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The role of the Berber deictic and TAM markers in dependent clauses in Zenaga

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Abstract

The deictic *ad* fulfills many functions in Mauritanian Berber (demonstrative, copula, relater, injunctive particle, etc.). For most of them, its uses are found more or less in all the Berber languages. However, Zenaga differs markedly on several points: in this language, *ad* is not used as a preverb to express the future; it is used, on the contrary, as a conditional and quotational particle.

The author analyses these divergent evolutions and proposes explanations for the various grammaticalization phenomena involved by conjointly studying the TAM (tense-aspect-mood) markers and sentence structure.

Indeed, the polygrammaticalization of the deictic is partly linked to the semantic indetermination of the Aorist and to the particular conditions which bear on fronted verbs.

Introduction

Zenaga is a Berber language, belonging to the Chamito-Semitic (or Afro-Asiatic) phylum. It is quite representative of the language family to which it belongs, but differs from the other languages however on certain points.¹

A. Word order typology

Typologically, Zenaga is characterized by the order determined-determiner noun, namely in complementation relations (v + o),² for true determination (where the determiner may be a pronominal affix) and for qualifying

¹ The author wishes to thank Margaret Dunham for her accurate translation and Isabelle Bril, Lionel Galand, Maarten Kossmann and Karl-G. Prasse for attentively reading this article and for their stimulating feedback. She assumes entire responsibility for the reconstruction proposed here (for an alternate analysis, see e.g. Prasse 2008) and is to be held sole accountable for the imperfections to be found in this final version.

² Abbreviations: A Aorist, ANN annexation state, CAS case marker, DO direct object, IO indirect object, lit. literally, NIPFV negative Imperfective, NPFV negative Perfective, NP noun phrase, O object, OP orientation particle (OP1 venitive, OP2 allative), PR pronoun, REL relater, V verb, VP verb phrase.

phrases. This is also the order followed by sentences with non verbal predicates, where the subject is always placed at the beginning of the clause, which we define as the fronted or initial position³.

The case of the verbal predicate is different because the person marker obligatorily associated with the verb stem fulfills subject function (compare *y-ərmäš* 'he took' to *t-ərmäš* 'she took' and *t-ərmäšš-äm* 'you (PL) took'). When the person marker is explicitated by a lexeme, the two are coreferential and the lexeme's position as compared to the verb depends on the informative structure of the sentence: this lexeme — which scholars of Berber usually prefer not to call a subject — is either in fronted (pre-verbal) position, or in non fronted (post-verbal) position.⁴

- Zenaga
- (1) *y-ərmäš* *iD^y* *t-ägžə-tt=ən=š*
 3M.SG-please.PFV man[M.SG] F-daughter-SG=of= PR.3[SG]
 'A man pleased his daughter' ('The man pleased his daughter' is less probable)
- (2) *iD^y* *y-ərmäš* *t-ägžə-tt=ən=š*
 man[M.SG] 3M.SG-please.PFV F-daughter-SG=of=PR.3[SG]
 'The man pleased his daughter'

A fronted element is subject to specific constraints (in Zenaga, but also more generally in Berber and Arabic): it constitutes the initial locator, the anchor point of the sentence so cannot be entirely indefinite on the semantic-referential level and, in Zenaga, it is sufficient (except in very particular cases, e.g. that of the lexeme *mīn* 'male person, someone' with indefinite meaning) that the lexeme “explicitating” the subject person marker be in pre-verbal position for it to be considered definite.⁵ Thus the fronted element and the topic often coincide —the latter necessarily being

³ On the nature of the predicate in noun phrases and on its role in the evolution of the verbal system in Semitic, see Cohen 1984 (in particular sections 1 and 2, pp. 1-150). On word order in Berber (which “usually places the complement after what is complementized”) and on its importance for locating the various functions in verbal predicates, see Galand 1988: 221 and 2002 [1964]: 303.

⁴ In post-verbal position, this lexeme is generally found in a modified form which is, among others, that of the noun determiner in determination phrases. Galand (2002 [1964]: 287-307), followed in this by numerous scholars of Berber, dubbed this lexeme which bears the “annexation state” the “explicative complement” and, in contrast, the lexeme placed just before the verb which is always in the “free state” the “theme indicator”. As far as we are concerned, even though our point of view does not diverge much from Galand's, we prefer not to use these terms, especially because, in Zenaga, the lexeme coreferential with the person marker is never in the “annexation state”. In fact, the distinction “annexation state” vs. “free state” is not marked morphologically, even though agglutination phenomena have sometimes been found, in particular when the noun determined is a numeral (Taine-Cheikh 2005a).

⁵ There are no morphemes for marking definiteness or indefiniteness, compare (1) and (2) where the most probable difference resides in the referential statut of the lexeme which “explicitates” the subject person marker.

considered definite (at least in Berber)⁶—, but neither the expression of the topic nor its placement in initial position are obligatory. In fact, in sentences containing only comment (“rhème” in French), the topic is simply implied, and, furthermore, the normal order topic –comment can be modified through recourse to morpho-syntactic and/or prosodic means. The notions of topic and comment concern (following the tripartite organization proposed in Hagège 1982) the discourse-hierarchic level, a level closely related to the semantic-referential level, without however coinciding with it.

B. Word classes

While there are two main syntactic classes in Berber, dividing verbs and nouns, all lexemes, be they verbs or nouns, are the more or less regular result (in particular due to the panchronic evolution of the forms), of the cross between a root and a given pattern. The following examples are from Zenaga.⁷

- The root, made up of ordered root consonants (variable in number, but usually two or three), is reserved for a word family:

- RMS in *yərmäš* 'he took, pleased', *trämS* < *trämšt* 'act of taking, pleasing (once)', *änärmiš* 's.o. who habitually takes, pleases', *äššärmiš* 'pond; handle' and *yäT^ʔärmäš* 'he has been taken, pleased';

- RM in *yəräm* 'he opened (his mouth, a trunk, etc.)', *trämt* 'act of opening (one's mouth, etc.) (once)' and *yäT^ʔäräm* 'it was opened (for the mouth, etc.)'.

⁶ In some languages such as French, an indefinite noun phrase can be topicalized and focalized (ex. *Un père, ça se respecte*) ('fathers, they are to be respected'), but this entails the noun's taking on a “massive, collective, global meaning” (Berthoud 1994: 161) (evidenced in English by the use of the plural).

⁷ The phonology and phonetics of Zenaga today are the result of particularly complex historical evolutions (Taine-Cheikh 1999a, 2003a and 2005b). As with other Berber varieties (generally belonging to the northern group), there is a tendency for non geminate consonants to become lax, and particularly towards spirantization of the voiced dental consonant *d* (so that *d* > *d̥*). But this lax tendency in Zenaga has also spread to the voiced fricatives (so that *z* > *θ*) and to the liquid consonant (*l* > *j*). Furthermore, in some contexts, the sibilants *s* and *z* have become postalveolar.

We only partially adhere to the IPA transcriptions. (i) The glides are transcribed *w* and *y*. (ii) Emphasis is noted by a subscript dot (except in the case of *f* where the dot is superscribed). (iii) A dash below or above a letter indicates that the articulation is lax, which is characteristic of some non geminate consonants (except in some specific contexts).

The transcription we have adopted here is phonetic and phonological. The fact that [d] can be the articulation of either /d/ or /t/ (the distinction /d/ ~ /t/ is neutralized in certain contexts) is one of the problems which makes it difficult to use an entirely phonological transcription. Inversely, noting all of the phonetic variations would have made the facts difficult to grasp. Modifications through contact are extremely numerous, in particular among morphemes belonging to the same stress group (moreover, as such they are significant for the morphosyntactic analysis) but, to facilitate the identification of these morphemes, some assimilations (indicated by ^) are not noted. Apocope is also indicated by ^, but the deleted phonemes (generally a vowel, at times followed by the laryngeal consonant *h*) are given in parentheses.

- As for the patterns, which are made up of vowels and sometimes affixes, they characterize:

- basic forms, such as the pattern $y\partial C(C)\acute{a}C$ of the 3rd M.SG Perfective of *yärmäš* and *yäräm*;

- morpho-lexical derivations, such as the pattern $\acute{a}n\acute{a}CC(C)iC$ for M.SG habitual nouns with the affix *-n-* in *änärmiš* and the pattern $\acute{a}šš\acute{a}C(C)iC$ for M.SG nouns with the affix *-šš-* in *äššärmiš*;

- morpho-syntactic derivations such as $tC(C)\acute{a}Ct$, the F.SG verbal noun in *trämS* < *trämšt* and *trämt*, as well as $y\acute{a}T^y\acute{a}C(C)\acute{a}C$, the passive verb pattern with the affix *-T^y-* of the 3rd M.SG Perfective of *yäT^yärmäš* and *yäT^yäräm*.

This organization is less clear cut as concerns person pronouns and demonstratives, especially for autonomous forms. The latter (the only ones susceptible of constituting the stress bearing element of the syntactic group, like lexemes) appearing, more even than clitic forms, as agglutinations of elements of various types.

As for the dependence markers, be they intra- or inter-phrastic, they are often reduced to a single consonant, either preceded by a vowel or not.

- The pan-Berber interphrastic connection particles are very rare: the disjunction 'or' (Zenaga *na?*, with or without *-d̄*) can be used between two clauses as well as two phrases, but the Berber coordinator of comitative origin *d* 'and, with' is not generally used between clauses (which is also the case for the Zenaga *əd̄*).

- The pan-Berber subordination particles are also limited in number. In Zenaga, some of them stem from a prepositional phrase, another part having hazy origins. In many cases, however, one finds one of the following two elements: *ad* or *äyš*. Here, we will concentrate on the first, as it is not uniquely used as a subordinating element.

C. Conditional markers

In Berber, the protasis of conditional phrases is regularly introduced by specific particles. These tend to vary from one speech variety to another (as well as being influenced by the hypothetical system — namely potential vs. irreal), but they often contain the nasal element *m*, thus *mara*, *imer*, *xem*, *Meš*, *mur*, *lMr*, *mr*, etc. (see Täifi 1993).

One also finds a particle in *m* (*äm* / *häm* / *ḥäm*) in Zenaga, i.e. Mauritanian Berber, but only in particular counter-factual hypothetical uses:

(3) *(h)äm=dä* *t-əšš-äd̄* *t-näzzä-T* *t-azr-ad̄=iʔh*

if= OP1 2-come.PFV-SG F-morning-SG 2-find.A-SG=PR.DO.1SG
 'If you had come (here) this morning, you would have found me'
 (but you didn't come).

The particle *ad* (usually pronounced *äd*) is used in the case of 'standard' conditional clauses. Thus, in the following proverb:⁸

- (4) *äd=ki* *y-ätʔaf* *ämuž* *ätʔaf=ti*
 ad=PR.DO.2M.SG *3M.SG-free.A* *well* *free.IMP= PR.DO.3M.SG*
 'If the well frees you, free it.'

This particle *ad*, which fulfils many other functions in Zenaga and the other Berber varieties, seems to have deictic origins. Here we will examine its role — an inhabitual one — as demonstrative in expressions of condition and study the other factors used to mark dependency between clauses.

Alongside the role of the TAM markers, we will explore, going over the discussion initiated in Haiman (1978), whether in our case it is justifiable to analyze conditionals as topics, and to what extent the informational and/or discourse sentence structure may contribute to explaining the genesis of conditional clauses in Zenaga.

This variety of Berber is in danger of extinction.⁹ Among its specificities, some appear to be archaisms. However, Zenaga's peripheral situation, where for centuries it has been in contact with Arabic, also favors specific developments. Using convergence points with Arabic and other languages, we will attempt to specify the proportion of innovations which may be ascribed to Zenaga, and to reconsider the grammaticalization of *ad* in the light of more general evolutionary processes.

1. Deixis and polyfunctionality

In this section, we will examine Zenaga's demonstratives as well as various grammaticalized uses of *ad*. In other Berber varieties, some of these uses are expressed by other forms: *a* (without *d*), *d* without a vowel (or with a vowel other than *a*). This may indicate that, contrary to what the Zenaga data seems to demonstrate, it is not a single morpheme with multiple functions (i.e. polyfunctional), but rather several morphemes which accidentally merged in Mauritanian Berber.¹⁰ We do not assert that all of its

⁸ Its meaning is: 'Do what you have to do, but don't linger if you want to avoid trouble'.

⁹ The last speakers (who number just a few thousand) are moreover all bilingual Berber / dialectal Arabic (*ḥassāniyya*).

