5), the combination of particle *ad* and Aorist verb form expresses irrealis mood, whereas the use of *ra* and Aorist expresses intention in (6).

As far as B-AOR constructions are concerned, these consist in the use of the Aorist without any preceding particle. Three possibilities are attested: the Aorist form can occur in an independent clause, it can be found in a main clause

following a temporal adverbial clause, or it can be *chained* to a preceding TAM-V from which it derives its TAM interpretation: these structures are here referred to as *Free Aorist* (F-AOR), *Apodosis-Aorist* (A-AOR), and *Chained Aorist* (a calque from French *aoriste enchaîné* – henceforth C-AOR), respectively.

The F-AOR construction is arguably rare in both AAT and other Berber varieties (see Bentolila 1981: 150–151, Chaker 1983: 227ff., Taine-Cheikh 2009). Two AAT examples are given below:

- (7) *datɣima n-nkr g w-mzwaru nɛd llawkbar*
 sometimes 1PL-get_up.AOR in DS-Fajr_prayer or Allahu akbar
 ‘Sometimes we would get up at *Fajr* or at *Allahu akbar*’
- (8) *ku Ø-ass j-uru t-a-brat-t*
 every AS-day 3SG.M-write.AOR F-AS-letter-F
 ‘Every day he writes a letter’

In (7) and (8), the Aorist forms *nkr* and *juru* are not dependent on any other verb for their interpretation: their habitual value is likely to stem from the clause-initial adverbs, which frame both clauses as involving repetition.⁴ For some observations on F-AOR in Berber, see Mauri (2015).

The bare Aorist is also found in what is here referred to as Apodosis Aorist. The label indicates that the Aorist is the predicate of an apodosis clause which follows a subordinate temporal clause introduced by a temporal subordinator (for a similar use of ‘apodosis’ in temporal rather than conditional contexts, see Frajzyngier 1996: 303ff.). As such, A-AOR involves subordination (as opposed to C-AOR, see below), but it is interesting in that the bare Aorist here marks the main clause rather than the subordinate one. This construction is also attested elsewhere in Berber, e.g. in Ayer Tuareg (Kossmann 2011: 155). An AAT example is given in (9):

- (9) *dinnag=i t-tɛtfa g w-dʿar asj-ɛ jan*
 when=1SG.ACC 3SG.F-eat.PFV in DS-leg take.AOR-1SG one.M
w-zʿrʿu wt-ɛ=ttit
 DS-stone hit.AOR-1SG=3SG.F.ACC
 ‘When it bit me on the leg, I took a stone and hit it’

The third B-AOR construction is the Chained Aorist, whose investigation represents the focus of the present work. C-AOR is a clause-linking strategy found across most Berber branches but especially common and productive in AAT. This structure has received much attention in Berber studies (Bentolila 1981, Galand 1987, 2003, 2010, Leguil 1986, Prasse 1973, Taine-Cheikh 2009).

4. It is worth remarking that *datɣima* seems to stem from the lexicalisation of an Imperfective form: cf. AAT *da ntɣima* ‘we stay’.

As shown by Bentolila (1981) in his pioneering work on the topic, a bare-Aorist clause rarely occurs as the first clause in an Ayt Seghrouchen (Middle Atlas) sentence, but always follows some clause having a TAM-V form. The latter may be marked in a variety of ways, namely Perfective, Imperfective, Imperative, or ad-AOR (cf. Bentolila 1981: 153). The bare Aorist does not contribute any TAM feature of its own but is able to acquire an array of context-dependent interpretations, as the following examples suggest:⁵

- (10) IPFV (V_1) – AOR (V_2) in Ayt Seghrouchen (Bentolila 1981: 156)

id3d3 lla i-ttini dd ssa shaq,
one.M TAM 3SG.M-say.IPFV VNT from_here Isaac

j-in=as dd ssa isqub
3SG.M-say.AOR=3SG.DAT VNT from_here Jacob

‘One says “Isaac” from here, the other replies “Jacob” from there’

- (11) PFV (V_1) – AOR (V_2) in Ayt Seghrouchen (Bentolila 1981: 156)

i-lul j-asj t-a-jzzin-t
3SG.M-be_born.PFV 3SG.M-take.AOR F-AS-pickaxe-F

‘(as soon as) he was born, he took a pickaxe’

In (10), *lla ittini* has Imperfective marking, which determines the imperfective interpretation of the Aorist form *jinas* in the second clause. Similarly, the Aorist form in (11) is interpreted as having perfective value due to the initial Perfective verb.⁶

The situation in AAT is essentially the same. The mechanism of C-AOR in AAT is illustrated in what follows (for the sake of simplicity, the analysis is limited to biclausal linking, although a chain-initial TAM-V can in principle precede an indefinitely-long sequence of Aorist-marked clauses, at least in narrative contexts; some factors affecting the scope of C-AOR in AAT are briefly discussed in 3.1):

- (12) *j-dda / *j-ddu s ssuq*
3SG.M-go.PFV / 3SG.M-go.AOR to market

‘He went for the market’

- (13) *j-aʔul=d / *j-uʔul=d*
3SG.M-return.PFV=VNT / 3SG.M-return.AOR=VNT

‘He came back’

5. Here and further down, V_1 and V_2 indicate the first clause’s verb and the second clause’s verb, respectively.

6. This paper adopts the policy of using capital letters for language-specific morphological stems (e.g. *Perfective*) and low-case letters for semantic categories (e.g. *perfective*). This is in keeping with a tradition that goes back to Comrie (1976).

