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**Food, contact phenomena and reconstruction
in Oriental Berber**

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Abstract: Berber subclassification is notoriously problematic, due to overlapping innovations and retentions across hypothesized subbranches. Focussing on Oriental Berber, we analyze the lexicon of food, on the assumption that linguistic contacts within Berber and between Berber and Arabic are reflected in material and immaterial culture. An original method for the analysis of food terms and their denotations is proposed. We illustrate it through a case-study, a food preparation, whose various denominations are cognates of the stem *βazin, and which confirms most linguistic hypotheses about subgroupings and contacts, additionally exemplifying a case of levelling due to borrowing into Arabic followed by re-borrowing into Berber. It also points to further contacts across Berber language groups (best analyzed in terms of linkage), and confirms the relevance of the study of food culture in support of the historical reconstruction of Berber languages.

Keywords: Berber, Afro-Asiatic, contact, food, Zenati, classification, migrations, linkage, wave-model, culture

Introduction

Berber languages belong to the Afro-Asiatic phylum and are spoken across a wide area from the Nile to the Atlantic Ocean, and from the Mediterranean to the Sahel zone. Despite the huge extension of the zone, internal variation within Berber is comparable to that within Germanic or Romance. The current classification of Berber languages is basically geographic (Northern, Southern, Western & Eastern Berber), but most of the linguistic groupings are characterized by dialect continua, and a closer look at internal sub-classification draws a much more complex picture.

One of the complexities involves shared innovations across branches and sub-branches. A way of accounting for this is to hypothesize intense intra-Berber contacts (Blench 2001, Fentress & Wilson 2016), a situation also described by ancient and medieval historical records about the tribes of North Africa (Ibn Khaldūn 1377, transl. by De Slane 1863). This points to the kind of intra-family contacts hypothesized (for other language families) in Ross's (1988) 'linkage' model and developed by François (2014). In those approaches, horizontal contact among related languages is key, and accommodates criss-crossing events of diffusion across dialects, thus allowing intersecting subgroups.

On the basis of linguistic evidence, one such area has been identified, spanning the Eastern Zenati zone, and Eastern Berber subgroup (Souag 2017). However, the contours of the area, and the Berber varieties involved, remain uncertain.

Our aim in this paper is to provide complementary evidence for considering the Oriental part of the Berber speaking area a zone of intense intra-Berber contacts, and shed some light on possible internal groupings among varieties.

Indeed, sustained and intense contacts in the Berber-speaking zone are not only visible in the linguistic features of languages spoken in that area, but are also noticeable in aspects of material and immaterial culture, such as food preparation, a crucial part of rural life in the whole Berber zone: the variation in the preparation of simple rural dishes, and the way they are named reflects a number of social phenomena, from intermarriage to migration, through trade, slavery, nomadism etc. While vertical intergenerational transmission and stable regional cultures favour stability in preparations, techniques and the names of the resulting recipes, intense contacts favour dissemination and variation, with some aspects of the technique, term, or product retained, others lost, and still others newly introduced. Comparing the features of the recipes is therefore a good way of reconstructing cultural contacts, and the corresponding linguistic contacts.

In order to investigate this, we analyze the lexicon and techniques of rural food preparation in the Oriental zone corresponding to present-day East of Algeria, Tunisia, Libya¹ and Western Egypt, and we show, through a thoroughly analyzed case-study, how that can be used as evidence supporting reconstruction hypotheses concerning the existence of a zone of intense intra-Berber contacts.

¹ Except Ghat, a Tuareg variety (Southern Berber)

This preliminary investigation aims at establishing a method for Berber material and immaterial culture analysis in view of supporting other kinds of evidence (linguistic, historical, archaeological), which goes beyond the linguistic reconstruction of the terms themselves: we take into account the techniques and the referents as well, putting special emphasis on semantic/denotational shifts.

The first part of the paper presents the state of the art concerning the reconstruction of Zenati and the Berber languages spoken in the Oriental zone based on the comparative method, with reference to historical and archeological data. Against that background, the second (and main) part seeks to demonstrate the usefulness of complementary evidence based on the language of food and food-preparation, thus paving the way for more systematic use of this type of cultural evidence for the history of Berber languages and people.²

1. Berber reconstruction and the Eastern Zenati-Eastern Berber question

1.1 Berber classification

Berber is a branch of the Afro-Asiatic phylum, nowadays spoken in the upper half of Africa. In 1952, André Basset presented Berber variation as the direct materialization of ‘the Berber language’ into myriads of local varieties “Il en résulte que cette langue s’éparpille directement ou à peu près en une poussière de parlers, de 4 à 5 mille peut-être pour quelque cinq millions d’individus”³ (Basset 1952: 1). His dialectological studies were pioneer works, and it is only at the onset of the 21st Century that some precise studies of the dialectal variation within some regions brought new insights (Basset 1929 (Kabylie), Madoui 1995 (Eastern Kabylie), Naït-Zerrad 2005, 2006, 2009 (mainly Kabylie), Lafkioui (Rif) 2007, 2008; Guerrab (Kabylie) 2014, Boudjellal (Aures) 2015). At the same time, the marked differences in the grammar of some of those varieties, and lack of

² For our study, first-hand material collected in the field by A. Mettouchi in Algeria (Kabylie since 1992, Oued Righ (Touggourt) since 2012) and V. Schiattarella in Egypt (Siwa oasis since 2011) through spontaneous audio and video recordings, as well as dictionaries and ethnographic texts already available in the literature were used. These were supplemented, in Libya and Tunisia, by remote fieldwork and crowdsourcing with local contacts, who sent photos, commented on cooking videos, provided insider knowledge on techniques. Our gratitude and thanks go to all of them.