¹⁰ Generally, for Berber *scholars*, *ad* is composed of a prop pronoun *a* and the deictic *d*. However, for Prasse (2008: 152 and *sq.*), the element *d* could, in some of its uses (namely as a conjunction), be a variant of the preposition *däg* 'in'. This analysis, however, is

uses are necessarily pan-Berber, but the hypothesis of the deictic origin of the particle *ad* enjoys sufficiently widespread agreement among scholars of Berber (see Galand 1977, Vycichl 1992, Chaker 1997, Mettouchi 2002) for our study on Zenaga to adopt it as a starting point.

1.1. Demonstratives

In Berber, the demonstrative system generally contains between two and four units, but it is also quite often ternary, as in many of the world's languages. Such is the case in Zenaga, where pronouns, determiners and place adverbs (without movement) tend to be organized around three degrees of proximity/distance.

In the following table, the forms in bold type are formally identical with the forms of the particle *ad* which is found in conditional clauses. Their place in the deixis system will help us understand the other uses of these deictics.

Zenaga				
	NEAR		MID	FAR
Clitic	SG -äd	PL <i>-iđ</i>	<i>-i?đ</i>	<i>-ān</i>
M.SG pronoun	äd		<i>i?đ</i>	<i>ān</i>
Neutral pronoun (SG)	<i>äyđ</i>		<i>ä?đ</i>	<i>ān</i>
F.SG pronoun	<i>täd</i>		<i>ti?đ</i>	<i>tān</i>
M.PL pronoun	<i>əđniđ</i>		<i>əđni?đ</i>	<i>əđnān</i>
F.PL pronoun	<i>təđniđ</i>		<i>təđni?đ</i>	<i>təđnān</i>
Place adverb	<i>đäd</i>		<i>đä?đ</i>	<i>đān</i>

The three series have several points in common, but the mid series is characterized by the presence of the laryngeal consonant *?*, while the farthest series is distinguished by a final *-n* (instead of *đ*), alongside the presence of the long vowel *-ā-*, found only in the proximity adverb *đäd*.

The distinction /d/ vs. /n/ has wide scope in Berber. It is found in orientation particles (OP), which are obligatory with certain verbs - movement and stative verbs in particular - and optional with others. The oral dental OP corresponds to movement towards the speaker (OP1), while the nasal dental OP corresponds to movement away from the speaker (OP2) (see Bentolila 1969). In Zenaga, the OPs take on the following forms:

- OP1 *-đ / -d* and its allomorphs *-?đ / -đä(h) / -dä(h) / -ddä(h)*
 OP2 *-n* and its allomorphs *-?n / -nä(h) / -nnä(h)*.

difficult to apply to Zenaga as its preposition 'in' (*đäg ~ dägg ~ dä?g ~ dä?*) is never reduced to *d*.

Zenaga (examples with obligatory OP)

- (5) *y-əššä=ddäh* *y-əDʷi=nän=däh*
 3M.SG-go.PFV=OP1 3M.SG-leave.PFV=PR.DO.3PL=OP1
 'He came (here) [and] he left them (around) here.'
- (6) *y-əššä=nnäh* *y-əDʷi=nän=näh*
 3M.SG-go.PFV=OP2 3M.SG-leave.PFV=PR.DO.3PL=OP2
 'He went over there [and] he left them (somewhere) over there.'

Contrary to the OP forms, those of the demonstratives vary enormously from one language variety to the next, especially as concerns the mid distance, but the distinction /d/ vs. /n/ is used by most of the Berber deictic systems. Thus, among the Ighchan (Galand 1988: 219), the demonstrative determiners include one form containing an oral dental consonant: *-ad* 'here' (near) and two forms with nasals: *-Na* (relative distance) and *-aN* 'there'. The mid series (containing a laryngeal consonant in Zenaga and *-Na* among the Ighchan¹¹) seems to be often used for referral phenomena:

- *äräb̄y=iɔd̄* 'that child there', as opposed to *äräb̄y=äd̄* 'this child (here)' and *äräb̄y=ān* 'that child there (far away), that child over there',
 — but also *äräb̄y=iɔd̄* 'this child' (the one which was just mentioned).

Given its absence from exophoric uses in certain varieties, it would seem that the mid series only appears alongside the other demonstratives used anaphorically. Thus, among the Aït Seghrushen, *-din* (in question) is distinct from *-u* (close) and *-iN* (far), (see Bentolila 1981: 75).¹²

In this latter variety, one should note that the oral dental consonant — absent from the close series — is present, as in Zenaga, in the intermediate series. This example shows that, beyond the numerous formal variations, the link with the basic distinction /d/ vs. /n/ appears sufficiently recurrent for it to be retained as a structuring principle in Berber deixis.

- The determiners are clitics, always suffixed to the noun. There is no distinction in number or gender, with the exception of the close demonstrative *-äd̄*, which has a specific plural form (*-id̄*), i.e.:

(7) *äräb̄y=äd̄ / äräb̄y=iɔd̄ / äräb̄y=ān məlliy* 'This child / that child / that child over there [is] white.'

(8) *äräb̄ān=id̄ / äräb̄ān=iɔd̄ / äräb̄ān=ān məlliy-id̄* 'These children /

¹¹ Among the Ighchan, and more generally in Shilha, there are two distinct anaphora however: *-Na* and *-Li*. It is difficult to specify the meaning of *-Na* within the system (*argaz=Na* 'that man there' —not too far? As compared to *argaz=Li* 'the man in question'), except in the presence of a relative where the distinction becomes one of indefinite *-Na* vs. definite *-Li* (Lionel Galand, p.c.).

¹² The Aït Seghrushen's variety is one of the dialects where the dental consonant /d/ is absent from the near series but present —along with /n/— in the "mid" series.

those children / those children over there [are] white.'

(9) *tarbaḍ=äḍ / tarbaḍ=iḍ / tarbaḍ=ān maḥliyy-äḍ* 'This girl / that girl / that girl over there [is] white.'

(10) *trābīn=iḍ / trābīn=iḍ / trābīn=ān maḥliyy-iḍ* 'These girls / those girls / those girls over there [are] white.'

• Pronouns agree in number and gender, thus their morphology is more complex than that of the determiners.¹³

(11) *äḍ / iḍ / ān mazẓūg* 'This one (M) / that one (M) / that one (M) over there [is] small.'

(12) *əḍniḍ / əḍniḍ / əḍnān mazẓūg-iḍ* 'These ones (M) / those ones (M) / those ones (M) over there [are] small.'

(13) *täḍ / tiḍ / tān mazẓūg-äḍ* 'This one (F) / that one (F) / that one (F) over there [is] small.'

(14) *təḍniḍ / təḍniḍ / təḍnān mazẓūg-iḍ* 'These ones (F) / those ones (F) / those ones (F) over there [are] small.'

In two out of three series, there is a specific form for designating objects (and some animates assimilated to the set of non animates, such as insects):

(15) a.	<i>taʔK</i>	<i>äḍ ?</i>	b.	<i>taʔK</i>	<i>äyḍ ?</i>
	what	this.one?		what	this?
	'Who is he? Who is this one?'			'What is it? What is this?'	

(16) a.	<i>iḍ</i>	<i>mazẓūg</i>	b.	<i>äḍ</i>	<i>mazẓūg</i>
	that.one	small		this.one	small
	'That one is small.'			'This one is small.'	

The “neutral” forms (*äḍ* and especially *äyḍ*) are used exophorically, but they also play an important endophoric role, often in contrast to the series with *ad*, as we shall see below.

1.2. The copula *ad*

In Berber the invariable particle *d* is used for nominal predication. In Zenaga, this particle, pronounced *äd* or *äḍ*, is obligatory in all affirmative non verbal sentences.¹⁴ Contrary to other varieties (where, therefore, it is not a copula), the presence of a subject is obligatory in this Berber variety. Apparently it is usually definite, and therefore often corresponds to a determined noun (by the demonstrative clitic or a (pro)noun) or to a

¹³ This seems to correspond to a universal tendency, see Diessels (1999: 25): “Pronominal demonstratives are more likely to inflect than adnominal and identificational demonstratives”.

¹⁴ A specific form, of verbal origin, is used with negation.

pronoun (independent person pronoun or demonstrative pronoun).¹⁵ The order is Subject + *ad* + Noun phrase.

Zenaga

- (17) *äyi?m=äd / bāba?n=š / nättä / äd äd [COP] änägruṃ*
'This camel / his father / him / this one (M) is paralyzed.'
- (18) *t-äyi?m-t=äd / yuṃṃa=n=š / nätta?häđ / täđ äd [COP] t-änägruṃ-t*
'This she-camel / her mother / her / this one (F) is paralyzed.'
- (19) *i?ym-än=iđ / äydmän=š / nəhni / əđniđ äd [COP] ənägruṃ-än*
'These camels / their brothers / them / these ones are paralyzed.'

In Zenaga, adjectival forms (e.g. *ṃälliy* 'white' and *mazzūg* 'small'), like verb forms, assume predicative function (see Taine-Cheikh 2003b). With the other non verbal forms — including those which express states or qualities such as *änägruṃ* '(a) paralytic'— the presence of the particle *ad* is obligatory.

This Zenaga copula is formally identical to the near M.SG demonstrative. This case is exceptional as in most Berber varieties the predicative element's form (generally *d*)¹⁶ is distinct from the demonstrative's (especially when the latter is reduced to a vowel). For us the Zenaga data reflects an archaic state, but other hypotheses are also viable. For example, it is also possible that the formal variation *ad* vs. *d* between Zenaga and other language varieties could be explained by slightly different basic constructions, one containing the determiner prop *a* and not the other (cf. 3.2.3). In any case, the presence of *ad* / *d* in nominal sentences constitutes an example of the grammaticalization of the deictic, which happens frequently in the world's languages.¹⁷

1.3. Presentatives

In clauses containing the copula *ad*, the subject, as we saw above, can be a demonstrative pronoun. When the second part of the predicate (the predicated element) is a noun phrase, either definite or not, to which the predication auxiliary lends referential meaning, the subject and the predicative noun agree in gender and number.

- (20) *äyđ / ä?đ / ān äđ [COP] burdällih / äđämi / äytāb=ən=k*

¹⁵ Noun predicate relative phrases are a particular case; the copula *ad* is also mandatory, but, exceptionally, the relater (having the form *š*) appears, which indicates the relativization of the antecedent in subject function (Taine-Cheikh 2007: 304).

¹⁶ Thus in Figuig: *netta d yuma* 'he is my brother' (Kossmann 1997: 241).

¹⁷ For a discussion on the grammaticalization processes leading to the use of the non verbal copula, see Diessels (*ibid*: 143 sq.).

'This / that / that (over there) is a centipede / a baobab / your book.'

- (21) *äd / i?d / ān äd [COP] aḥmäd / aḡma=n=š / äyi?m məlliy-än*
 'This one / that one / that one (over there) [is] Ahmed / his brother /
 a white camel.'
- (22) *täd / ti?d / tān äd [COP] kumbä / t'adma=n=š / täyi?mt məlliy-än*
 'This one / that one / that one (over there) [is] Kumba / her sister / a
 white she-camel.'
- (23) *ädniđ / ədñi?d / ədnān äd [COP] äydmän=š / i?ymän məlliy-nin*
 'These ones / those ones / those ones (over there) [are] his brothers
 / white camels.'

In such Zenaga sentences, the presence of a subject pronoun is necessary, contrary to the other Berber varieties, where the predicative particle can also be used as an identifier, e.g. in Figui: *d netta* 'it's him' (Kossmann 1997: 241).

However, when *ad* is followed by one of the neutral demonstratives, the resulting group (which is a stress bearing group) is an invariable predication auxiliary, with presentative meaning. In this case, only the distance varies (depending on which neutral demonstrative is used).

- (24) *äd-äyđ burdällih / aḡma=n=k / kumbä / i?ymän / ət'šädman=k*
 'This is a centipede / your brother / Kumba / camels / your sisters.'
- (25) *äd-ä?d ädämi / aḡma=n=k / kumbä / i?ym-än / ət'šädman=k*
 'That is a baobab / your brother / Kumba / camels / your sisters.'
- (26) *äd-ān ädämi / aḡma=n=k / kumbä / i?ym-än / ət'šädman=k*
 'That (over there) is a baobab / your brother / Kumba / camels /
 your sisters.'