Examples (12) and (13) can function as standalone clauses only insofar as their verbs are marked as Perfective. For example, they are both well-formed answers to the question *mani ħmad?* ‘Where’s Ahmed?’. The use of Aorist forms in such contexts would make the clauses ungrammatical. However, the situation changes when those two clauses are joined together, since the second verb is no longer marked as Perfective but receives Aorist marking instead:

- (14) *j-dda s ssuq j-uḥul=d*
 3SG.M-go.PFV to market 3SG.M-return.AOR=VNT
 ‘He went for the market (and) came back’

In (14), the two clauses are juxtaposed without the use of any conjunction. The Aorist verb is interpreted as having perfective value as it follows an initial Perfective form.

Both the Ayt Seghrouchen and the Ayt Atta examples indicate that an investigation of intra-clausal structure cannot alone account for the Chained-Aorist construction in these varieties. This suggests that a study of clause-linking strategies is necessary in order to provide a theoretically-informed account of this phenomenon.

The three uses of the B-AOR seem to share some core feature, as a TAM element precedes the bare Aorist form in each case, be it an adverbial phrase or a TAM-marked clause. While the possibility of subsuming these three constructions under one and the same analysis is certainly worth exploring, the present work only focuses on C-AOR, as it aims to bring this construction within the realm of linguistic typology.⁷

The analysis put forward here mainly draws upon data from the author’s own fieldwork on Ayt Atta Tamazight; these are part of a corpus including folktales and conversations, among other data types. Some examples are provided from other Berber languages as well: this proposal seemingly applies to them too, but this will have to be separately investigated, as dialectal variation certainly exists (see footnote 13, below).

This paper is structured as follows: Section 2 provides an overview of clause-linking strategies paying special attention to clause-chaining structures, which are surveyed from a typological perspective; my proposal for a typological analysis of C-AOR is illustrated in Section 3; finally, a few conclusive remarks are given in Section 4, which also indicates some directions for future research on the topic.

7. However, this paper does not pursue the task of providing an exhaustive illustration of C-AOR in AAT, nor does it aim to elucidate the interaction between C-AOR and other factors also affecting the distribution of verb forms in AAT texts, notably the foreground/background distinction in discourse (or similar distinctions: see Hopper 1979, Longacre 1990). Such tasks are deferred until some future works.

2. A typology of clause-chaining structures

Two central dimensions are relevant to an investigation of clause-linking strategies, namely the nature of both *syntactic* and *semantic* relations existing between clauses. Both dimensions are present in Stassen (1985) and Longacre (1985, 2007), among others. The present work only focuses on the syntactic characteristics of the Chained-Aorist construction in AAT (but see 3.1 for a brief discussion on its semantic value).

2.1 Co-ranking and clause-chaining structures

Starting with an analysis of Stassen (1985), this section introduces some of the main concepts in the domain of clause linking: 2.1.1 provides the conceptual and terminological tools necessary to an investigation of the topic; after this preliminary illustration, 2.1.2 presents the theory adhered to in this paper, namely Foley and Van Valin's (1984) approach.

2.1.1 Preliminary illustration

A fundamental work for the investigation of clause linking is Stassen (1985). Its importance lies in its combination of both syntactic and semantic aspects of clause linking as well as in its strong typological orientation, which gained it long-lasting influence in the debate on the topic. The author analyses the syntactic encoding of temporal chaining, where temporal chaining is a semantic notion consisting in the temporal relation between two states of affairs: such a relation can be one of either *simultaneous action* or *consecutive action*, and the linking of those two states of affairs is referred to as *simultaneous chaining* and *consecutive chaining*, respectively (Stassen 1985: 66).

It is worth emphasising that, in Stassen's work, *chaining* is a syntactically neutral notion, in that it merely refers to two temporally-related states of affairs encoded by syntactically-related predicates, without stating anything as to the nature of their link. In other words, 'clause chaining' is here essentially synonymous with clause linking or clause combining: this differs from its technical sense in works by other authors (cf. Longacre 2007: see below).

In his discussion of consecutive chaining, one further terminological distinction introduced by Stassen is the one between *anterior predicate* and *posterior predicate*. These indicate the first predicate in the chain and the second one, respectively, both in a temporal sense and in terms of surface structure, since these usually coincide due to ease of processing (Stassen 1985: 75).

Two different strategies are adopted cross-linguistically for the syntactic encoding of those two predicates. The first strategy consists in the use of two verbs of equal rank, i.e. each of them could be used in an independent clause. This means that the juxtaposition of two (or more) clauses does not cause any inflectional effect on their verbs: this is a *balanced construction* (Stassen 1985:76). Balanced constructions are also known as *co-ranking* structures (Longacre 1985, 2007). This is a common construction in most contemporary European languages and elsewhere. An example is the sentence *John jumped out of his chair and grabbed a gun* (Stassen 1985:76), in which both predicates are finite.

The second clause-linking strategy consists in lowering the rank of one of the two predicates, turning it into a non-finite (or in a less-finite) form. More generally, the main diagnostic feature of this clause-linking type is the presence of just one fully-inflected verb form in a clause chain, with the other verb displaying reduced marking and deriving aspectual or temporal interpretation from the former. This structure is a *deranked construction* (Stassen 1985:77). Deranked constructions are usually referred to as *clause-chaining* structures in the literature (cf. Foley and Van Valin 1984, Longacre 2007:375, Payne 1991): this is also the label adopted in this paper.