³ “The result is that this language is directly or roughly scattered into a dust of dialectal varieties, probably from 4 to 5 thousands, for a population of 5 million people”.

intercomprehension between a number of them, has brought linguists (Galand 2010: 4-8) to consider that Berber is not one language, but can be separated into various languages as different among themselves as Germanic or Romance languages are. Closer to the ground, the situation is very intricate, and the best characterization for the zones where Berber is spoken is that of dialect clusters, or linkages⁴ (cf. Ross 1988: 8).

The time-depth of Berber is debated, as well as the moment of branching off Afro-Asiatic (see Peust 2012: 243 for a survey of various branching hypotheses, and Militarev 2005 and Starostin 2010 for hypothesized time-lines). Likewise, internal subgroupings within Berber are not easy to establish, given the lack of written sources. The comparative method is therefore mainly based on present-day languages, and has given rise to various grouping hypotheses, basically into four geographical groups,⁵ circled in the following map where present-day Berber-speaking areas are represented in grey (Figure 1). The areas between Berber-speaking (grey) zones are either desertic zones, or zones where other languages are spoken (mainly Arabic, present in North Africa since the 7th Century, but also, in the South, Songhay, Hausa, Fula, etc.).

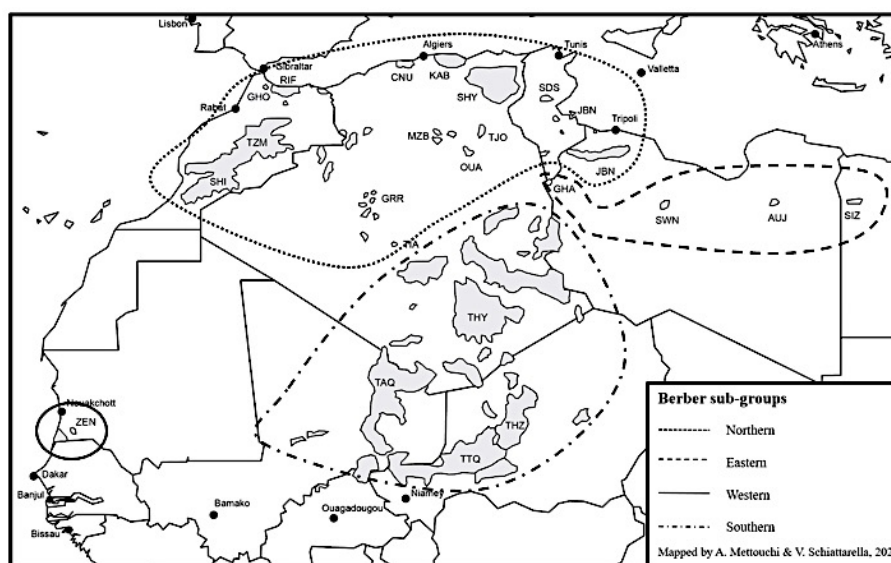


Figure 1: map of main Berber subgroupings

⁴ “I use the term linkage to refer to a group of communalects which have arisen by dialect differentiation, and make an informal difference between two varieties of linkage: a *chain*, where the communalects are typically spread along a coastline, each related most closely to its neighbour on either side, and a *network*, where communalects are scattered over a land area or an archipelago, typically having neighbours on more than two sides, and often sharing different innovations with several of these”.

⁵ Western Berber also comprises Tetseret, spoken in Niger.

Few Berberologists have worked on historical linguistics. As Kossmann (2020b: 12) writes: “Historical reconstruction of Berber phonology is still a niche activity in Berber studies”, and there is no current stable and consensual reconstruction beyond the establishment of those four zones, although there have been attempts at internal subclassification (among which Aikhenvald 1987, Aikhenvald & Militarev 1991, Kossmann 1999, 2013, 2020a, Souag 2013, 2017, Naït-Zerrad 2000-2001).

Lexicostatistical models⁶ (e.g. Blažek 2010) have hypothesized (sub)-branchings inside Berber that are roughly accepted by Berberologists working within classical reconstruction frameworks, with some variations.

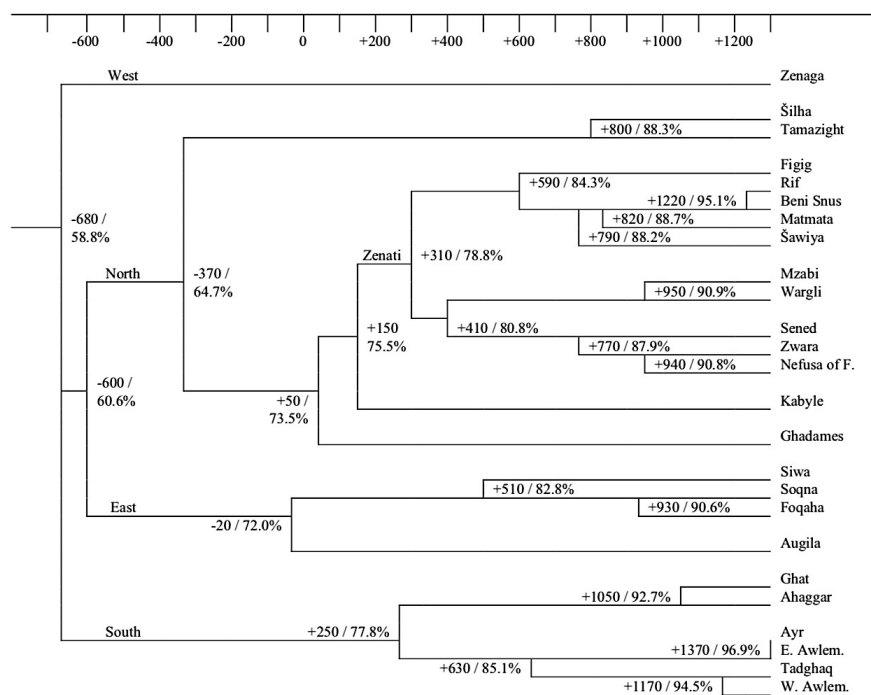


Figure 2: Tree-diagram depicting the Berber dialect continuum based on minimal values in the glottochronological test, by Blažek 2010

Other groupings have been proposed in the literature:⁷ Aikhenvald (1987) groups all Libyan varieties (except Zwara and Ghat (Tuareg))

⁶ Time-calibration will not be considered in this paper, we estimate main branchings to be much older than what is calculated through glottochronological methods. Blažek himself notes that results are most probably affected by incomplete lists, and numerous Arabic loanwords. Figure 2 is given as a visual illustration of groupings.