1.4. “Relative” pronouns or determination props

As Lionel Galand aptly showed in his article “Typologie des propositions relatives” (2002 [1984]: 219-240), in Berber, relative clauses generally lack “relative pronouns”. Beyond the use of a specific pronoun, various solutions are possible, such as: using a non pronominal relater, marking the verb with specific modality (i.e. bearing a nasal suffix, known as “participial” marking), word order modifications, or recourse to an “empty slot”. The Berber varieties make use —more or less in the same manner— of one or another of these different resources, depending on the function of the antecedent’s representative in the relative (for Zenaga, see Taine-Cheikh 2007 and note 13). Use is also often made of deictic particles which furnish props for determination relations and, in particular, “relative clause” type

determination. Comparing the various uses of the prop *wa* which, in Tuareg (Galand 2002: 233), is apposed after a noun or is used on its own:

— *amis wa nayeġ Ø* 'camel [namely:] the one I-saw Ø' = 'the camel that I saw' or *wa nayeġ Ø* 'the one I-saw Ø' = 'the one that I saw',

— *amis wa-reġ* 'camel this one' = 'this camel' or *wa-reġ* 'this one'

— *amis wa n amġar* 'camel of the chief' = 'the chief's camel' or *wa n amġar* 'the chief's'.

In Zenaga, this construction is only found with relative clauses and the demonstratives themselves serve as “emergency” props. Generally, after a nominal antecedent, the demonstrative is not necessary. For example in the following proverb, where dependence is marked by the simple presence of the participle suffix *-än*:

- Zenaga
- (27) *mīn* *y-ərməšš-än* *ädägdi* *đäg* *ävušš*
 someone 3M.SG-take.PFV-PTCP finger in hand
y-ərmäšš^ti *koL*
 3M.SG-take.PFV=PR.DO.3M.SG all
 'Whoever takes a finger, takes the whole hand.'

The presence of a demonstrative would add referentialization, or at least some specification. The most frequent series in this case is the ‘mid’ series with anaphoric ('... in question'), or deictic (clitic or pronominal) meaning referring to an already mentioned referent (or a referent accessible through the discourse context).

- (28) *äđđ* *y-aʔ-n* *t-ägrä-h*
 this 3M.SG-be in.PFV-PTCP F-calabash-SG
y-užariʔ=h *ävušš*
 3M.SG-find.IPFV=PR.DO.3M.SG hand
 'Whatever is in the calabash, the hand will find it.'

The close series is used in commentary context, as in the following examples:

- (29) *m-ädđ=äg=t-än* *y-ässäg*
 who-the.one=PR.IO.2.SG=PR.DO.3-PL 3M.SG-be.preferable.PFV
 'Which one of them do you prefer?'

- (30) *y-attäD^ä=nnäh* *allah* *äyđ^näh* *wär=əD^aʔ-n* *mān*
 3M.SG-leave.IPFV=OP2 Allah this=OP2 NEG=leave.NPFV-3PL people
 'God forgives what man has not forgiven.'

As we can see in these last two examples, the pronoun affixes and the OP (usually suffixed to the verb) precede the predicate in some relative clauses. This characteristic is shared by many subordinate clauses. However, in the

case of shorter satellites (OP and PR.DO), this phenomenon (called “satellite attraction”) entails the insertion of *äd* as a satellite prop¹⁸ Whence the presence of *äd* in (31b) — when the OP is added — but not in (31a):

- (31) a. *ta?K äyd* *y-uḏur-an*
 what this 3M.SG-fall.PFV-PTCP
- b. *ta?K äyd äd=däh* *y-uḏur-an*
 what this REL=OP1 3M.SG-fall.PFV-PTCP
 'What fell (around here)?'

In (32) with *äd* as satellite prop, the presence of *i?d* is optional:

- (32) (*i?d*) *äd^näḥ* *wär-än* *y-ī?*
 that one REL=OP2 NEG-PTCP 3M.SG-be.in.NIPFV
äžih äd abğaš
 war COP courageous
 'He who is not at war is courageous'.¹⁹

This specific use of *äd* as a quasi-relater is limited to precise conditions (and only for certain types of relatives). Its integration in relative clauses (where it appears to form, along with the satellite, the first stress producing group in the subordinate clause) marks the grammaticalization tendency of *äd* in this specific context.

1.5. Focalization

Focalization belongs to the domain of the discourse-hierarchic perspective. Intonation, which always plays a role in the organization of a message, can indicate focalization of an essential segment in a sentence (namely with stress and contrast). Various means such as a change in word order (especially topicalization) and/or recourse to reminder pronouns are specific syntactic processes generally used to highlight the topic or comment (or even both).

Galand devoted several articles to the study of these operations in Berber (1957; 2002: 331-355). He showed the specificity of “rhematization” (focalization of the “rheme” ‘comment’) as concerns relative clauses and the important role played by the determination props in both cases:

“One then obtains a nominal sentence with two terms, most often following the pattern comment + topic: '(is) X | this-that one' or '(is) X | the one (who.../that..., etc.)'. Thus the sentences 'that over there, it's a

¹⁸ In (30), *äyd^näh* could be the contraction of *äyd + äd + näh*. This simplification appears only with PO2 (with PO1, one would have *äyd + äd + däh > äyd äddäh*, cf. (31b). Other cases have been noted, however, with *äyd* as a prop for pronominal satellites.

¹⁹ In this proverbial phrase (which means: 'it is when someone is in danger that one can see whether they are courageous or not'), the demonstrative *i?d* would not be used.

dog' and 'it is to the dog that I gave the meat' will be respectively rendered by '(is) dog that' and '(is) dog that to (which) I gave the meat'. The opposite order, topic + comment is also found, with an optional pause between the two terms of the clause: 'that to (which) I gave meat, (is) dog', a turn of phrase which could be called deferred rhematization” (2002: 345, translated by MD).

Shilha (following Galand 1957: 34 and p.c.).

- (33) a. (d) *afLaḥ* a *i-krz-n*
 (is) farmer this 3M-till.PFV-PTCP
 'It is the farmer who tilled.'
- b. a *i-krz-n* d- *ufLaḥ*
 this 3M-till.PFV-PTCP (is) farmer.ANN
 'That which tilled, it is a/the farmer.'
- c. *w-Na* *i-krz-n* d- *ufLaḥ*
 the.one 3M-till.PFV-PTCP (is) farmer.ANN
 'The one who tilled is the farmer.'²⁰

The predication auxiliary *d*—present in the topicalized sentence in (33c)—is not always present in rhematization. In Chleuh, it is mandatory in “deferred” rhematization (or restrictive focalization) as in (33b), but not in “standard” rhematization in (33a).

In Zenaga, the presentative *äyḍ-äḍ* is used in “standard” rhematization, in association with the deictic *i?ḍ* ('... in question').²¹ Thus once again one finds a predication auxiliary (having for initial element the “neutral” near demonstrative), except that here it is invariable. Therefore the commentaries *tarbaḍ-i?ḍ* 'the girl (there)' and *träbīn-i?ḍ* 'the girls (there)' are not introduced, respectively, by the demonstratives F.SG *täḍ / ti?ḍ / tān + äḍ* and F.PL *täḍniḍ / täḍni?ḍ / täḍnān + äḍ* (as in *täḍ-äḍ tarbaḍ* 'it's a girl'), but instead by the presentative *äyḍ-äḍ* in (35):

Zenaga

- (35) a. *äyḍ-äḍ* *t-arba-ḍ=i?ḍ* *ār* *kənt šāwäy-äg*
 'It is the girl (there) with whom (PAST) I spoke.'
- b. *äyḍ-äḍ* *t-räbī-n=i?ḍ* *ār* *kənt šāwäy-äg*
 'It is the girls (there) with whom (PAST) I spoke.'

²⁰ The annexation state form *ufLaḥ* is used after the predication auxiliary *d*.

²¹ An example without *äyḍ-äḍ* has however been noted, linked perhaps to the presence of the relater *äyš* (formed by the determination prop *ay* + the relation particle *š*):

- (34) *t-räbī-n=i?ḍ* *äyš* *t-ahḍ-äḍ* *t-əššīwiy-äḍ* *ət=š iN^A*
 F-girl-PL=those REL 2-can.PFV-SG 2-speak.IPFV-SG with=PR.3PL.F
 'Those are girls with whom you may speak.'

However, this same sentence with an another intonation (albeit incomplete) could mean 'Those girls with whom you may speak (...)'.

The various roles played by *ad* in predicative function (i.e. as a copula and a predication particle, in presentatives) are quite removed from its uses as subject demonstrative or determination prop. Nevertheless, all the various uses of *ad* can be quite easily understood given the usual meanings of demonstratives.

However, *ad* does have other functions. For Galand, these uses correspond to that of a modal particle, and not of a conjunction (2002 [1987a]: 252). We shall see below to what extent this affirmation also applies to Zenaga.

II. The use of TAM markers and dependency relations

2.1. Presentation of the verbal system

The verbal system in Berber is fundamentally based on an aspectual opposition between perfective vs. imperfective (in French *accompli* vs. *inaccompli*). The imperfective form —of non derived verbs— is characterized by the gemination of a root consonant (generally the second) or by prefixation of a *t(t)* to the stem.

Zenaga	
Perfective (PFV)	Imperfective (IPFV)
<i>yərməš</i> 'he took'	<i>yirämməš</i> 'he takes'
<i>yəžžəḍ</i> 'he caught scabies, he has scabies'	<i>yizəDʷəḍ</i> 'he (will) get(s) scabies'
<i>yudḍəḍ</i> 'he suckled'	<i>yəttəḍḍəḍ</i> 'he is suckling'
<i>yəkkuʔrəs</i> 'he is (has become) active'	<i>yətkuʔrīs</i> 'he is becoming active'

The forms used in negative contexts (after the negation *wər* 'not') often have several variants, either only for the perfective, or also for the imperfective. Alongside these positive and negative verb forms in the indicative, one must also add the imperative (IMP) and Aorist (A) forms. These regularly share a single vocalic pattern but, in the imperative, the 2nd person marker *t...-[d]* is absent: only the gender (F) and number (PL) markers remain. This pattern, which in numerous Berber varieties is identical to the Perfective for some of the forms, is completely distinct in Zenaga for almost all verbs, due to the retention of the distinction between the vocalisms *ä* and *ə*²².

Zenaga			
Imperative	Aorist	Perfective	Negative Perfective
<i>ärməš</i>	<i>yärməš</i>	<i>yərməš</i>	<i>yərməš</i>

²² And even more so between *a* and *i* or *a* and *u*. For more details, see Cohen and Taine-Cheikh 2000.

adḍuḍ *yadḍuḍ* | *yudḍaḍ* | *yudduḍ*

The form called “Aorist”, whose meaning is that of a neutral form, holds a special place within the Berber system. Used on its own, it only rarely alternates with perfective and imperfective forms. It does however play a major role in the language, because of its frequent use in dependent clauses or preceded by a particle.

As the most frequent particle is *ad*, in Zenaga and the other Berber varieties, we will explore its different uses, both with the Aorist and with the other TAM markers. We will start by examining the uses of the Aorist without the particle.

2.2. Uses of the Aorist without *ad*

The Aorist without any particle is almost never used as the first verb in a sentence in Berber. It is however used as a second (and subsequent) verb.

2.2.1. Verbs in juxtaposed clauses with sequential meaning

Pan-Berber coordination conjunctions are rare, and some varieties, such as Zenaga, continue to use them sparingly, although some borrowings from Arabic are used on occasion (e.g. *yağäyr* 'but'). In the absence of a usual coordinator (the coordinator of comitative origin, *d* — *əḍ* in Zenaga— being mainly used between NPs), juxtaposition is the most commonly used method in the enumeration of processes, states, events (unless it is to express an alternative). Compare (36) with *na?* 'or' to (37) and (38), where the second (and third) verb phrases are simply juxtaposed to the first.

- Zenaga
- (36) *äbḍḥ* *na?* *älləg*
 leave.IMP or stay.IMP
 'Leave or stay!'
- (37) *aḍ* *ävuʔš=ən=k* *okkḥ* *əḍ=i* *äyḍ*
 hold.out.IMP hand=of=PR.2SG carry.IMP with=PR.1SG this
 'Hold out your hand [and] carry this with me!'
- (38) *y-uwä=ddäh* *umnän=š* *y-igä* *oʔf=š-än*
 3M.SG-bring.PFV=PO1 camel.PL=PR.3 3M.SG-put.PFV on=PR.3-PL
t-äwžä *y-igä* *ārägän=š* *i* *t-nəšʔəm-t*
 F-luggage 3M.SG-put.PFV woman's.saddle[PL]=PR.3SG for F-woman-SG
 '(...) He brought his camels, put (the) luggage on them [and] put his (woman's) saddle for the woman. (...).'