The following Selepet data (Papua New Guinea) illustrate how clause-chaining structures work:

- (15) a. Clause-chaining structure in Selepet (Longacre 2007:375–376)
 kawa ari-op
 Kawa leave-3SG.REM
 ‘Kawa left’
- b. *kiap ya taka-op*
 patrol.officer that arrive-3SG.REM
 ‘That patrol officer arrived’
- c. *kawa ari-mu kiap ya taka-op*
 Kawa left-3SG.DSU patrol.officer that arrive-3SG.REM
 ‘Kawa left and that patrol officer arrived’

In (15a) and (15b), the morpheme *-op* is suffixed onto the predicate to mark remote past tense. On the other hand, (15c) shows that the juxtaposition of the former two clauses causes *-op* to be dropped from the first predicate, which is then marked by *different subject* instead (see 2.2.1). The remote-past suffix can only appear on the final verb.

2.1.2 The syntactic nature of co-ranking and clause-chaining structures

Stassen’s work on the syntactic realisation of temporal chaining paved the way for much of the research that followed. Nevertheless, his analysis of balanced and deranked constructions seem to present a number of issues. In particular, this appears to be the case with his individuation of balancing and deranking languages, his claim that balancing languages are *coordinations*, and his analysis of subordination.

Stassen distinguishes *balancing languages* from *deranking languages*, as languages adopting balanced and deranked constructions, respectively (Stassen 1985: 76–78). However, this distinction is problematic, for one and the same language may use both strategies. Indeed, he analyses English as being one such language, since the sentences *After John had locked the door, he undressed* and *Having locked the door, John undressed* are interpreted as being instances of balancing and deranking, respectively (Stassen 1985: 80): in the former sentence, the temporal chaining of two consecutive states of affairs is encoded by two equally-ranked predicates (i.e. two finite forms are used), whereas a participial (i.e. deranked, non-finite) form is used in the latter sentence.

Another issue concerns his claim that “the defining characteristics of balancing languages is that their syntactic chains are structurally *coordinations*” (Stassen 1985: 76). This statement does not tie in well with his definition of what a balanced construction is, which, as seen above, essentially relies on the finiteness of both juxtaposed predicates. This means that balanced constructions also include clear examples of non-coordinated structures such as the above-mentioned sentence *After John had locked the door, he undressed*. In other words, there is a mismatch between linking strategy (i.e. either balancing or deranking) and syntactic structure: all coordinated constructions are balanced, but not all balanced constructions are coordinations.

Furthermore, deranking seems to cut across two seemingly-different kinds of non-coordinate structures, which are both nevertheless analysed as subordination types by Stassen (1985: 78ff.). These are shown by the Selepet example given above (15c) and the following English example:

- (16) *Having locked the door, John undressed.*

According to Stassen, (15c) and (16) are two instances of deranking, since non-finite predicates are found in both. This means that his classification of linking strategies and syntactic structures can be represented as follows:

Table 1. Stassen’s classification of linking strategies and syntactic structures

balancing	coordination
	subordination (= clause embedding)
deranking	subordination (= predicate deranking)

This shows that Stassen does not syntactically distinguish forms such as the clause-chaining construction shown in (15c) from the English participle seen in (16). However, this does not seem to be satisfactory: first, intonation clues arguably place the English participle in (16) closer to clause embedding than to clause chaining⁸; moreover, assimilating the English participle to deranked predicates also runs against the observed relation between a language's directionality of deranking and its constituent order, a fact remarked by Stassen himself (1985: 90; see 3.3 below).

A neater, syntactic separation of embedded clauses and deranked constructions is proposed by Foley and Van Valin (1984), whose work relies on a number of key distinctions. First, the clause is divided into three levels, namely a *nucleus* (a clause's predicate), a *core* (its core arguments), and a *periphery* (the other constituents of the clause). Furthermore, they introduce the notions of *nexus*, which refers to the type of syntactic linkage between two clauses, and *juncture*, which refers to the clause level at which that syntactic linkage occurs, adopting the word *junct* for each of the two linked units (Foley and Van Valin 1984: 238).

The individuation of nexus types stems from a fundamental distinction between *embeddedness* and *dependence*, since "whether a clause is dependent in some way upon another clause is independent of whether it is embedded as an argument of another clause" (Foley and Van Valin 1984: 243). As this quote suggests, embeddedness characterises a clause which belongs to the structure of some other clause. On the other hand, the notion of dependence relies on the role of *operators*⁹ such as tense and aspect. These operators are central in determining whether a dependence relation between two clauses exists or not, since two juncts may be independently specified by operator (i.e. both juncts being – *dependent*), or such a dependence relation may exist instead (i.e. one of the two juncts being + *dependent*).

The combination of these two features yields the three nexus types visually represented in Figure 2, below (J = junct; from Foley and Van Valin 1984: 242). As the figure shows, coordination is characterised by lack of embeddedness and lack of dependence, whereas subordination has opposite values for both parameters. The novelty of Foley and Van Valin's approach consists in recognising that the traditional classification of sentences into coordinate and subordinate structures cannot account for those structures in which a clause is not embedded into

8. An investigation of the role of intonation in implementing different clause-linking strategies is beyond the scope of this paper. For an interesting analysis of this topic in Tarifit Berber, see Lafkioui (2009).

9. Operators are grammatical categories which modify the three levels of the clause mentioned above: they "are not constituents of the layer but are operators *over* the entire layer" (Foley and Van Valin 1984: 208).

the other while somehow being dependent on it. These are best represented by clause-chaining and serial-verb constructions, which are then analysed as instances of *cosubordination* (Foley and Van Valin 1984: 256ff.), a notion first introduced in Olson (1981).