⁷ In Figures 3-7 and Figure 10, we considered and mapped only those groups and subgroups containing the languages of the Oriental zone (excluding Ghat which belongs to the Southern Berber group): Mzab (MZB) Wargla (OUA), Aures (SHY), Oued Righ (TJO) in Algeria, SDS (Sened), Zraoua, Taoujout, Tamazret, Chennini, Douiret (no codes on the map) and Djerba (JBN) in Tunisia, Ghadames (GHA),

together and Mzab, Wargla, Oued Righ, the varieties of Tunisia and Zwara in Libya into another group:

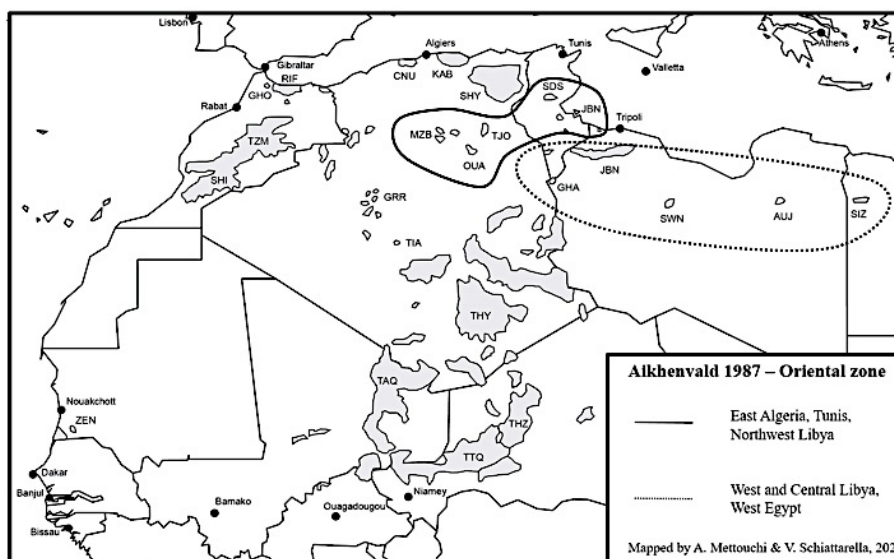


Figure 3: Classification by Aikhenvald 1987. Aures is grouped with the Northeast Morocco and Northwest Algeria varieties.

Likewise, for Aikhenvald and Militarev (1991), the ‘Eastern group’ is composed of Siwi and Libyan varieties (except for Nafusa, Zwara and Ghat), while the Zenati group (including Nafusa and Zwara) is considered as belonging to the North branch.

Zwara (no code), Nafusa (JBN), Sokna and El Fogaha (SWN) and Awjila (AUJ) in Libya and Siwa (SIZ) in Egypt. In this paper, in order to homogenize references to the various languages under study (which don’t always have a name in the literature), and to facilitate their identification by the reader, we have used the name of the place where they are spoken. Most of them refer to villages or oases. Zwara is a port town, while Djerba is an island. Mzab, Aures and Nafusa refer to a larger region.

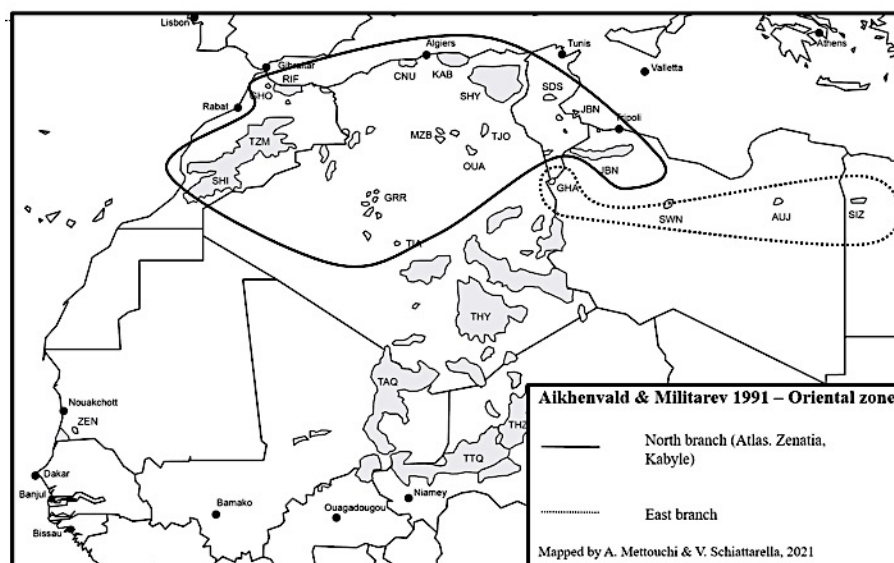


Figure 4: Classification by Aikhenvald and Militarev 1991

Kossmann (1999: 26-29) lists all the varieties belonging to the Zenati group (several varieties of Morocco, Algeria, Matmata (Tunisia) and Zwara (Libya)). As far as Egypt and Libya are concerned, the author bases his classification on geography. Nevertheless, he recognizes the necessity to distinguish at least two groups: one with Awjila and Ghadames, the other with El Fogaha, Nafusa and Siwa (Egypt) (Kossmann 1999: 31).