Examples (37) and (38) show that, in discourse as in narratives (the last

example is taken from a story), processes may be juxtaposed without any coordination marking. In these two examples, the VPs in apposition have the same TAM markers: two imperatives in (37) and three Perfectives in (38).

In Berber, it sometimes happens that in enumerations, the juxtaposed verb forms (VP2, VP3, etc.) are replaced by Aorists. This happens more or less frequently depending on the variety, and more often with Imperfectives than with Perfectives: in this case the verb takes on the same aspect-mood meaning as the first verb, choosing the Aorist often, but not always, lending particular stylistic nuances, “chaining” for example (Galand 2002 [1987b] and 2003).

In Zenaga, choosing the Aorist after an imperative or Imperfective (this cannot be done with a Perfective) is quite rare, and apparently never mandatory. It is slightly more frequent in proverbs, but this does not seem to be due to any archaism factors. In fact, replacement by the Aorist was accepted by our consultant every time the conditions bearing on the TAM markers were met and the juxtaposition had sequential meaning.

Here are various examples where the verb in the Aorist expresses an action having a logical link with the preceding one, and first of all the conclusion of the story “the jackal and the hare”: the judge (a hedgehog) proves that the jackal has no rights to the young she-calf because his bull cannot have given birth, contrary to the hare’s cow.

- (39) *y-ənn(äh)^āš* *ässən=ti* *t-äkf-äd*
 3M.SG-say.PFV=PR.IO.3 know.IMP=PR.DO.3M.SG 2-give.A-SG
- t-īrki?-d=ən=š* *i* *t-ärumbäl*
 F-young.she.calf-SG=of=PR.3 to F-hare.SG
- 'He tells him: “know it [and] give his young she-calf to the hare!”'

At times it is an habitual succession of events, or a chain of events which take place in a certain order, and which correspond to a semantically asymmetrical coordination:

- (40) *ämuy* *butilimīt* *t-ažr-ad* *ağmä=n=k*
 go.IMP Boutilimit 2-find.A-SG brother=of=PR.2M
- t-uṃṃugrā-d=i?d*
 2-come.back.A-SG=OP1
- 'Go to Boutilimit, find your brother [and] come back here.'

It can also be a sequence of events which, a priori, runs counter to the normal state of things. Then it is equivalent to an adversative coordinator (but, nevertheless), as in the following saying:

- (41) *āggūn* *ə<Tʸ>uḏuzzug-än* *unnugur-än=ti*
 bard.PL <PASS>beat.IMPFV-3PL hide.A-3PL=PR.DO.3M.SG
 'The bards, one hits them [and] they hide it.'

2.2.2. Main clause verbs depending on an event pattern

Quite frequently, the choice of the Aorist for the main clause verb is conditioned by the nature of the preceding clause. This context often consists of a temporal subordinate clause with habitual meaning:

- (42) *oʔgd=ār* *y-äffud* *y-äšbi* *ḏäg ämän*
 moment=in.which 3M.SG-be.thirsty.PFV 3M.SG-drink.A in water.PL
 'When he is thirsty, he drinks water.'

It can also be the protasis of a conditional clause (see examples (3) and (4)) or a specifying relative (43):

- (43) *mīn* *y-attättar-än* *äd^y-äykīh* *äššäyx=ən=š*
 someone 3M.SG-want.IPFV-PTCP ad=3M.SG-disappoint.A marabout=of=PR.3
y-ässänkər=ti *oʔf äy[ḏ]* *wär^y-īr(i)^* *allah*
 3M.SG-invoke.A=PR.DO.3M.SG on this NEG=3M.SG-want.NPFV Allah
 'He who wants his marabout to disappoint him, invokes him for something that God doesn't want.'²³

In the preceding examples, the subordinate clauses establish an event framework referring to a generic, usual, or possible situation.

If the framework set up by the subordinate clause corresponds to a temporally specified situation, the main clause verb is not in the Aorist. Thus after a temporal subordinate clause introduced by *äll-ār* (lit. 'place where'), the verb in the main clause is in the perfective form:

- (44) *ällār=ḏ^* *əšš-äg* *aʔr* *nwakšōṬ*
 when=OP1 come.PFV-1SG to Nouakchott
uḏr-ag *əḏya<ʔ>n*
 find.PFV-1SG family.PL<PR.1SG>
 'When (as soon as) I arrived in Nouakchott, I found my family.'

The same holds true for the causal subordinate clause introduced by *äd-ār-äyš* 'since' (lit. 'this where that'):

- (45) *ädār-äyš=täd* *t-uzzaʔr-äd* *t-ässän-äd* *aʔll=ən=š*
 since=PR.DO.3F.SG 2-see.PFV-SG 2-know.PFV-SG place=of=PR.3

²³ This proverb contains another one of the uses of *ad* + Aorist (after *yattättar* 'he wants') which we shall examine in paragraph 2.3.1.

'Since you saw her, you know her place (the place where she lives).'

2.2.3. Main verbs of complex predicates after auxiliaries with modal meaning

Some complex predicates are made up of an auxiliary verb (at times with incomplete conjugation paradigms) and a main verb, where the person markers are coreferential. The choice of the main verb's TAM generally depends on the aspectual or modal meaning of the auxiliary. It is always in the Aorist after two auxiliaries with modal meaning. *yahaḏ* expresses a possibility ('he can, has was able'). The invariable impersonal *äD^yiri* denotes a necessity ('it is necessary that').²⁴

- (46) *nəkni äššäbbäš=äḏ äD^yiri n-äyäg ḏäwr-ən äffälläh*
 us year=this must 1PL-ascend.A in.direction-of up
 'Us, this year, we must go to the countryside.'

On the contrary, after auxiliaries like *yumrä* 'already be' and *yuggä* 'almost have', the main verb is in the Perfective:

- (47) *umra?-n äḏbā-n*
 already.be.PFV-3PL leave.PFV-3PL
 'They have already left.'
- (48) *t-ugg-äḏ t-uḏar-aḏ*
 2-almost.have.PFV-SG 2-fall.PFV-SG
 'You almost fell.'

2.2.4. Dependant clause verbs with consecutive meaning

In paragraph 2.2.1, the verb in the Aorist (without *ad*) represented a process linked sequentially to a preceding process. However, at times, the verb in the Aorist expresses a goal or a consequence of the first process. In this case, the two verbs no longer share the same temporality nor, often, the same subject.²⁵ The attraction of the pronominal expansions (*oʔf-* 'on' + PR) to pre-verbal position marks dependency.

- (49) *siyigm=iʔh oʔf=kün äʔyiž-äg ənšəšša<ʔ>n*
 raise.IMP=PR.DO.1SG on=PR.2M.PL tell.A.1SG news. PL<PR.1.SG>
 'Raise me so that I may tell you my story!'

²⁴ The etymology could be: *äD^yiri* 'that he want', from the verb *yārä* (A *yīri*) 'want'.

²⁵ *iläh* is an adverb (borrowed from dialectal Arabic) not a verb, but it also expresses a process.

(50) *lubābā ilāh oʔf=kām äʔyiž-äg t-əlləS*
 Loubābe ! this.way on=PR.2F.SG tell.A-1SG F-story.SG
 'Loubābe! This way, so that I tell you a story!'

(51) *aʔd ävuʔš=ən=k oʔf=ki səlləm-äg*
 extend.IMP hand=of=PR.2M.SG on=PR.2M.SG greet.A-1SG
 'Hold your hand out that I may greet you!'

2.3. Dependent clause verbs preceded by *ad*

Several cases are possible, depending on the governed verb's TAM.

2.3.1. *ad* + Aorist

This construction, undoubtedly more frequent with some verbs than with others (see, for Kabyle, Naït-Zerrad 2001: 141), is found with two sets of operators. Denoting a goal could be common to both, but this is less clear in the first case than in the second.

- The following examples show many similarities with those in paragraph 2.2.4. They seem to have the exact same consecution, or finality, meaning, and only differ in the presence of *ad* preceding the Aorist. Apart from example (52), the particle *ad* could play the role of satellite prop (PR or OP), which was not necessary in presence of the preposition *oʔf*.

(52) *ilāh äd äžb-äg*
 this.way *ad* drink.A-1SG
 'This way, that I drink!'

(53) *ilāh äd^täd žišb-äg*
 this.way *ad*=PR.DO.3F.SG make.drink.A-1SG
 'This way, that I make her drink!'

(54) *ärmiš är=əš t-angal ärmiš*
 remove.IMP of=PR.3 F-candy.SG remove.IMP
äkʃ(i)^āš äd^ti t-andug
 give.IMP=PR.IO.3 *ad*=PR.DO.3M.SG 3F.SG-taste.A
 'Remove the candy! Remove it! Remove it! Give it to her, that she taste it!'

(55) *ägvi=ʔh äd^täd ažr-ag*
 wait.IMP=PR.DO.1SG *ad*=PR.DO.3F.SG find.A-1SG
 'Wait for me, that I find her.'

This construction with *ad* and the Aorist is sometimes equivalent to the construction with the subordinator *hānəš* 'so that' (which probably contains the element *š*), but this particle (always followed by the perfective or

imperfective) is used to express the goal specifically, contrary to *ad*.

- (56) *akf(i)^i? = d̄* *aʔərʔi* *hānəš* *aʔS-äg* *ətšiyän*
 wait.IMP=PR.DO.1SG=OP1 money so.that buy.I-1SG shoe.PL
 'Give me (here) money so that I (may) buy shoes.'

• Governing verbs expressing orders, requests or wishes (expressed openly or to oneself) are also regularly constructed with the Aorist preceded by *ad*.

- (57) *tättär-äg* *äd̄* *aḍ=iʔh* *y-iddug*
 want.IPFV-1SG *ad* with=PR.1SG 3M.SG-marry.A
 'I want him to marry me.'
- (58) *äybḍā-g* *tättär-äg* *äd̄* *šiywuḍ-äg*
 leave.IPFV-1SG want.IPFV-1SG *ad* ritual.cleansing.A-1SG
 'I am leaving, I want to do my ritual cleansing.'
- (59) *y-ənn(äh)^āš* *äd̄^ti* *y-arzi*
 3M.SG-say.PFV=PR.IO.3 *ad*=PR.DO.3M.SG 3M.SG-break.A
 'He said to him (asked him) to break it.'

ad + Aorist is used after certain verbs such as *yənnäh* 'say' (which then expresses a demand, a request) for indirect speech, and especially for indirect orders. Compare (59) to (60), where the order is expressed directly, using the imperative (and not using *ad*):

- (60) *y-ənn(äh)^āš* *arzi? = h*
 3M.SG-say.PFV=PR.IO.3 break.IMP=PR.DO.3M.SG
 'He said to him: "break it".'

When several orders are given, the particle *ad* is repeated before each Aorist, as in the following example taken from a story:

- (61) *t-ənnäh^* *iy* *oʔbbäy* *äd̄^y-ärmiš* *t-äḍi? - d̄*
 3F.SG-say.PFV to slave *ad*=3M.SG-take.A F-calabash.SG
äd̄^y-aʔzig *kāräʔ = n = iʔž* *äd̄^ti*
ad=3M.SG-milk.A a.little=of=milk *ad*=PR.DO.3M.SG
y-okkīh *ḍäwr-ən* *äyaʔḍ = ən = š*
 3M.SG-carry.A towards husband=of=PR.3
 'She told (asked) a/the slave to take a calabash, to milk a little bit [and] to bring it to her husband.'

2.3.2. *ad* + *yu(u)gä* or *yumrä* in indirect yes or no questions

In Zenaga, *ad* is also used to indirectly ask a question, or to express doubts as to a process. In this case, *ad* is followed by an auxiliary verb, frozen in the 3M.SG: either the verb 'become, switch to a certain state' (*äd̄^yu(u)gä* < *ad^yu(u)gä*), or, more rarely, the verb 'be already' (*äd̄^yumrä* < *ad^yumrä*).

The TAM markers in the completive clause distinguish between indirect speech ('say that ...') and indirect orders ('say about ...'). The latter is characterized by the subordinate verb in the Aorist (see paragraph 2.3.1).

The use of quotative *ad* is common in discourse and narratives, but it is not generalized because direct speech, even in narratives, is very frequent, cf. example (39).

The case raised by the use of this complementizer *ad* seems quite simple as compared to the other uses of *ad*. We shall determine in paragraph 3. whether it sheds light on the other cases of grammaticalization.