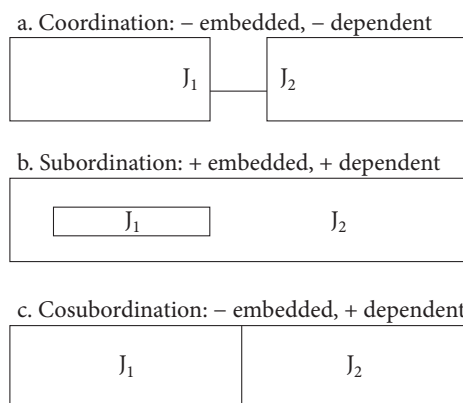


Figure 2. Nexus types

Clause-chaining constructions are one type of cosubordinate linkage, namely cosubordinate nexus at peripheral level (Foley and Van Valin 1984: 256ff.): they are an instance of cosubordination, as they lack embeddedness while showing some dependence relation, whereas the linkage that occurs at peripheral level for the two juncts have independent peripheries, cores, and nuclei.¹⁰

To summarise, clause-chaining constructions display some idiosyncratic behaviour which sets them apart from the traditional classification of sentences into coordinate and subordinate ones, prompting the recognition of cosubordination as a syntactic category in its own right.¹¹

An important contribution to determining the cosubordinate status of clause-chaining structures comes from a number of syntactic criteria, such as the ones presented in Haspelmath (1995). These criteria are discussed in 3.2, where they provide some further evidence supporting the typological analysis of AAT's C-AOR construction put forward in this paper.

10. The full set of constructions resulting from the combination of nexus and juncture types are illustrated in Foley and Van Valin (1984: 244ff.).

11. However, it must be observed that the debate on the syntactic nature of clause-chaining structures is still ongoing. For a radically-divergent treatment of clause chaining, see some recent work by Nonato, which analyses clause chaining as *asymmetric VP coordination*, arguing that “clause chaining doesn’t exist as a construction of its own” (Nonato 2014: 45).

2.2 A typological analysis of clause chaining

This section provides further details on the typological characteristics of clause-chaining constructions. These structures differ as far as the directionality of chaining is concerned. There are two kinds of chaining, depending on the location of the independent verb: on the one hand, *medial-final chaining* refers to chaining structures in which the independent-verb clause comes last in the chain, whereas each preceding clause has a dependent form; the situation is reversed in *initial-medial chaining*, for the independent verb occurs in chain-initial position, followed by one or more dependent forms (Longacre 2007). These two chaining structures have also been referred to as *anterior* and *posterior deranking* (Stassen 1985), *anterior* and *posterior chaining* (Haspelmath 1995), and *prenuclear* and *postnuclear dependency* (Dooley 2010), respectively.

2.2.1 *Medial-final chaining*

Medial-final chaining is characterised by the combination of one *final* clause having an independent verb and a preceding *medial* clause having a dependent verb. Another distinctive feature of medial-final chaining is the presence of *switch-reference*, “a discourse tracking device, whose main function is to monitor the subject” (Fedden 2012: 393), i.e. it usually indicates whether any one medial clause has the same subject as the final, independent clause or not. Medial-final chaining is found in languages spoken in many parts of the globe, such as Papua New Guinea and South America (see Fedden 2012, Longacre 1985, 2007). An example of medial-final chaining was given in (15c) above. Two more examples from Kewa (a Papua New Guinea language) are provided below:

(17) Medial-final chaining

- a. Kewa (Franklin 1971: quoted in Foley and Van Valin 1984: 257)
ní réka-no áгаа lá-a
 1SG stand-DSU.SMP talk say-3SG.PST
 ‘I stood up and he talked’
- b. Kewa (Franklin 1971: quoted in Foley and Van Valin 1984: 257)
ní réko-a áгаа lá-lo
 1SG stand-SSU.SMP talk say-1SG.PRES
 ‘I stood up and am speaking’

Sentences (17a) and (17b) display polar marking for switch reference: the first example shows that the medial clause has a different subject from the fully-marked final clause; the second sentence shows that the opposite holds true.

Medial-final chaining is also attested in Africa, notably in the Ethiopian region, but its occurrence is not limited to that area (Amha and Dimmendaal 2006, Longacre 1990). An example of medial-final chaining in Gimira (Omoti, Afroasiatic) is given in (18):

- (18) Medial-final chaining in Gimira (Omoti: Longacre 1990: 24)
- | | | | | | | | | |
|--------------|-------------|-------------|----------------|----------------|-------------|--------------|------------|--------------|
| <i>mat'</i> | <i>woyn</i> | <i>bod</i> | <i>koya</i> | <i>hank'en</i> | <i>uřam</i> | <i>c'ira</i> | <i>soy</i> | <i>yaken</i> |
| one | day | road | seeking | went.3F | then | clay | good | found.3F |
| <i>yiřka</i> | <i>kesa</i> | <i>budn</i> | <i>gomene</i> | | | | | |
| digging | taking-out | outside | piled-3F.COMPL | | | | | |
- 'One day she went off seeking (i.e. to find clay from which to make pots). Then she found some good clay. She dug it out and piled it up'

In (18), only the final verb *gomene* is overtly marked as being complete, as opposed to *hank'en* and *yaken* which only display subject agreement.

2.2.2 Initial-medial chaining

Initial-medial chaining remains less documented in the typological literature, as opposed to medial-final chaining which has received far more attention. The combination of an *initial* clause having an independent verb and a *medial* clause with a dependent verb is the main feature of initial-medial clause chaining. This chaining type does not seem to have widespread currency cross-linguistically. Indeed, it was thought of as being unattested, although it was speculated that such structures could in principle exist (Longacre 1985: 285).