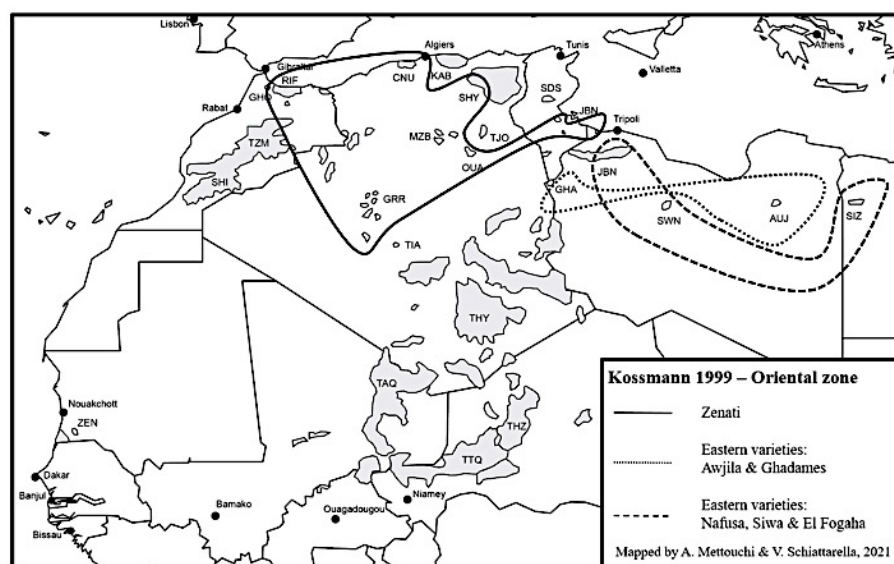


Figure 5: Classification by Kossmann 1999

In 2013, he underlines the internal variation of Zenati varieties, to the point that he considers it somehow arbitrary to decide whether one variety belongs to one group or to the neighbouring one (2013: 22-

25). He redefines the limits of the Zenati dialectal area and places El Fogaha, Sokna and Siwa together into a group called ‘Libyan-Egyptian oases’, considering Nafusa, Awjila and Ghadames in Libya as three separate zones and acknowledging the difficulty of situating Nafusa, because of its shared features with Zenati, Libyan-Egyptian oases and Ghadames.

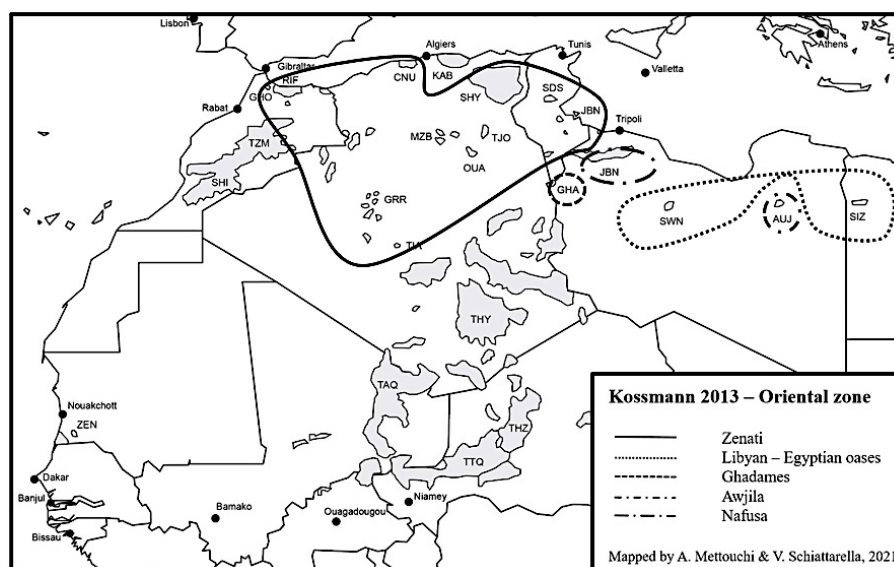


Figure 6: Classification by Kossmann 2013

Like Souag (2017: 87), Kossmann (2020a: 283-284) points out the clear boundaries Zenati has in the West (Morocco and Algeria) but groups together Sokna, El Fogaha and Siwa inside the group where Zenati varieties are, stressing out that, despite the fact that they cannot be fully considered as Zenati, they share some features with that group, but lack others. This continuum with the Eastern varieties and the fact that Zenati has clear boundaries in the West and with Kabyle lead him to think that the expansion of Zenati went from East to West. Nafusa keeps archaic features, like “the retention of a continuant pronunciation of *β before a consonant” (Kossmann 2020a: 284, referring to Kossmann 1999: 114), which places it outside the Zenati group, but at the same time, some innovations are shared. He then concludes that Nafusa is a non-Zenati dialect, which was influenced by neighbouring Zenati varieties, probably because of Ibadism, a branch of Islam still present not only in Nafusa, but also in Zwara, Mzab, Wargla and Djerba, four Zenati varieties (Brugnatelli 2008 talks about a possible literary koine among Ibadī Berbers in Algeria, Tunisia and Libya).