One must specify however that this construction appears only after *yinnäh*. Generally speaking, the subordinator *äyš* introduces completive clauses, after opinion or judgment verbs such as *yäznäzgam* 'think (that), ponder' and after emotion or modal verbs such as *yässug* 'prefer (that)', *yännu?mäš* 'want (that)', *yäššufraḍ* 'force to do'.

- (67) *ännu?mäšš-äg* *äyš* *uktäy-äg* *ḍāḍ*
 want.PFV-1SG that stay.PFV-1SG here
 'I want to stay here.'

2.4. *ad* in fronted position

The uses of the Aorist (with *ad*) which we shall now examine are (almost) always in fronted position.

2.4.1 *ad* + the prohibitive and injunctive Aorist

Berber has specific forms for expressing orders. The imperative forms are very similar to the Aorist,²⁶ as we saw in paragraph 2.1.

With prohibitives, i.e. negative orders, the verbal negation particle *wär* never combines with the imperative.²⁷ In many varieties, the imperative is replaced by the Aorist in this case, i.e. the form which resembles it the most.²⁸

- (68) a. *ät'šī*
 eat.IMP
 'Eat!'
 b. *äḍ* *wär=t-ät'šī?-ḍ*
 ad NEG=2-eat.A-SG
 'Don't eat!'

²⁶ Such formal similarities are found in many languages having a so-called Aorist form (for example in Mwotlap and Wolof, see François 2003, Robert 1991, etc.). This cannot be simple coincidence. In Berber, it does indeed correspond to a semantic proximity.

²⁷ At least with imperatives having the same stem as the Aorist. In some varieties, including Zenaga, there are in fact imperative forms — i.e. lacking the marker *t-...[-ḍ]* for the 2nd person — which share a stem with the Imperfective. These may combine with the negative particle.

²⁸ In Zenaga, negation is then, exceptionally, associated with Aorist forms (see (68b) and (69)), whereas normally the negative Perfective and the negative Imperfective are used after the negation *wär*, see (63) and (81).

In the following proverb, the same verb is used successively as an order and as a prohibition:

- (69) *ägtawäšni* *ägṃug* *āwäy=ən=š*
wise.man follow.IMP words[SG]=of=PR.3
äd *wär=t-ägṃug-äd* *ä?d* *y-əssäkkär*
ad NEG=2-follows.A-SG that 3M.SG-do.IPFV
'The wise man, follow his words, not his actions (lit. what he does).'

While the imperative, being reserved for hearers, is only used in the 2nd person,²⁹ the prohibitive does not differ from negative orders which may concern other people, including those who are absent.

- (70) *äd=ki* *wär^y-uzzu?r* *allah*
ad=PR.DO.2SG NEG=3M.SG-see.A Allah
däg *äll=är* *wär^y-ukiy*
in place=in which NEG=3M.SG-want.NPFV
'That God not see you in a place where He does not wish to see you!'

Affirmative injunctions are also possible,³⁰ but in Zenaga, the only spontaneous example we were able to find is in a given context, as in the following proverb:

- (71) *mīn* *wär-än* *y-užri* *äyḏ*
someone NEG-PTCP 3M.SG-find.NPFV this
i-näbbä *äd^y-əzzən* *təT*
3M.SG-say.IPFV *ad*=3M.SG-say.A truth
'He who has not found something to say, that he speak the truth!'

(72) is a variant of (43). It differs however by the presence of *ad* and the attraction of the suffix pronoun *ti* to pre-verbal position, as well as in its intonation which, with *ad*, is exclamative.

- (72) *mīn* *y-əttättər-än* *äd^y-äykīh*
someone 3M.SG-want.IPFV-PTCP *ad*=3M.SG-disappoint.A
äššäyx=ən=š *äd^ti* *y-əssänkər*
marabout=of=PR.3 *ad*=PR.DO.3M.SG 3M.SG-invoke.A
o?f=äy[d] *wär^y-īr(i)^* *allah*
on=this NEG=3M.SG-want.NPFV Allah

²⁹ We do not have any examples of the imperative in the 1st person. The cohortative is expressed by *ad* + Aorist, as is the injunctive.

³⁰ In Berber, *ad* followed by the Aorist frequently serves to express positive orders and also the optative (positive and negative). Here is an example of a wish taken from Tuareg of Aïr, analyzed by Galand (2002 [1984]: 126): *lalla*¹, *a*² *dī*³ *t'əqqən*⁵ *a*⁴! 'By-God¹, that² you⁴ me³ attach!' = 'I beg you, attach me!'. In this variety, however, true injunctions are indeed expressed by the Aorist, but it is to the verb that the particle *-et* is suffixed: *ak*¹ *awedən*² *i*³ *kkəl*⁴ *et*⁵ *teyint*⁶ *-nel*⁷! 'that⁵ each¹ man² he³-take⁴ the-pot⁶-of-him⁷!'

'He who wishes to be disappointed by his marabout, that he invoke him for something that God does not want!'

2.4.2. *ad* with future connotations

- In some varieties, the future is expressed by a specific construction. In Zenaga, the future is expressed by means of the verb *yānhāyā* 'be occupied' which, as future auxiliary, is conjugated and forms, along with the main verb, a complex predicate. In other varieties such as Shilha, the future is expressed using the particle *rad*, a grammaticalized form of 'want' + *ad* (Galand 1977: 302). In this Berber variety, the particle *ad* thus accompanies the Aorist in certain types of clauses, whether independent (orders, wishes) or dependent (consequence or goal), in sum, a list more or less identical to what we just saw for Zenaga (Galand 1988: 221, 224-5, etc.).
- In many Berber dialects, however, the Aorist preceded by the particle *ad* (or one of its variants) provides a means (non specific but regular) of expressing the future.³¹

Aït Seghrushen's Tamazight (following Bentolila 1981: 173)

- (73) *ad* *azn-x* *lflus*
ad send.A-1SG money
 'I shall send the money.'

Kabyle (following Naït-Zerrad 2001: 110)

- (74) *ad* *as-* *t-* *fke-ġ* *tameddit*
ad PR.IO.3 PR.DO.3M.SG give.A-1SG (the.)evening
 'I shall give it to him in the evening.'

Figuig (following Kossmann 1997: 269)

- (75) *ad* *y-acer*
ad 3M.SG-steal.A
 'He will steal.'

- Among the Berber varieties using *ad* to refer to the future, some of them also use the imperfective form (IPFV). Such is the case for the Figuig variety, where the distinction in meaning added by the I is that of habit or repetition.

Figuig (following Kossmann 1997: 269)

- (76) *ad* *i-ttacer*
ad 3M.SG-steal.IPFV
 'He will steal habitually, he will become a thief.'

2.4.3. *ad* in conditional clauses

³¹ Based on the distinction proposed by Galand (1977: 302), *ad* + Aorist would serve, if not to "denote" the future, then at least to have future "connotations".

The use of *ad* in Zenaga conditional clauses raises a classificatory problem. It is a construction seldom used outside Mauritanian Berber. Indeed, it seems to us that, as in Arabic (see Peled 1992), the protasis and the apodosis make up a correlative structure, with set word order. There is a dependency relation between the two clauses, but it is a question of codependence rather than a relation of subordinate to main clause, in particular where both of the conditional clauses' verbs are in the Aorist.

• In expressions of condition, the verb, after *ad*, is frequently in the Aorist. When the verb in the apodosis is in the imperative (as in (4)) or in the Aorist — which is most frequently the case —, the condition then takes on habitual or generic meaning, see (77) and (78a). With the Imperfective, whether negative or not, the potential meaning appears to be dominant, see (78b). The following example — the moral to a story which illustrates the need, for brothers, to stick together — well illustrates its generic meaning.

- (77) *äd^t-äddug-äm* *wär^y-ahađ* *mīn*
ad=2-agree.A-PL *NEG=3M.SG-be.able.[N]PFV* *someone*
y-iššullur=kūn *äd^t-ūžərā-m*
3M.SG-be.unfair.A=PR.DO.2M.PL *ad=2-separate.A-PL*
äk^yu?n *đä?g=ūn* *y-uđšuff*
each=one *in=PR.2M.PL* *3M.SG-weaken.A*
 'If you agree amongst yourselves, no one (can) do you harm. If you separate, each one of you becomes (will become) weak.'

The choice of the TAM in the apodosis determines the meaning: general condition in (78a) and goal in (78b):

- (78) a. *äd* *wär^y-äšbi* *y-uffud*
ad *NEG=3M.SG-drink.A* *3M.SG-be.thirsty.A*
 'Although he isn't drinking, he is thirsty.'
 b. *äd* *wär^y-äšbi / y-əšbi* *y-änhäyā*
ad *NEG=3M.SG-drink.A/NPFV* *3M.SG-FUTURE.PFV*
y-ətfud
3M.SG-be.thirsty.IPFV
 'If he doesn't drink, he will be thirsty.'

(78b) shows that the Aorist can be replaced by the negative Perfective in a negative protasis. There is however another type of hypothetical system, where the (main) verb in the protasis is never in the Aorist.

• When conditional clauses make use of the referential situation, Zenaga *ad* is followed by *yu(u)gä* (> *äd^y(u)gä*), the frozen form of the verb 'become, switch into the state of' (the same one which appears in indirect questions as seen in paragraph 2.3.2). In these "factual" type hypothetical systems, which may be implicative or explicative (Banys 1996: 222), all forms of the perfective (PFV and NPFV) and the imperfective (IPFV and NIPFV) seem

allowed, in both the protasis and the apodosis, with various changes in meaning.

- (79) a. *äd^yu(u)gä* *y-əšbä* *wär[^]yuffuđ*
ad[^]yu(u)gä 3M.SG-drink.PFV NEG=3M.SG-be.thirsty.NPFV
 'If he drank, he is not thirsty.'
- b. *äd^yu(u)gä* *y-əšbä* *kān* *y-äffuđ*
ad[^]yu(u)gä 3M.SG-drink.PFV PAST.3 3M.SG-be.thirsty.PFV
 'If he drank, [then] he was thirsty.'
- (80) *äd^yu(u)gä* *y-əžässä* *y-äffuđ*
ad[^]yu(u)gä 3M.SG-drink.IPFV 3M.SG-be.thirsty.PFV
 'If he drinks, [then] he is thirsty.'
- (81) *äd^yu(u)gä* *wär[^]y-uffuđ* *wär[^]y-əžissi*
ad[^]yu(u)gä NEG=3M.SG-be.thirsty.NPFV NEG=3M.SG-drink.NIPFV
 'If he is not thirsty, he doesn't drink.'

In example (82), the lexeme “explicitating” the person marker (here *bāba?-n-š* 'his father') is placed between *äd^yūgä* and the verb *y-əžäy*. This is the sign of strong solidarity between *ad* and *yu(u)gä*, and could be additional proof of the grammaticalization of *äd^yūgä* into a subordinating phrase. Indeed, in the habitual uses of *ad*, such a lexeme would be either preposed to the particle *ad* (which, in this case, is repeated), or postposed to the verb.

- (82) *äd^yūgä* *bāba?=n=š* *y-əžäy* *y-əttižiy*
ad[^]yu(u)gä father=of=PR.3 3M.SG-be.fast.PFV 3M.SG-be.fast.IPFV
 'If his father was fast, he will be fast.'

We will now study the origin of the Zenaga conditional particles.

III. Deixis, referentiality and discourse structures

Numerous are the uses of *ad* in Berber. The deictic origin of the morpheme undoubtedly explains most of these uses (copula, presentative, “relative” pronoun, etc.), as comparable grammaticalization processes have been observed in other languages. We must now attempt to determine if such an origin can help us understand the other uses of the demonstrative, especially those — found only in Zenaga — where *ad* seems to function as a subordinator. That being said, given that the place of *ad* and/or of the Aorist has played an important role in the analysis of our data, we shall first of all seek to better understand the relation between topic and TAM.

3.1. Topicality, determination and referential constructions

The placement of the topic and comment depends on the speaker's choice

and can be modified according to the organization desired for a given sentence. The choice of the fronted element (initial locator), however, belongs entirely to the informative structure of the sentence (except in the case of specialized focalization, which makes use of insistence stress phenomena) and to the basis-addition relation: a fronted element, which corresponds to the least informative segment, is followed by the commentary, which corresponds to the most informative segment (Taine-Cheikh 1999b).