More recent research has documented initial-medial chaining in a number of sub-Saharan languages, belonging to Niger-Congo and Nilo-Saharan (Longacre 1990, 2007). In particular, initial-medial chaining is found in languages such as Toposa (Eastern Nilotic), Sabaot (Southern Nilotic), and Tem (Kotokoli), among others. An example from the latter language is given below:

- (19) Initial-medial chaining
- | | | | | |
|----------------|----------------|---------------|-----------------------------------|-------------------|
| Tem (Kotokoli) | | | (Niger-Congo: Longacre 2007: 418) | |
| <i>mřřgbřř</i> | <i>Yelivřř</i> | <i>nřbřřw</i> | <i>meřře</i> | <i>Wasřřa-děe</i> |
| 1SG.take.PERF | the.Yelivo | road | 1SG.go | to-Wasaara |
- 'I took the Yelivo road and then I went to Wasaara'

In (19), the initial verb *mřřgbřř* is marked Perfect and shows person-number agreement, as opposed to the medial verb *meřře*, an aspectually-unmarked form which relies on the initial form for its TAM interpretation.

Some final considerations on the terminological choices adopted here are in order. Initial-medial chaining is also known as initial-consecutive chaining (see

Longacre 1990, Longacre 2007). However, there seem to be good reasons to prefer the expression *initial-medial clause chaining* to refer to it. First, this construction is in some respect the mirror image of medial-final clause chaining and it is convenient to refer to the deranked clause in any clause-chaining construction as a *medial clause*, without any unnecessary reduplication of labels. Second, the notion of *consecutive clause* is potentially confusing, as it may conjure up an interpretation of the clause in terms of sequentiality (cf. Stassen's semantic notion of *consecutive chaining* discussed above), whereas this is not necessarily the case. For these reasons and in absence of a better term, the chaining type characterised by an initial TAM-marked form and a non-initial deranked form is here referred to as initial-medial clause chaining.

3. Chained Aorist as clause chaining

Clause-chaining constructions have widespread distribution in the world's languages. Clause chaining is also attested in various language families from the Afroasiatic phylum, notably in Semitic, Cushitic, and Omotic, whereas it is reportedly absent in other branches of Afroasiatic, including Berber (Amha and Dimmendaal 2006: 423). However, the notion of 'chaining' has been recognised as an important factor in the use of bare-Aorist forms in Berber, which is evident by considering the very name given to constructions involving such forms (i.e. Chained Aorist: see Bentolila 1981, Galand 1987, 2003, 2010, Leguil 1986, Taine-Cheikh 2009). Nevertheless, no attempt has been made to investigate this phenomenon against a typological background: this paper represents a contribution in that sense.¹²

This section is structured as follows: first, my proposal concerning the Chained-Aorist construction is put forward and supported by morphosyntactic evidence in Section 3.1, which also describes the main features of C-AOR in AAT; Section 3.2 discusses a number of syntactic criteria which further support my analysis; finally, Section 3.3 shows that my proposal is compatible with some well-established typological generalisations concerning constituent order.

12. The only mention that the Chained-Aorist construction might be related to clause chaining is a comment found in Belkadi who says that this construction "seems to share a few prototypical characteristics of two related phenomena, namely clause-chaining and serial-verb constructions" (Belkadi 2013: 144).

3.1 Deranking of predicates in AAT

In Berber languages where the bare Aorist is used, this generally follows a TAM-marked form, from which it derives its TAM interpretation. Most Berber languages display the C-AOR construction, although some of them only show it to a marginal extent or heavily constrain its use.¹³ A few examples from a number of Berber varieties are provided below:

- (20) IMP (V_1) – AOR (V_2) in Kabyle (Chaker 1983: 229)
ffɛs, t-fk-dʷ=as=t!
 go_out.IMP 2SG-give.AOR-2SG=3SG.DAT=3SG.M.ACC
 ‘Go out and give it to him!’
- (21) ad-AOR (V_1) – AOR (V_2) in Tamashek Tuareg (Heath 2005: 680)
àd n-ækf n-əsəw
 TAM 1PL-eat.AOR 1PL-drink.AOR
 ‘We will eat and drink’
- (22) PFV (V_1) – AOR (V_2) in Figuig (Kossmann 1997: 350)
lmalik j-uzen i-sessas-en af-en din ta-metʰu-t
 king 3SG.M-send.PFV AS-guard-PL find.AOR-3PL.M there F.AS-woman-F
 ‘The king sent guards and they found a woman there’
- (23) IPFV (V_1) – AOR (V_2) in Ghadames Berber (Kossmann 2013: 166)
asaf n ālarəbea, assäswó-nāt tāmānsʰabén
 day of Wednesday make_drink.IPFV-3PL.F “dames d’honneur”
msəkkər-ən (ǎ)lgrágəš
 be_made_to_rise.AOR-3PL.M pastry.PL
 ‘on Wednesday the “dames d’honneur” put on henna and pastry is prepared’

As for Ayt Atta Tamazight, an example of Chained Aorist construction was seen in (14) above, where, similarly to the preceding examples from other Berber varieties, the value of the initial Perfective verb has scope over the bare Aorist which follows, determining its interpretation. This pattern is now reinterpreted according to the conceptual and terminological tools discussed in Section 2: I analyse AAT’s Chained-Aorist construction as an instance of *initial-medial clause chaining*, whereby an *initial* clause having a TAM-marked verb precedes a *medial* clause with a bare-Aorist form. The medial clause is dependent on the initial one for its TAM interpretation. Some AAT examples are given below:

13. For example, a bare-Aorist verb form cannot be used after an initial Perfective in Ghadames Berber (Kossmann 2013: 162). Similar restrictions are found in Tarifit and Tachawit (Lafkioui, p.c.).