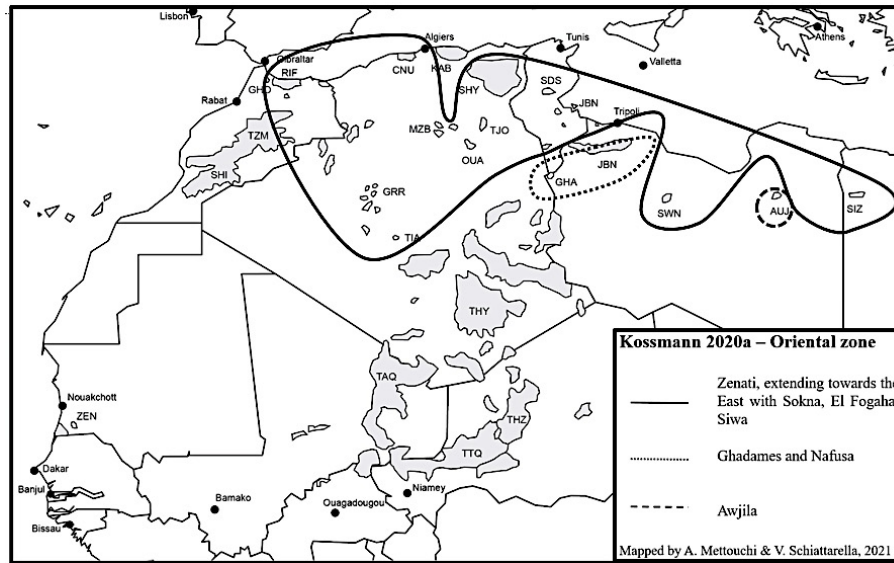


Figure 7: Classification by Kossmann 2020a

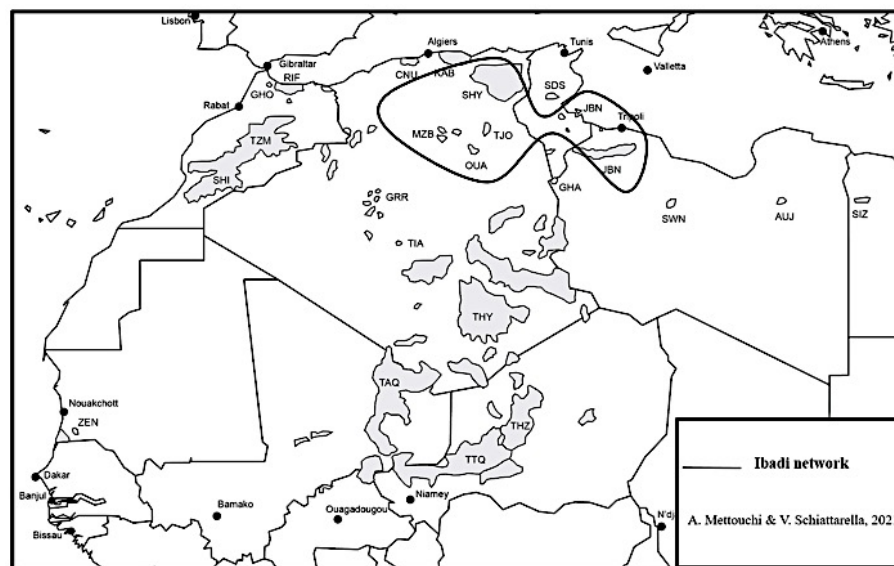


Figure 8: Ibadid network

The position of Nafusa has also been challenged by Souag, who recognized the importance of internal variation (‘peripheral’ Yefren (West) and Wazzin (East) varieties match Zenati subgroup more than ‘core’ Jadu, Nalut and Kabaw Nafusa) (Souag 2020: 260-262).

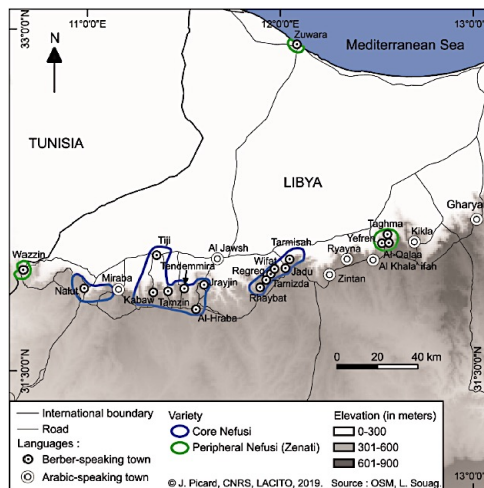


Figure 9: Linguistic variation in the Nefusa Mountains (Souag 2020: 261)

In a study on the Berber language spoken in Siwa (Egypt), Souag (2013: 17-26) endeavours to situate Siwi in the broader classification of Berber languages, taking into consideration the features that it shares with Zenati and with other languages that typically are not part of this group. Following Blažek (2010) and Kossmann (2013), he separates Siwa, El Fogaha and Sokna into one group (Siwa-Fezzan), providing a list of their shared features (in some cases also shared with other varieties, some of which Zenati).

He considers Siwa-Fezzan and Zenati as part of the Djerid-Tripoli group, which includes South Tunisian varieties (Zwara included), ‘Zenati’ ones, and Nafusa. Siwa-Fezzan, Djerid-Tripoli and Sened (Tunisia) are part of the macro-group that he calls ‘Northeastern’. Awjila and Ghadames constitute two separate zones. Zenati and Siwi-Fezzan also share many features, showing that the division in subgroups is not always clear-cut.