This definition of the topic — and its distinction from the initial locator — may be imposed by the nature of the languages. Given the syntactic order determined-determiner which characterizes Arabic and Berber, the fronted element may be a more or less determined argument (and not necessarily a highly defined topic argument). However, as in many of the world's languages, the presence in this initial position of an entirely indeterminate element is problematic.

In Arabic, an indefinite NP may occupy initial position under certain conditions. These conditions depend on the Arabic variety in question,³² but they all follow the same rule: to be fronted, all NPs must be minimally specified, either quantitatively or qualitatively. The partially defined initial locator, which fails the test of *ʔammā* 'as for' — a test serving to express a change in topic in Classical Arabic —, must therefore be distinguished from initial topicalized NPs (see Kouloughli 1994).

Berber scholars have not felt the need to distinguish, in an analogous manner, between simple prop NPs and topicalized NPs. It is possible that the NPs in initial position are topics³³ on a regular basis. However, it would seem surprising to us that the prosodic difference observed in Kabyle by Mettouchi (2006: 118-122), between the post-verbal subject (or “explicative complement”) and the right dislocated subject (dislocation being indicated by an intonational break)³⁴ should not similarly distinguish the pre-verbal subject (in initial position) from the indicator of the left dislocated topic.

In the case of Zenaga, the NP as initial locator is not followed by a pause, while NPs with topicalized meaning may be followed by a pause. We also believe that some NPs in initial position are too indeterminate to be topics. This is the case e.g. of *mīn* 'someone', which can only be fronted if it is determined by a relative clause. Thus one may make a distinction between

³² In any case, it can be the presence of a determiner relative, but in Classical Arabic the diminutive form can suffice to make topicalization possible, and in Arabic dialects, this can be carried out by the indefinite modality, for those which have acquired one (often by grammaticalizing the numeral *one*).

³³ This is the impression one gets, for example, from the study of Rifain by Lafkioui (2002: 266-70). An “intonational dislocation” (a melodic peak followed, in principle, by a drop in pitch), characterizes all “topic indicators”, but the notion appears to be reserved here for initial NPs with topicalized meaning (which, as specified, is not intrinsically defined by their pre-verbal position, even if it is their most frequent position).

³⁴ In this case, we prefer to use the term “post-comment”.

the fronted *m̄n* (an indefinite lexeme denoting a male person, an individual, whence the meaning 'someone') and the noun phrase with topicalized meaning which it constitutes along with the relative clause *wār-ān yuḗri* and its expansion *äyḗ inäbbä*:

(71)	<i>m̄n</i>	<i>wār-ān</i>	<i>y- uḗri</i>	<i>äyḗ</i>
	someone	NEG-PTCP	3M.SG-find.NPFV	this
	<i>i-näbbä</i>	<i>äd^y-əzzən</i>	<i>təT</i>	
	3M.SG-say.IPFV	<i>ad</i> =3M.SG-say.A	truth	
	'He who has not found something to say, that he speak the truth!'			

While in Berber the question of the simple prop NP may appear rather secondary, the problem raised by the place of the Aorist in a sentence is clearly of the utmost importance for understanding the role of *ad*. In fact, the two phenomena are probably similar in the workings. The impossibility, for an indefinite NP to appear in initial position without any qualitative determination is comparable to the impossibility for a verb in the Aorist to become the first verb in a sentence without the presence of certain particles. Given that the Aorist is the neutral form in the system, it appears that there is a direct relation between its “indeterminate” TAM meaning and the fact that it is excluded from fronted position, all the more so as this constraint, far from being limited to Zenaga, or even Berber, tends to also be found in other languages having an Aorist with similar meaning.

The Aorist in Wolof for example, which is also called “Zero aspect”, shows many points in common with the Berber Aorist.³⁵ Robert (1996) suggests considering it a “situationally dependent” form. And indeed, in all the cases where the Berber Aorist is used on its own, it is always preceded by a verb or clause which establishes the situational background necessary for referential construal.

The Berber Aorist does not seem to have modal meaning in the sense of indicating subjective implication: what modal meaning it may have is more due to the fact that in itself it is not anchored in discourse time. When it instantiates a process therefore, it only does so indirectly, through the aspect-tense determinations transmitted by the situational background in which it is inserted (whence its “plasticity” in the case of sequential juxtaposition, its capacity to take on the same meaning as that of the preceding process). However, processes are not always anchored in precise frameworks, e.g. enumerations (cf. (37)) where each event necessarily

³⁵ The uses of the Aorist are not identical in the two languages (in Wolof it is often found in proverbs and questions), but many of them (narrative Aorist, injunction, final or consecutive subordinates...) are common to both (see Robert 1991, 1996). Furthermore, it is symptomatic that in Wolof, “in stories and historical tales, the Aorist is never found as the first verb form” (Robert 1996: 154, translated by MD).

follows a certain (logical) continuity with the preceding event.³⁶ Of course this framework may be very general and be left partially indefinite, either because it corresponds to usual situations (cf. (42)) or because instead of being located in the real world, it is located in a world of what is possible (cf. (43)). This explains why only the Aorist is used in main clauses following certain temporal subordinate clauses³⁷ and in subordinate clauses with consecutive or purpose meaning. One also understands why certain meanings, more compatible than others with the fundamental indeterminacy in meaning, can be attributed to the Aorist without particle: habitual meanings or potentiality and possibilities.

3.2. Deixis *am Phantasma* and TAM particles

The syntactic uses of the Aorist without particle are distinctly different from its uses preceded by *ad*. With the exception of dependent verbs with consecutive or final meaning (see paragraphs 2.2.4 and 2.3.1), to which we shall return below, a noteworthy change takes place in presence of the particle *ad*: the possibility for the Aorist to appear in initial position. This fact is common to the three uses studied in paragraph 2.4 (prohibitions and orders; future and, more generally, TAM particle; conditional clauses). We will now attempt to understand the causes of these phenomena, starting with the use of *ad* as TAM particle. Certain peculiarities in its uses deserve more attention.

3.2.1. Non chained forms in Tamazight

The notion of “chaining” was proposed by Bentolila in his study on Aït Seghrushen’s Tamazight (1981: 152 *sq.*). He draws attention to the fact that having recourse to Aorists (without any particle) in sequential chains sets up a specific, tight, semantic link, between various actions, but actually, in this variety, the distinction between chained and non chained forms is particularly significant. Aït Seghrushen’s Tamazight indeed is endowed with a rich paradigm of preverbal aspect-tense and modal particles, either affirmative (*ad, ga, al, La, da-ad*) or negative (*ur, uLi*). The structuration of the verbal system is based on a tripartite distinction: positive vs. negative, real vs. unreal, and chained vs. non chained.

While in a Berber variety such as Zenaga the Aorist is the only verb form reserved for sequential dependence uses, in Aït Seghrushen’s Tamazight

³⁶ The reasons behind the choice of Aorist without particle in Berber are not always quite clear. In any case, it is not always a stylistically marked choice.

³⁷ In which case a certain co-dependency relation is set up between the two clauses: the first is subordinate to the second through the use of a subordinator, and the verb in the main clause (in a non assertive form) depends on the framework set up by the subordinate clause.

there are two chained forms, the Imperfective preceded by *al*, alongside the Aorist on its own. The non chained forms (the only ones which are susceptible of being in initial position), are all the others, in particular those with *ad* followed by the Aorist or the Imperfective. Whereas the former cannot be fronted, the latter may be used in enumerations (i.e. in the same contexts as chained forms). This is where the semantic difference between the two groups of forms appears most clearly: the first express chained (or logically dependent) actions while the others “translate isolated, disjointed actions, almost excluding one another” (ibid: 154, translated by MD). The presence of *ad* therefore makes the Aorist (as do *ad* and *La*, for the Imperfective) a form endowed with its own situational references — the clause thus becomes as independent as one with a verb in the imperative or Perfective— while the Aorist on its own and *al* + Imperfective place the clause in a state of “situational anaphora” (Robert 1996: 160, translated by MD).

3.2.2. *ad* and verbal satellites

Satellites (OP and pronoun affixes) are usually positioned after the verb but in subordinate clauses, they are often attracted to preverbal position, especially “in relative clauses and in constructions having their origins in relative clauses” (Galand 1988: 220, translated by MD). They are also displaced before the verb when it is preceded by negation or certain particles such as *ad* (and *ar* for the Ighchan).

The causes of this attraction are unclear, but as pointed out by Mettouchi (2006: 118), this attraction corresponds to a reorganization: the verbal phrase loses its role of pivot in presence of the negation *ur* or the particle *ad* to the extent that they become the anchor points for the satellites.³⁸ As for this pivot role, we believe that it could function not only on the morphosyntactic level, but also on the semantic-referential level. We do not uphold that syntactic anchoring and referential anchoring are necessarily superimposable, but it is not impossible that they be parallel, both for the *ad* as TAM particle and for the other *ad* (starting with the relative prop demonstrative *ad*).

3.2.3. The anchoring function of *ad*

Among the numerous functions of *ad*, two (1.2 and 1.3) concern the predication of nouns. In Zenaga, the presence of *ad* between two noun phrases suffices, along with the appropriate intonation, to construct a noun predicate clause, where the first NP is the subject and the second the

³⁸ In Zenaga, satellites are placed after *ad* when the two particles are present.

predicated element (see example (17) and following). This construction shows differences from one variety to another, to the extent that some, such as Tuareg, can directly predicate a noun (without *d*), while other varieties, namely Kabyle (cf. (83)) and other central Moroccan varieties allow noun clauses limited to a single NP preceded by *d*.

Kabyle (Galand 1988: 218)

(83) *ǎ idrwišn* 'These are crazies'.

Syntactically, the two constructions with particles (*ad / d*) + NP (with or without a subject NP) are distinct and if the construction without a subject NP does not derive from the one having a subject NP, it is preferable to attribute different origins to them.³⁹ However, the role of the particle is similar in both cases, from a semantic-referential perspective. It consists in anchoring the NP by attributing it a referent in the real world or in the discourse universe. This NP can be definite, but is most often without determiners (see (17) and (83)) and the simple presence of the particle *ǎ* makes, in Kabyle, a non definite NP frontable.

Given the similarities previously observed between the NP and the VP in initial position, the ‘anchoring’ function of the demonstrative *ad* was perhaps transposed, metaphorically, from the indeterminate predicative NP on one hand, to the predicative verb phrase with an indeterminate VP on the other hand. Be that as it may, *ad* confers referential autonomy upon the Aorist (the indeterminate VP) comparable to that which it confers upon the indeterminate NP, an autonomy which is manifested for example in the possibility for *ad* + Aorist to occupy initial position.

There is nonetheless a characteristic reserved for VPs with the particle *ad*: they are anchored in the world of possibles, because the verb form retains a large dose of indetermination, despite the presence of *ad* as a TAM particle. This is true of the Aorist preceded by *ad*, which generally takes on possible meaning (cf. (75)), but also of the Imperfective preceded by *ad*, which rather takes on iterative or habitual meaning (cf. (76)). Given that the particle form’s anchoring does not take place in the discourse referential but rather in the “referential of possible situations”,⁴⁰ one may suppose that the deictic *ad*, which introduces a fictive reference, belongs to the type *am Phantasma* (in the terminology of Bühler 1934: 121-140).

3.2.4. The two futures in Tamazight

³⁹ The copula *ad*, which establishes a link between the two NPs, is probably of an endophoric nature, while the identification *d* (translated as 'it is') could be, originally, of an ostensive type.

⁴⁰ On the different types of referentials, see Desclés and Guentchéva 2006.

We saw above (3.2.1) that Aït Seghrushen’s Tamazight has, among the preverbal particles of the non chained VPs, a particle which Bentolila notes *d-ad*. This *d-ad* is a particle specialized in the expression of the future, which appears in certain conditions, in the place of *ad* which only has future connotations (among other more general meanings belonging to the domains of potentiality and possibility). *d-ad* thus makes it possible to remove ambiguities (compare (84a) and (84b)) and to add a dose of certainty (compare (85a) and (85b)).⁴¹

Aït Seghrushen’s Tamazight (following Bentolila 1981: 173)

- (84) a. *a=Š* *i-šawn* *rBi*
 a=PR.DO.2SG 3M-help.A God
 i) 'God will help you.' ii) 'May God help you!'
- b. *d-a=Š* *i-šawn* *rBi*
 'God will help you.'
- (85) a. *ad* *azn-x* *lflus*
 ad send.A.1SG money
 'I will send the money.'
- b. *d-ad* *aznx* *lflus*
 'I will send the money, be sure of it.'