- (24) IMP (V₁) – AOR (V₂)
asj t-a-mlal-t=nnk t-kk-t
 take.IMP F-AS-gazelle-F=2SG.M.POSS 2SG-take.AOR-2SG
a-brid a-jffas
 AS-road AS-right
 ‘Take your gazelle, take the road on the right [...]’
- (25) ad-AOR (V₁) – AOR (V₂)
ad af-ⵝ ma s tfkkar-ⵝ af-ⵝ ma
 TAM find.AOR-1SG what with think.IPFV-1SG find.AOR-1SG what
s suggur-ⵝ
 with watch.IPFV-1SG
 ‘I will find something to think with, will find something to watch with’
- (26) ad-AOR (V₁) – AOR (V₂)
ad=ak asj-ⵝ nkk t-a-mlal-t t-asj-t
 TAM=2SG.M.DAT take.AOR-1SG 1SG F-AS-gazelle-F 2SG-take.AOR-2SG
kjj aj=nnas akk^w j-adⁱ-nin
 2SG.M REL=MED all PTCP-other-PTCP.PL
 ‘I am going to take the gazelle, you take everything else’
- (27) PFV (V₁) – AOR (V₂)
t-wt=ttit t-Ø-srdun-t t-mmt
 3SG.F-hit.PFV=3SG.F.ACC F-DS-mule-F 3SG.F-die.AOR
 ‘A mule hit her, she died’
- (28) IPFV (V₁) – AOR (V₂)
ass=a lid axatar da j-ttddu simana j-ili
 day=PROX Eid big TAM 3SG.M-go.IPFV week 3SG.M-be.AOR
w-jdud n lhart
 DS-Ajdud of Lhart
 ‘Today it is Eid al-Adha: a week goes by, the Ajdud of Lhart starts’

The bare Aorist is chained to a preceding Imperative in (24), it follows an ad-AOR form in (25) and in (26), whereas it comes after a Perfective verb and an Imperfective verb in (27) and (28), respectively.

Incidentally, the previous data show that coreferentiality is not an obligatory feature of AAT’s Chained-Aorist construction: while (24) and (25) show subject coreferentiality across the linked juncts, the opposite situation occurs in (26), (27), and (28). More generally, it is possible to state that the linked predicates may independently select their core arguments.

It is now important to notice that AAT also possesses coordination as a linking strategy: two finite clauses may be linked without any effect on their morphology.

In other words, those two juncts would be able to stand as independent clauses. Such a scenario was also referred to as a balanced or co-ranking construction in Section 2.1.1, above. An example of coordination is given below:

- (29) IPFV (V_1) – IPFV (V_2) in Ayt Atta Tamazight
ka da j-ttawj a-fullus ka da j-ttawj
 some TAM 3SG.M-take.IPFV AS-rooster some TAM 3SG.M-take.IPFV
t-a-nugud^f-t ka da j-ttawj a-ksum
 F-AS-lamb-F some TAM 3SG.M-take.IPFV AS-meat
 ‘Someone takes a rooster, someone takes a lamb, someone takes meat’

In (29), each predicate carries Imperfective marking. This example of coordination involves the mere juxtaposition of clauses with no intervening coordinator, the standard situation in AAT.

One may then wonder what the difference is between (28) and (29). A possible explanation can be found in Bentolila’s (1981) work on Ayt Seghrouchen, which essentially analysed the Chained-Aorist construction as expressing a *sequential* relation between the linked clauses. Such an explanation would seem to be adequate, as far as the above two examples are concerned: in (28), the sequential interpretation is self-evident: a week goes by before the Ajdud festival starts. On the other hand, in (29), the offerings taken to a saint’s tomb are not envisaged in a chronological order, as this is seemingly irrelevant to the speaker; hence, each verb receives full marking.

Nevertheless, while it is usually true that events sequentially arranged along the time axis are Aorist-marked, there are some important exceptions which show that the notion of sequentiality falls short of providing an adequate account of C-AOR in AAT.

First, sequentiality is not expressed by C-AOR if utterance predicates are involved. In fact, narrative texts show that such predicates usually carry full TAM marking, even though they may be sequential to some chronologically-prior events. This is seen in (30), an excerpt from a local folktale:

- (30) Utterance predicates showing lack of chaining
t-nna=as tabad^ft n iz^fiwijn slla- κ
 3SG.F-say.PFV=3SG.DAT Taghatt n Iziwijn get_hold_of.PFV=1SG
a-mda=dd κ j-nna=as bn^hirt zwa- κ =km
 AS-puddle=PROX 3SG.M-say.PFV=3SG.DAT ogre be_first.PFV-1SG=2SG.F.ACC
z^far=s
 at=3SG
 ‘Taghatt n Iziwijn said to him: “I’ve got hold of this puddle!” The ogre replies to her: “I have made it to it first!”’

Both utterance predicates *tnna* and *jnna* receive full TAM marking, in spite of their being sequential to other events. Corpus investigation shows that this is not without exception though, so further research on the topic is needed.

Second, C-AOR is by no means confined to narrative texts, i.e. to inherently-sequential contexts. Its occurrence in non-narrative contexts suggests that other interclausal semantic relations are at work. One such relation seems to be the one of *elaboration* (following Dixon and Aikhenvald 2009), as the following AAT example shows:

- (31) Chaining used in non-sequential contexts

<i>j-ɣfa</i>	<i>ɛif-nɛ</i>	<i>rbbi</i>
3SG.M-rescue.PFV	above-1PL	Lord
<i>j-ɣfu</i>	<i>χf</i>	<i>lmaɛrb=nnɛ</i>
3SG.M-rescue.AOR	above	Morocco=1PL.POSS

‘The Lord has rescued us, the Lord has rescued our Morocco’

In (31), the second clause essentially elaborates on the first one: sequentiality can be certainly excluded here. A similar example was given in (25), above.