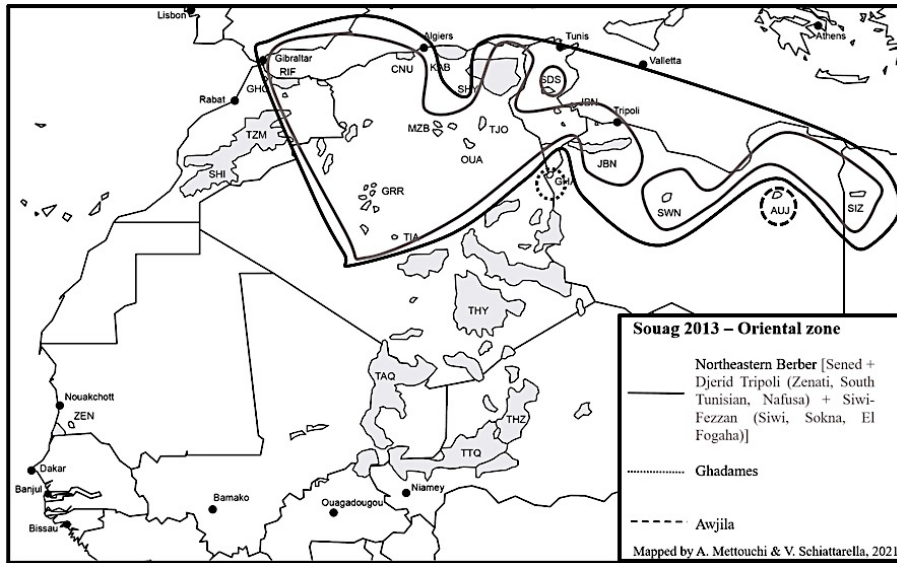


Figure 10: Classification by Souag 2013

Zenati languages are not only characterized by grammatical innovations; they also display a number of specific shared lexical items, a fact already noted by Destaing (2002 [1915]: 97).

Naït-Zerrad (2000-2001: 25-28) also remarks on how lexical variation can help classify Berber varieties. For example, the following lexical items seem to be found mainly in Zenati varieties: *igur* ‘go’, *əys* ‘want’, *azəgrar* ‘long’, *anilti* ‘shepherd’, *adaf* ‘enter’. Naït-Zerrad’s classification distinguishes Zenati from other Berber varieties and provides a different subclassification than the ones listed above.

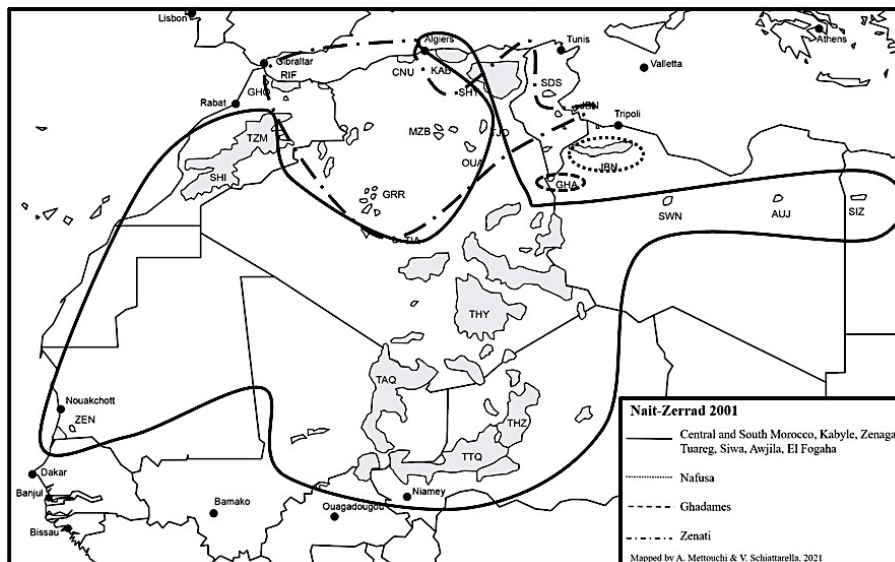


Figure 11: Classification by Naït-Zerrad 2001

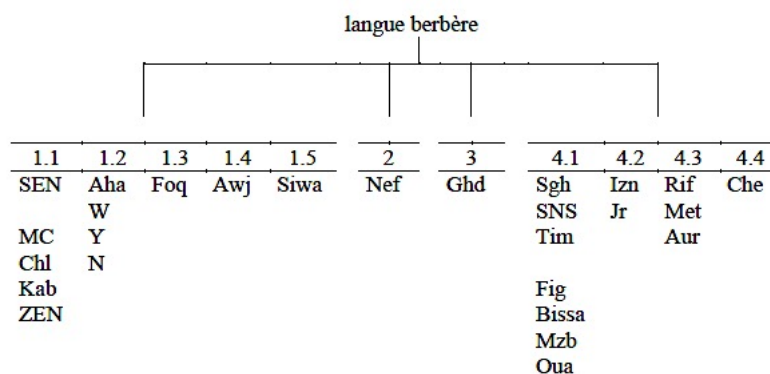


Figure 12: Classification by Naït-Zerrad (2001: 102). Group 4 roughly corresponds to Zenati, and 1.3 to 1.5, 2 and 3 are Berber languages spoken in the Oriental zone.

To conclude this section, and as noticed by (Souag 2017: 87) and Kossmann (2020a: 283-284), if the boundaries of Zenati are clear in the West (Morocco and Western Algeria), they are much less so in the East, where some features are also shared by varieties in Central Libya and Egypt that are a priori non-Zenati, which may suggest either the existence of a bigger group that includes them as well, or that of intense contact between those languages belonging to various hypothesized sub-branches. Besides, (Souag 2013: 27-28, 2017: 91) considers that the intermediary position that Siwi has, because it shares features with Zenati on the one hand, and (non-Zenati) Sokna and El Fogaha on the other hand, could be interpreted as proof that Siwi was previously spoken in Tripolitania and that the population migrated further East (to the oasis of Siwa) during a subsequent period.

Based on those various grouping hypotheses, we are left with two more or less stable subgroups, in the Oriental half of the Berber-speaking zone:

1. Eastern Zenati languages (which are part of the larger Zenati subgroup): Aures, Wargla, Mzab and Oued Righ in Algeria, Tunisian varieties, and Zwara in Libya;
 2. Eastern Berber languages: Siwa-Sokna-El Fogaha (Blažek 2010, Kossmann 1999, 2013, Souag 2013) in Egypt and Libya;
- And with other Berber languages spoken in the Oriental zone that are more difficult to classify:
3. Ghadames and Awjila (Kossmann 1999, 2013, 2020, Souag 2013) in Libya: they probably are more ancient settlements than the surrounding languages, and are often considered outside the two subgroups above;
 4. Nafusa (it is difficult to classify, probably because of the internal variation between the villages inside the zone (Souag

2020) in Libya: it shares features with both Eastern Zenati and Eastern Berber, and has archaic features of its own.