Given the meaning of the *d* preceding the modal particle (“*d* adds stress, emphasis, which could be rendered in English by 'really, truly, precisely, undoubtedly, etc.’”), Bentolila (translated by MD) recognizes in it the identification presentative *d* 'it is' which one finds in nominal sentences of the type *d aryaz* 'It is a man' (1981: 173, note 156).

If the element *d* has its origins in the predication particle *d*, one could object that this implies that the preverbal pan-Berber particle *ad* has a different origin. However, since identical phenomena have a tendency to take place repeatedly over time, in similar conditions, one could also suppose that the origin of the new future in Tamazight simply confirms the explanation proposed for the old one. The first anchoring (with an *am Phantasma* deictic) only having led to a modalized future, a second anchoring (with an identification deictic) gave rise to a more assertive future. For the second grammaticalization process—a reflex of the first, but based on the referential of the realis—to have been able to take place, it was probably necessary that there first be an obliteration of the etymology shared by the preverbal particle *ad* and the predication particle *d* through divergent morphologies (which appears to be a general tendency in Berber, with just a

⁴¹ Furthermore, *d-ad* obligatorily replaces *ad* after the interrogative *ma*, after *is* 'that', *mr* 'if', *zG* 'is' 'since', *ani* 'because' and the coordinator *la ... la*.

few exceptions, such as Zenaga).⁴²

3.3. *ad*, TAM particle or subordinator?

After this study of *ad* as a future particle (and, more loosely, a non actual particle), we shall now see to what extent this analysis can be applied to the other cases of *ad*.

3.3.1. The *ad* of injunction and prohibition

Injunctive uses and the expression of wishes, especially in a positive form, are probably the uses closest to the above studied case. This could be in relation to the fact that in Zenaga —a variety which has not grammaticalized *ad* as a future particle—, these uses are quite restricted (to express wishes, one does not have recourse to the phrase with *ad* + Aorist, but instead to the Perfective preceded by *agäy*).

Be it as it may, all these uses of *ad* + Aorist, with or without the negation particle, are non assertive. The modal interpretation, marked by specific intonation, of the imperative or exclamative type, is compatible both with the definition of the Aorist as a form with indeterminate meaning and with the etymological hypothesis of *ad* as an *am Phantasma* deictic. Once again the *ad*, by bringing determination to the underspecified Aorist verb form, makes it frontable.

One could consider that this *ad* anchors (situates) the VP in the realm of what is possible, as would do an identification presentative for a NP in the discourse referentiality. However, given the resemblances of *ad* with *que* in French, it could also be a demonstrative in cataphoric relation with the following clause, i.e. a “relative” type *ad*.⁴³

3.3.2. The pan-Berber *ad* and governed clauses

In the varieties other than Zenaga, *ad* only precedes governed verbs in the Aorist. Such is the case, as presented in paragraph 2.3.1, for clauses with consecutive or final meaning and for clauses governed by modal verbs (*can*, *must*) or verbs expressing a request, a wish or an order.

When speaking of governing, we appear to follow the analysis proposed by

⁴² The Tamazight examples show that the preverbal particle has two variants (*a* in (84) and *ad* in (85)), and that they are both different from the form *d* taken by the identification presentative.

⁴³ In French, “the conjunction *que* is originally, in Low Latin, a pronoun stemming from Latin relativizers” (translated by MD). More generally, one notes that “the Romance languages have [...] developed a pronoun which globally announces the following clause, a ‘cataphoric deictic’ (Ramat 1985), based on an inferior correlative element (a WH- form)” (Muller 1996: 97). Citation d’origine?

Vycichl (*op. cit*) who clearly considers *ad*, in these particular uses, a subordinator. This author, who has studied the historical origins of the particle *ad* “zur Bildung des Konjunktivs, des Optativs und des Futurum”, has explicitly asserted the single origin of *ad* (a demonstrative pronoun, like the German *dass* or the English *that*). He considers that the use as complementizer⁴⁴ could explain the other uses, both modal and temporal. He does however note an important difference between German and Berber: the possibility for the Berber verb preceded by *ad* to be used independently, whereas the German *dass* generally follows a verb.

Galand (1977: 301) mentions an argument (which one also finds in Vycichl) in favor of the demonstrative origins for *ad*: the fact that, at times, the preverbal *ad* in Shilha takes on the annexation form (*wad*, AS of *ad*) after preposition, exactly like the M.SG. demonstrative pronoun. He does not give *ad* the status of subordinator: the use of *ad* + Aorist in these dependent clauses is comparable to that of the Aorist (with or without *ad*) in juxtaposed clauses (see 2.2.1 and 3.2.1). Indeed, the latter are not necessarily preceded by a pause (Galand 1988: 224) so it appears justified to attribute the logical dependence (the consecutive, finality and goal meanings), characterizing the clause introduced by *ad*, to the choice of the Aorist and to parataxis. *ad* could be the TAM particle found in independent clauses with the Aorist: in the language varieties where *ad* has this use, the presence of the particle grants more autonomy than dependence to the Aorist (cf. 3.2).⁴⁵

In this domain, Zenaga looks like the other Berber varieties, but the Aorist without *ad* is less frequent and, on the contrary, using *ad* after modal verbs expressing possibilities or wishes is impossible (see 2.2.3). However, as *ad* is never used, in Zenaga, as a future particle in independent clauses, a conjunctive interpretation seems more adapted to the specific case of this language variety. In fact, one could consider *ad* as a demonstrative in direct object function which cataphorically announces the subordinate clause, especially as this hypothesis is the only possible one for certain specific uses in Zenaga.

3.3.3. *ad* as quotative: its prototypical use?

When demonstratives have endophoric deictic uses, their grammaticalization as quotatives and, more generally, as complementizers, is frequent in the world’s languages. In a first stage, the deictic is a

⁴⁴ The one which one finds e.g. after *ira* 'want', in the construction which gave rise, after grammaticalization of the modal verb, to the ‘true’ Tachelhit future: *ira^ad ign* > *rad ign* 'he will sleep'.

⁴⁵ So far, however, we have not found any studies specifying what exactly is added by *ad* in these contexts.

demonstrative pronoun belonging to the main sentence but referring, by cataphora, to information contained in the following clause. In a second stage, the deictic is reinterpreted as a subordinator and integrated into the conjoined clause (Diessels 1999: 123 *sq.*).

Variations between direct and indirect speech show that the use of *ad* as a quotative marker is not yet systematic in Zenaga. There is no doubt however as to the fact that *ad* regularly functions as a cataphora, which is the necessary condition for reanalyzing it as a complementizer. See the chain of two verbs 'say' in the following example:

- (86) *y-ənn(äh)^āš* *äzzən* *wädən* *äd*
 3M.SG-say.PFV=PR.IO.3 say.IMP someone *ad*
taʔK=täd *ädäg* *t-räbī-n* *y-əttättär*
 what=to.PR.DO.3F.SG in F-girl-PL 3M.SG-ask.IPFV
 'He said to him: "tell (= ask) someone this: which is the girl he wants?"'

The second verb 'say', in the imperative, is followed by a demonstrative *ad* which refers, by anticipation, to the interrogative clause. In the absence of such a chain, the presence of this *ad* is not at all necessary:

- (87) *y-ənn(äh)^āš* *taʔK* *ayaʔxtʰ*
 3M.SG-say.PFV=PR.IO.3 what reason
 'He says to him (= asks): "what is the reason?"'

Only Zenaga has adopted *ad* as a complementizer after the verb 'say', both in narratives ('say that...') and in indirect speech ('say of...'), such that one may even find both subordinate clauses in the same sentence, without the second introducing verb (*yənnäh* in the sense of 'ask') being repeated:

- (88) *y-ənn(äh)^āš-än* *äd* *nəttä* *äd^ti*
 3M.SG-say.PFV=PR.IO.3-PL *ad* him *ad*=PR.DO.3M.SG
wär^y-ənšig *kārä* *äd=āš* *aṛḏiy-än*
 NEG=3M.SG-have.NPFV thing *ad*=PR.IO.3 sell.on.credit.A.3PL
 'He tells them he has nothing, [that he asks them] to let him have credit'

This originally cataphoric use of *ad* after 'say' can quite easily explain the other uses of *ad* after governing verbs, where the particle shows numerous points in common with complementizers in Indo-European languages. As for the semantic differences noted, they have their origins in the choice of the introducing verb and, concurrently, in that of the TAM associated to the

dependent verb.

- If the verb is in the Aorist, the contents of the clause are not asserted, only considered (in the completive and consecutive clauses) or aimed for (in goal subordinate clauses) by the speaker. After *yənnäh* 'say', the clause expresses the object of a request, a wish, just as after other verbs expressing a wish, expectation or intention.
- If the verb is in the Perfective or Imperfective, the contents of the clause are given independent referential anchorage. Following *yənnäh* 'say', it is a case of indirect speech.
- If a verbal auxiliary, *yu(u)gä* or *yumrä*, precedes the verb in the Perfective or Imperfective (2.3.2), there is confrontation between the contents of the clause and its meaning of adequation to the “real” world.⁴⁶ The governing verbs belong more or less to the same verbal sub-classes as in other languages: “authorizing indirect interrogation [they] concern knowledge of their object, or more precisely, the possibility to take as argument an object of knowledge” (Muller 2001: 165, translated by MD). These constructions, which could all be based on a cataphoric *ad*, are very different, at first glance, from the constructions found in the hypothetical systems. Nonetheless, some constructions could be related to them.

3.4. Conditional clauses, topics and topicalization

For *ad*, a conditional marker in Zenaga, two grammaticalization paths can be considered, but in both cases, one must take into account the fact that the clause stating the condition or hypothesis (*If p*) precedes the conclusion clause (*q*) and is thus regularly placed in fronted position. This tendency, which has been raised to the rank of rule for Classical Arabic by Peled (1992: 139 *sq.*), is said to be a universal (Greenberg 1963: 84-5, Comrie 1996: 83 *sq.*). This justifies the usual terms of “protasis” (*If p*) and “apodosis” (*q*) which we have adopted for Zenaga where, like in Arabic, clause order appears to be set, at least those having the marker *ad*⁴⁷. It legitimizes —particularly when the languages have partially or entirely rigid clause order— the interest of the article by Haiman called “Conditionals are topics” (1978). This linguist, for the first time, linked the study of conditionals to the notion of topic as what the speaker is talking

⁴⁶ This succinct semantic interpretation of indirect interrogation (inspired by Muller 2001) is compatible with the meanings of the auxiliaries *yu(u)gä* and *yumrä* outside of this particular context.

⁴⁷ We have found a proverb where the clause introduced by the counterfactual marker *äm* is in second position, but the change in order goes along with a semantic change, where *äm* 'even if' no longer introduces a conditional but rather a concessive clause (for comparable phenomena in an Arabic dialect, see Vanhove 2002: 771 *sq.*).

about.⁴⁸

3.4.1. *ad* as cataphora

The protasis *p* in conditional clauses could be the result of a simple topicalization process: the clause introduced by *ad* which previously followed a governing verb, is fronted to constitute the topic or the framework of the clause *q*. In this case, the origin of *ad* would then be, as before, the cataphoric demonstrative *ad* (either followed or not by the verbal auxiliary *yu(u)gä*).

- Identical subordinators for hypotheticals and indirect interrogatives — quite a frequent phenomenon in languages (beginning with the English *if*) — are revealing of the relation which exists between the two types of complex sentences (Muller 2001: 173). This is the case in Zenaga where the presence of *ad^yu(u)gä* at the head of “factual” hypotheses indicates a strong link with indirect yes or no questions. In fact, the protasis, formally identical to an indirect interrogative clause (with a verb in the perfective or imperfective forms in both cases), can be considered as taking up one of the terms in the alternative. While the protasis posits the topic as hypothetically in conformity with reality, the apodosis furnishes the comment. The relation between *p* and *q* is rather varied and may be e.g. of an implicative or explicative nature.

- If *ad* is not followed by *yu(u)gä*, it could be a case of topicalization — without any particular formal marker — of the subordinate governed by a request verb or the verb *yännäh* 'say' (after which all TAMs are permitted). The hypothesis of the quotative nature of English *if* has been the subject of some debate. It was evidenced e.g. for cases where a future tense marker appears exceptionally in the protasis, as in: *If it'll definitely rain, (as X says), then I'll take my umbrella* (Akatsuka 1989: 340).