In addition to utterance verbs, there is another element which is incompatible with C-AOR, namely negation. This is seen in the following formulaic disclaimer, typically found in local folktales:

- (32) Lack of chaining in negative clauses

<i>sɣll-n</i>	<i>ur</i>	<i>ttgga-n</i>
take_responsibility.PFV-1SG	NEG	be.IPFV-3PL.M
<i>w-arraw=inw</i>	<i>i-mɜɜɜʔadʔ</i>	
DS-children[PL]=1SG.POSS	PL-bald.PL	

‘I take responsibility, my children do not become bald’

This example shows that a negative clause cannot be chained to a preceding verb but the negator *ur* followed by an Imperfective verb form must be used instead.

To summarise, this section has shown that AAT’s Chained Aorist is a construction with operator dependence, since the TAM value of the initial verb has scope over the non-initial verb: in other words, the latter is dependent on the former. Dependence is one of the defining features of *cosubordination* (see Section 2.1.2). This makes it possible to state that C-AOR is distinct from coordination, for the latter is a nexus type characterised by independent junct, whereas none of the Aorist-marked clauses in (24) through to (28) would be able to stand as an independent clause.

Furthermore, this section has also sketched some features of AAT’s Chained-Aorist construction. In particular, while the notion of sequentiality may be relevant to the use of C-AOR, especially as far as narrative texts are concerned, such

a notion is nevertheless unable to fully account for the use of C-AOR in AAT. First, the use of TAM-marked utterance verbs in sequential position constitutes an important exception to a sequentiality-based account. More significantly, C-AOR is also found in contexts where sequentiality can safely be excluded. Other inter-clausal semantic relations may be expressed via this construction, with *elaboration* seemingly being among these.

The paper now moves to the investigation of the second defining feature of co-subordination, namely (lack of) embeddedness. This is necessary in order to conclusively exclude the possibility that C-AOR is merely an instance of subordination.

3.2 On embeddedness

In order to understand the syntactic status of Aorist-marked clauses in AAT, their behaviour is tested on the basis of some criteria for establishing syntactic subordination. In particular, the backbone for my discussion is provided by Haspelmath (1995). In a typology-oriented work, the author sets out to illustrate the syntactic differences between converbs and a number of similar forms, among which he discusses medial verbs.

Converbs and medial verbs show some remarkable parallelism in that neither can function as independent predicates, whereas they generally depend on some other verb for their TAM interpretation (Haspelmath 1995:23). However, a number of syntactic criteria show that converbs are embedded forms as opposed to medial verbs which are not embedded. This proves the subordinate status of converb-headed clauses and confirms Foley and Van Valin's analysis of clause chaining as an instance of cosubordination (Haspelmath 1995:23). What follows discusses Haspelmath's criteria of *variable position* and *possibility of extraction* with regard to AAT data. After that, some considerations on the assertive nature of C-AOR clauses are provided.

The first criterion discussed here concerns the possibility for a subordinate clause to be placed either before or after its superordinate clause without any significant semantic change (Haspelmath 1995: 13–14). This is possible with converbs, as the following converbal clause from Russian shows:

(33) Russian (Haspelmath 1995:13)

- a. *Vernuvšis' domoj Xèvgun načal novuju žizn'*
 return.PFV.CONV home Khevgun began new life
 'Having returned home, Khevgun began a new life'
- b. *Xèvgun načal novuju žizn' vernuvšis' domoj*
 Khevgun began new life return.PFV.CONV home
 'Khevgun began a new life (after) returning home'

The clause containing the converb *vernuvšis* is placed before the main clause in (33a) but after that in (33b).

AAT Aorist-marked clauses do not behave like subordinate clauses in this respect, since their position is fixed, as they necessarily follow the initial clause:

(34) No variable position for C-AOR clauses

- a. *j-dda ħmad s ssuq j-ddu iffū s iɛrm*
 3SG.M-go.PFV Ahmed to market 3SG.M-go.AOR Yousef to village
 'Ahmed went to the market and Yousef went to the village'
- b. **j-ddu iffū s iɛrm j-dda ħmad s ssuq*
 3SG.M-go.AOR Yousef to village 3SG.M-go.PFV Ahmed to market
 'Yousef going to the village, Ahmed went to the market'

The second criterion concerns some extraction constraints on coordinate structures. Two coordinate clauses do not allow for the extraction of a main clause's argument; conversely, if two combined clauses allow for extraction to take place, this shows that only one of them is independent, whereas the other clause is subordinate (Haspelmath 1995: 16). In this respect, AAT medial clauses do not behave like subordinate clauses, since they do not allow for the extraction of an initial clause's argument. This is seen below:

(35) No extraction is possible in TAM-V (V_1) + AOR (V_2) constructions

- a. *j-dda s t-addar-t afad ad j-swunfu*
 3SG.M-go.PFV to F-house-F in_order_to TAM 3SG.M-rest.AOR
 'He went home in order to rest'
- b. *ma-s j-dda afad ad j-swunfu*
 Q-to 3SG.M-go.PFV in_order_to TAM 3SG.M-rest.AOR
 'Where did he go in order to rest?'
- c. *j-gula=d t-addar-t j-tftf Ø-allas*
 3SG.M-arrive.PFV=VNT F-house-F 3SG.M-eat.AOR AS-lunch
 'He arrived at home and had lunch'
- d. **mani d=jgula j-tftf Ø-allas*
 where VNT=3SG.M-arrive.PFV 3SG.M-eat.AOR AS-lunch
 'Where did he arrive at and had lunch?'
- e. *j-dda ħmad s ssuq j-ddu iffū s iɛrm*
 3SG.M-go.PFV Ahmed to market 3SG.M-go.AOR Yousef to village
 'Ahmed went to the market and Yousef went to the village'
- f. **ma=s j-dda ħmad j-ddu iffū s iɛrm*
 Q=to 3SG.M-go.PFV Ahmed 3SG.M-go.AOR Yousef to village
 'Where did Ahmed go and Yousef went to the village?'