1.2. Zenati and other Oriental Berber languages: history

Linguistic hypotheses on migrations and sustained contacts within the zone are consistent with historical records. Although linguists are very careful not to equate the tribes that historians have called 'Zenati' with the Zenati languages, there is a certain amount of overlap. Throughout historical records, some medieval Zenati tribes have been presented as genealogically related to tribes living in the Fezzan or Tripolitania (two regions of Libya), in ancient times, such as the Nasamonians.

Herodotus, in the 4th century BC (Book 2, sections 32-33 in 'Speculations on the Nile river') notes that the Nasamonians (nomadic Libyan Berbers) used to get their tribute in dates from Awjila. He writes that the Nasamonians visited the oracle of Ammon in Siwa and knew how to cross the Sahara, where they had contacts with the 'Pygmies'. This suggests a role in the trans-Saharan trade. Much later, in the 6th century AD, the term Laguatan was used as a synonym for Nasamonians by Corippus, an African Roman poet and historian, in his epic poem *Iohannis: De Bellis Libycis*. This, despite the fact that it was done as a poetic license, shows that both tribes were somehow thought to be related, among other links by the cult of Ammon: an oracular centre of Ammon is not only found in Siwa, but also in Awjila, the center of the Nasamonians' area, and according to Mattingly (1983: 101), it was probably consulted by the Laguatan in 547.

Those Laguatans are a tribal confederation that the Romans used to call Levathae, and which is mentioned by Arab historians El Bekri and Ibn Khaldūn in the Middle Ages under the name Lawata, between the Aures mountains and the Ouarsenis area (Camps 2007: 65, 131), the current heart of the Zenati zone.

Ibn Khaldūn, a historian born in Tunis in 1332, divided Berbers into two groups (transl. by De Slane 1852: XIV-XV): the Butr and the Baranis. Among the Baranis, he mentioned the Sanhadja, while Zenata were considered as part of the Butr faction. According to Mattingly, there was a correlation between the migration westward of the Lawata tribe (started in the Third century AD) and the later distribution of Butr (Mattingly 1983: 101). A form of continuity between Nasamonians, Levathae/Laguatans/Lawata, Butr, and Zenata therefore emerges from historical records. The time when those tribes started penetrating the Roman Limes in the 6th century, corresponds to a period of aridification, and precedes by a century the Arab conquest of the 7th Century.

Following the conquest, the Lawata roamed many places and, according to Ibn Khaldūn, their principal sub-tribes (Hawara and Nafusa) were present over a very large area. They were in Egypt in several oases, including Siwa, Farafra, Dakhla, Bahariya, Kharga, in Cyrenaica, Tripolitania (including Nafusa), in Tunisia (Sfax and Kairouan) and in Algeria (oases of Mzab and Aures) (Mattingly 1983: 99-110). Further to the West, the Miknasa, a Zenati tribe, founded the Sidjilmassa kingdom in 757. The Zenati were early adopters of Arabic, and most of them switched to that language between the Middle Ages and the Modern period (Camps 2007: 318).

As for the situation of Siwa, Souag (2013: 27-28) uses information from Basset (1890) who associated the name Siwa to the Lawata tribe, and considering linguistic factors as well, hypothesizes that the ancestors of Siwis were probably not living in Siwa in ancient times. Reporting al-Yaṣqūbi who placed Lawata in the West (Modern Benghazi and 'Ajdabiya), he considers that despite the fact that some chronicles report the presence of Berbers in antique sources in the Western Desert, they were replaced by a later migration from other Berber people coming from the West. An element in support of this, is the fact that Siwi shares more linguistic similarities with Libyan Berber varieties spoken in the West than with its closest neighbour, the Berber language spoken in Awjila.

Finally, the situation is further complexified by the various religious factions that extended their networks over the area. For our zone, the Ibadi religious branch (originating from the Oman Sultanate, and reaching Algeria through Yemen in the 8th Century) is important to take into account, because it linked together a number of oases and towns of the area:⁸ Tahert (Tiaret), Sedrata, Mzab, Wargla, Oued Righ, Djerba, Zwara, Nafusa and probably Sokna (Sarnelli 1924: 3).

It therefore seems that both on linguistic grounds and on historical ones, the zone under consideration was a territory where several waves of westward migration occurred, as well as some eastward ones, and several groups built sustained relationships. In the next part, we are going to investigate the correlates of those migrations and contacts, through the traces they have left in food culture, reflected in the food lexicon and in utensils and preparation techniques.

⁸ Also spreading westward to the South of Oran, the Cheliff river (near Mostaganem), and Eastern Morocco.

2. The language of food

As is clear from the developments above, linguistic reconstruction, in the context of linkages, contacts and criss-crossing population movements, needs additional interdisciplinary evidence to support claims based on phonetic laws. Among various types of cultural evidence, food is particularly interesting, as will be demonstrated in this part of the paper.

We will center on the in-depth exploration of stem *βazin (root √BZN), a preparation whose complex repartition in the zone allows us to propose an analytical method for the inclusion of food data, which are part material and part immaterial culture, in studies on linguistic evolution and contacts. Before that, and given the fact that the terms investigated in part 2. are nouns, a short introduction to nominal morphology is given below.