If it is a case where the completive clause is topicalized (with its complementizer *ad*), the referral, once again, takes place in a non assertive mood. The TAMs allowed in the protasis are in fact those of the clauses governed by request, order or intention verbs (the Aorist and sometimes the negative Perfective),⁴⁹ not those of indirect speech found after the verb 'say' (Perfective and Imperfective, either positive or negative).

Contrary to the preceding case, the dependence of *q* as concerns *p* is formally marked by the regular use of the Aorist in the apodosis. The relation between *p* and *q*, largely less varied, seems to always belong to the

⁴⁸ He defines the topic in a plural manner: either “(i) The topic is what the speaker is talking about — the comment is what he says about it”, or “(ii) The topic is the given or old information in the sentence — the comment is the new information” (Haiman op. cit: 583).

⁴⁹ If the future auxiliary *yänhäyä* is used in the apodosis, then it is in the Aorist.

implicative type (in the wide sense of the term). Topicalization seems to establish, in this case, a tighter link between *p* and *q*: one of initial element and subsequent element rather than one of topic and comment (known in French as *thème/rhème*).⁵⁰

It is worth noting that the same logical dependence relation is established between juxtaposed clauses, without there being any necessity to hypothesize topicalization. We shall now turn to this hypothesis.

3.4.2. *ad* as anchor

A clause may serve as framework when it precedes another one whose verb is in the Aorist. It is either a sequential juxtaposition (2.2.1), or a main clause and its subordinate clause (2.2.2).

The equivalence between conditional and temporal clauses is frequent in the world's languages. It is true in Zenaga for certain temporal subordinates which have the same uses as protases introduced by *ad*. Thus the main clause in (42) and the apodosis in (89) are strictly identical:

(42) *oʔgǎ=ār* · *y-äffuǎ* *y-äšbi* *ǎäg* *ämän*
 moment=in.which 3M.SG-be.thirsty.PFV 3M.SG-drink.A in water.PL
 'When he is thirsty, he drinks water.'

(89) *äd^y-uffuǎ* *y-äšbi* *ǎäg* *ämän*
*äd=*3M.SG-be.thirsty.A 3M.SG-drink.A in water.PL
 'If (= when) he is thirsty, he drinks water.'

The difference between the two constructions lies in the way the framework is construed. In the temporal clause introduced by the conjunction *oʔgǎ-ār*, with a verb in the Perfective which here expresses a state, the event framework is instantiated by the present with habitual meaning. In the protasis introduced by *ad*, with a verb in the Aorist, the event is only considered. It could thus be a case (as in 3.2.3) where the Aorist is anchored in the referentiality of possible worlds.

If the *ad* of the Zenaga conditionals is to be considered, at its origins, as an anchor, it could even, in the past, have functioned as a TAM particle, like the future *ad* in the other Berber varieties. In this case, the Zenaga conditionals would be basically made up of two juxtaposed clauses, and the implicative relation between *p* and *q* would be marked by word order, by the choice of

⁵⁰ Even though we do not take up the definition of topic as “given or old information”, we are not far, in distinguishing two topicalizations, from the “two topics” proposed by Haiman (1978). This distinction could appear more clearly in Classical Arabic where, in conditionals, the use of the connection particle *fa* characterizes the pragmatic type connection (structured as topic - comment) as opposed to the logical type (*p* implying *q*). See Larcher 2000: 201-2.

the Aorist, and, lastly, by the obligatory presence of *ad* in the protasis, a specific TAM particle.

In his typology of conditionals, Comrie emphasizes the fact that in some languages such as Turkish, conditions may be expressed through just the verb form (1986: 87). Zenaga therefore would not be the only language to have adopted this strategy, even if, in Berber, it appears to be an isolated case.

3.4.3. Conditional markers and topic markers

Informative hierarchy and topicalization play a very important role for expressing conditions in Zenaga. One could be tempted to consider *ad* a topic marker, as in certain Austronesian languages (see Brill, to appear). Despite similarities in their workings, they are however two distinct cases, as suggested by Traugott who, in her inventory of lexical sources for conditional markers, classifies topic markers and demonstratives in the same group, while distinguishing them one from the other.⁵¹

The uses of *ad*, in Zenaga, are not, specifically, those of a topic marker, but the behavior of a demonstrative such as *ad* does indeed present certain similarities with this type of marker.⁵² This proximity shows up very clearly in Classical Arabic, with the particles *ʔin* and *ʔinna*.

ʔinna is a particle with presentative meaning, which serves to introduce topics (whether definite or not), especially discourse initially.⁵³

Classical Arabic		
(90)	<i>ʔinna rağul=a=n</i>	<i>ğāʔa</i>
	<i>ʔinna</i> man=CAS.ACC=INDF	come.PRF.3M.SG
	'There is a man (who) came'.	

However, the discourse particle *ʔinna* is related to the conditional marker *ʔin* which is very similar to the Zenaga *ad*. Indeed, *ʔin*, also of deictic origin, may be followed by an apocopized element (“Apocopate”), a subjunctive whose use, like that of the Berber Aorist, is typically restricted to specific contexts, usually dependent. *ʔin* can however also be followed by

⁵¹ Traugott (1985) notes five main lexical sources in the world’s languages: (i) modalities (especially epistemic modalities), (ii) copula constructions, (iii) interrogatives (especially interrogative complements of verbs such as *know*), (iv) words which indicate that something is already known or given (apparently mostly topic markers or demonstratives) and (v) temporal notions. The Zenaga *ad* could belong to (ii) and/or (iv).

⁵² It would be interesting to study the role of *d* in the Kabyle phrase *ma d* + SN ‘as for ...’ (lit. ‘if COP ...’): formally it is the protasis of a conditional with a non verbal predicate, but serves, apparently, to mark a change in topic (example (12), Mettouchi 2006: 122).

⁵³ However, the topic is not focalized after *ʔinna*, whereas the contrastive topic introduced by *ʔammā* ‘as for’ is focalized (the operation is marked in particular by a prosodic break).

the suffixal conjugation (“Perfective”), like *ʔidā*.⁵⁴

Classical Arabic (following Ayoub 2003)

- (91) a. *ʔin t-aǧiʔ=nī* *ʔ-ukrim=ka*
 if 2-come.SBJV=PR.DO.1SG 1SG.honor.SBJV=PR.DO.2M.SG
- b. *ʔin ǧiʔ-ta=nī* *ʔakram-tu=ka*
 if come.PRF.2M.SG=PR.DO.1SG honor.PRF.1SG=PR.DO.2M.SG
- 'If you come to my house, I will honor you'.

The preceding examples are considered equivalent, but the change in TAM is not completely neutral: the Perfective (*faʕala*) and the Apocopate (*yafʕal*) are “two ‘donation moods’ of temporary admittance or, to take an expression used by Antoine Culioli, of virtuality (*du virtuel*). In the Apocopate, in our opinion, there is a modal meaning: a *request*, an implicit ‘that P be’ on the part of the speaker: *who asks the hearer to temporarily admit that P exists*” (Ayoub, 2003: 35, translated by MD).

This modal meaning attributed to the Apocopate in Arabic must also be attributed to the Berber Aorist. Indeed, the Aorist, which does not add any aspect-tense meaning in this context, serves to orient the hearer to a non instantiated interpretation of the process. The reference introduced by *ad* being purely fictitious, one may, once again, consider it an *am Phantasma* use of the deictic.

Zenaga, contrary to Wolof,⁵⁵ does not have a specific deictic at its disposal for non instantiated conditional sentences, but the combined use of the Aorist and *ad* allows a sort of conditioned assertion (see Ayoub’s “donné admis” (‘allowed fact’)) so that the process is constructed in the world of possibles: “One construes a fictitious reference point, making it possible to dissociate the discourse producer from the speaker (or writer). The view point is that of this fictitious reference point and may thus have bearing both on the present and on the future (*X is said to be in London at the moment alongside it is said that X will be in London in a week*. [...]). This makes it possible to say something without taking responsibility for what one is saying”. (Culioli, 1990: 150, translated by MD).

The fact that, for Culioli, the notion of fictitious reference point applies to the conditional and future, undoubtedly makes the use of *ad* more

⁵⁴ *ʔidā*, the other Classical Arabic conditional marker, commutates with *ʔin* in (91b), not in (91a).

⁵⁵ In the ternary deictic system in this language —where the suffix *-i* is endowed with “identification value” and the suffix *-a* with “differentiation value”—, it is the element *-u* signifying the “absence of localization” (“in this case there is a gap between the space-time of the process and the space-time of the utterance”) which is used for the hypothesis. This *-u* is also found in the marker *bu* which corresponds to the hypothetical ‘if’ and the temporal ‘when’ situated in the future (in the other temporals, ‘when’ is rendered by *bi* or *ba*). See Robert 2006:167 sq.

comprehensible in both cases, especially if they are two distinct varieties.

In conclusion

Even if it seems difficult to admit that *ad* (or *a(d)* or *(a)d*) has a single origin, so varied are its uses in Berber, all of the particles could indeed have a common source in the near masculine singular demonstrative.

Grammaticalization of demonstratives is a widely spread phenomenon in the world's languages (Diessels 1999) and many of the uses made of the Berber *ad* are unsurprising (e.g. *ad* as copula or predicative particle, relative pronoun, complementizer, quotative, consequence or goal subordinator, optative or injunctive particle).

Other uses, compatible with those we just listed (especially the latter ones), may appear more difficult to reconcile with each other. This is the case in particular of the *ad* conditional marker in Zenaga and the *ad* future particle in most of the other dialects. As they are also rarer among cases of grammaticalization in languages in general, that is where we focused the most attention.

At the end of our study, it would seem that the role of *ad*, in its anomic uses, is partially similar to the one it plays in relative clauses. However, while reference, in the case of antecedent referral, is of the anaphoric type, it is of the cataphoric type in the Zenaga conditionals, the presence of *ad*, and especially the presence of *ad^yu(u)gä*, protasis initially, can be explained by topicalization: of the completive introduced by the quotative *ad* on one hand, and of indirect yes or no questions introduced by *ad^yu(u)gä*, on the other hand.

Formerly, the study of *ad* as a TAM marker (in Berber varieties other than Zenaga) showed the fundamental role played by the particle in the syntactic and referential autonomization of the Aorist. We believe that this *ad* was a former predicative particle and have suggested that its use as anchor in independent nominal sentences could explain most of the uses of *ad* before the Aorist: its uses as future marker, injunctive, request and prohibition marker, and even some of its uses in Zenaga conditionals.

The presence of *ad* protasis initially in Zenaga can thus be explained in several ways (TAM particle, as in prohibitive constructions, or subordinators of deictic origins, as in indirect speech and indirect interrogatives). It probably corresponds to an inflection of the general system due to the tendency, specific to Zenaga, to use *ad* with the Perfective and Imperfective, and to use it as a conjunctive element. But on the whole Zenaga behaves like the other Berber varieties when it is a question of using the Aorist as a virtually instantiated form: followed by the verbal system's neutral form, *ad* still remains an *am Phantasma* deictic. From this

perspective, the originality of Zenaga lies in the fact that it suffices, in this variety, to pose a fronted clause *p* and to add a commentary *q* to construe a conditional sentence, the implication being entailed by the simple sequential juxtaposition.

The ability for demonstratives to refer, in all possible ways and on all levels—including *am Phantasma*, to imaginary worlds—largely explains the polygrammaticalization of *ad*. Thus one may say that *ad* is a good illustration of a “fractal object” (on this notion, see Robert 2003).⁵⁶

However, for *ad* to have the ability to play so many roles in Berber, including as an isolated element, it is also because Berber is a “paratax language”, as has long been stressed by Berber scholars (cf. Basset 1952: 40, Galand 2002 [1987a]: 242). Thus one must not be surprised that prosodic means play a large role in the language, even though it has only been mentioned in passing in the present article. Without intonation the structuration of conditionals, particularly, into fronted (frameworks) or topic clause vs. implicational clause or comment would not be perceptible. The use of *ad* would not be sufficient for introducing the protasis: it could be confused not only with injunctions but even—in more specific cases (after a verb 'say' for example)—with completives.

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⁵⁶ In the same volume, one may see, among other examples, the Modern South Arabic deictic *d-* and its multiple functions (Simeone-Senelle 2003).

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Language index:

Berber, Zenaga, Shilha, Tamazight, Kabyle, Arabic

Concept index:

anaphora, Aorist, complementizer, conditional, copula, deixis, demonstrative, dependency, fronting, future, grammaticalization, injunction, polyfunctionality, prohibition, quotative, referentiality, syntax, TAM, topic, topicalization, verbal marker