Sentence (35a) shows a main clause followed by a purposive, subordinate clause. Extraction of the noun *taddart* is allowed, as shown in (35b). On the other hand, (35c) and (35e) are two instances of C-AOR construction: in neither case is extraction allowed, as shown by (35d) and (35f), respectively. This demonstrates that C-AOR does not involve subordination, since *jtɬɬallas* in (35c) and *jddu iɬɬu s iɬrm* (in 35e) are not embedded into the clauses which precede them.

Finally, there is one more criterion which points to the non-embedded status of Aorist-marked clauses in C-AOR constructions: they never express presupposed information. In this sense, a C-AOR clause is not a subordinate one, “the subordinate clause always being presupposed, backgrounded, although stated, information” (Foley and Van Valin 1984: 240). In other words, similarly to the chained clauses described by Dooley (2010), a C-AOR clause too “makes an assertion which is not included in the assertion of another clause” (Dooley 2010: 9). All of the AAT examples provided in this work support this interpretation.

All these considerations indicate that the Aorist-marked clause of a C-AOR construction is not syntactically embedded. Lack of embeddedness and dependence on the preceding TAM-V for its aspectual interpretation jointly support an interpretation of the C-AOR construction as an instance of cosubordination.

3.3 Directionality of deranking and constituent order in AAT

The plausibility of the analysis put forward here is further confirmed by the existence of a strong correlation between the directionality of chaining and the basic constituent order in a language, as stated by several authors (Dooley 2010, Haspelmath 1995, Longacre 2007, Roberts 1997, Stassen 1985). On the one hand, languages having medial-final chaining typically show SOV constituent order: this means that their full marking of the last verb in the chain corroborates their head-final nature (Longacre 2007: 417).

On the other hand, initial-medial chaining languages have head-initial structure, showing VO order, i.e. either SVO or VSO: a paradigmatic example of this is Toposa (Eastern Nilotic: Longacre 1990: 65).¹⁴ This is also seen in Tem (see (20), above) as well as in languages such as Nzema (Kwa, Niger-Congo: Longacre 1990: 125) and Anywak (Northern Nilotic: Longacre 1990: 88) among others. Once again, the structure of their clause-chaining constructions is consistent with more general typological properties displayed by these languages (Longacre 1990: 174, 2007: 417, Stassen 1985: 88ff.).

14. Longacre (1990: 65) states that Toposa “is the strictest VSO language [he has] ever encountered.”

Therefore, in keeping with its VSO structure, AAT's initial-medial clause chaining conforms to a strong cross-linguistic pattern. This provides further support to the analysis proposed in this work.

4. Conclusions

This paper has provided a typological account of the syntactic properties of the Chained-Aorist construction in Ayt Atta Tamazight, a VSO variety of Tamazight (Berber) spoken in South-East Morocco. The analysis presented here shows that the Chained-Aorist construction is a particular instance of cosubordinate structure, namely *initial-medial clause chaining*, whose non-initial chained forms display reduced marking, deriving their full TAM interpretation from the chain-initial predicate. The status of a C-AOR clause as a medial clause is confirmed by its behaviour vis-à-vis a number of syntactic criteria. Furthermore, the directionality of deranking in AAT is in keeping with the general tendency for VO chaining languages to display initial-medial chaining.

By-products of this investigation are an improved mapping of clause chaining in the world's languages, as it is shown that the supposedly-rare initial-medial chaining type features prominently in AAT, and, to a varying extent, presumably in other Berber languages too. This also entails that clause chaining has wider African and Afroasiatic distribution than it was previously thought. The claim put forward here may have some implications for the history of Afroasiatic as well as for the investigation of language contact in the Sahara, as a number of Saharan and sub-Saharan languages from Niger-Congo and Nilo-Saharan also display initial-medial clause chaining. Such implications will have to be investigated in future research.

Finally, it is important to notice that this work has focused on the syntactic properties of C-AOR in AAT, deliberately leaving aside a number of semantic issues associated with previous analyses of this construction, which were only briefly sketched alongside other C-AOR features in Section 3.1. A fresh look onto the semantics of C-AOR in AAT and elsewhere in Berber is certainly needed and is left to some future publication on the topic.

Abbreviations

-	morpheme boundary	M	masculine
=	clitic boundary	MED	medial
1	first person	NEG	negation
2	second person	PERF	Perfect
3	third person	PFV	Perfective
A-AOR	Apodosis Aorist	PL	plural
AAT	Ayt Atta Tamazight	POSS	possessive
ACC	accusative	PRES	present
AOR	Aorist	PROX	proximal
AS	absolute state	PST	past
B-AOR	Bare Aorist	PTCP	participle
C-AOR	Chained Aorist	Q	question word
COMPL	completive	REL	relativiser
CONV	converb	REM	remote past tense
DAT	dative	SG	singular
DS	dependent state	SMP	semantic pivot
DSU	different subject	SSU	same subject
F	feminine	TAM	tense-aspect-mood
F-AOR	Free Aorist	TAM-V	TAM-marked verb
IMP	Imperative	VNT	ventive
IPFV	Imperfective		

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Author's address

Simone Mauri
maurisimone01@gmail.com