2.1. Berber nominal morphology

Berber languages are characterized by root-and-pattern (templatic) morphology. A given root √MYR ‘grow up, mature’ can be realized as a verbal or nominal stem (a stem being the instantiation of a root thanks to a vocalic pattern). As a noun, in Kabyle, the root materializes as stem **-myar-**, ‘mature/old/respected person’, and as a verb it materializes as stem **-myr-** ‘grow up’ (-imyur- in the aorist (iC₁C₂uC₃), mqqr- (C₁C₂C₂^wC₃) in the perfective, and -ttimyur- (tt-iC₁C₂uC₃) in the imperfective). Verbal stems host bound pronominal affixes and clitics, valency affixes, and directional clitics.

From the nominal stem, a complex interplay of morphological devices marks gender, number and state.⁹

Language	Root	State	Masculine		Feminine	
			singular	plural	singular	plural
Kabyle	√MYR	absolute	a-myar	i-myar-n	t-a-myar-t	t-i-myar-in
		annexed	w-myar	j-myar-n	t-myar-t	t-myar-in

Table 1: Gender, number and state for the stem -myar- ‘mature/old/respected person’ in Kabyle (= ‘old man/men’, ‘old woman/women’, in the absolute and the annexed states)

Roots generally have broad semantics. We will be mostly concerned with nouns. An illustration of their morphology in three Berber languages is given in Table 2.

⁹ See Mettouchi (2014) for a synthesis on the state distinction. Some Berber languages do not show the distinction, among them Siwi.

Language	Root	Transl.	State	Masculine		Feminine	
				singular	plural	singular	plural
Kabyle	√BQL	water jug	absolute	abuqal	ibuqaln	tabuqalt	tibuqalin
			annexed	ubuqal	ibuqaln	tbuqalt	tbuqalin
Wargli	√FRY	pan	absolute	afruy	ifruyən	tafruxt	tifruyin
			annexed	ufruy	ifruyən	təfruxt	təfruyin
Siwi	√QR ^s f	basket	n/a	aqər ^s r ^s uf	iqər ^s r ^s ufən	taqər ^s r ^s uft	tiqər ^s r ^s ufen

Table 2: Nominal morphology in three Berber languages¹⁰

Often, gender morphology on objects (e.g. utensils) is used to distinguish between sizes (feminine: smaller, masculine: larger). On fruit-trees it may distinguish between species or grove (masculine, e.g. *azəmmur* ‘olive’, ‘olives’, ‘grove of olive-trees’) and tree (feminine *tazəmmurt*, ‘olive-tree’). But it is also often arbitrary (Mettouchi 1999), and one or the other gender is used for a referent - often differently depending on dialects/languages: the wild herb mash studied in part 2.4. is called *aβazin* (masculine) in some parts of Kabylie, *taβazint* (feminine) in others (gender being used as a dialectal differentiation marker); and the basket named *taqər^sr^suft* in Siwi is not smaller than the one named *aqər^sr^suf*: each term refers to a differently-shaped container.

Some feminines only have a prefixed t- (instead of a circumfix¹¹): *tuggi* ‘cooking pot’ (Kabyle).

Some Berber languages have undergone an innovation that consists in the fall of the first vowel in front of -CV syllables: *aβazin* is realized *bazin* in Zenati (and some other) languages.

The cognates investigated in this paper are realized *aβazin*, *θaβazint*, *abazin*, *tabazint*, *bazin*. We will not establish or discuss those linguistic forms or their reconstruction, but rather, investigate the relationship between them and their denotations.

2.2. Food in Berber culture

Very early on in human evolution, food has become more than a means of survival, and has started being part of culture (Barbaza 2016), mainly through rituals, such as those depicted on the Iheren rock paintings in the Sahara (6000 BP). Following the types and movement of staples, thanks to archaeological evidence, it is possible to reconstruct a lot about ancient populations’ ways of life: the way bovine domestication followed an East-to-West path across Africa,

¹⁰ Kabyle is Northern Berber, non-Zenati; Wargli is Northern Berber, Zenati, Siwi is Eastern Berber.

¹¹ Feminine affixes are noted t- or t-...-t, but are phonetically realized with a prefixed θ- in the Northernmost Berber languages (in which fricativization of stops is pervasive).

from the Fertile Crescent (10000 BP) to Senegal (3000 BP) (Le Quellec 2013), or the way inhabitants of the Gueldaman cave in North Algeria (7000 BP) went from a diet based mainly on meat consumption, to one based on the transformation of milk products (Kherbouche, Dunne, Merzoug, Hachi & Evershed 2016).

Up to this day, food has remained a central cultural element in the Berber-speaking zone (Mettouchi 2019). This is shown for instance in the numerous proverbs, riddles and tales involving traditional preparations, such as:

(1) *i-tgg* *səfsu* *ya*
 3SG.M-make:IPFV couscous:ABSL.SG.M for

wyi *n* *dədziran*
 buttermilk:ANN¹².SG.M GEN neighbour:ANN.PL.M

‘He prepares couscous for the neighbours’ buttermilk’ (Tarifit proverb. Bouylmani in Bentolila 1993: 42) (in a situation when someone expects someone else to complete their work, or works for someone else’s benefit).

The importance of food in Berber culture makes this domain a particularly apt one for studies on cultural retentions and innovations, as well as diffusions due to contact. The literature on food in North Africa reflects its cultural importance; the region used to be crucial for the supply of the Roman Empire (Laporte 2015), is known for its rich royal cuisine during the Arabo-Andalus period (Ghouirgate 2015), or for the fact that contrary to what happened in the Middle-East, pastoralism preceded agriculture in (North) Africa (Marshall & Hildebrand 2002).

However, with some exceptions (e.g. Gast 2000 for the Sahara), most studies have not focused on simple rural preparations and utensils, and rely rather on historical accounts of royal banquets, or commercial production (such as for instance *garum*,¹³ a fermented fish-sauce produced for exportation to Rome in the whole of the Mediterranean empire), or the spice or salt trades. Moreover, sociological and historical studies on Berber culture seldom precisely record the terms used for various food preparations and techniques, with some exceptions for ethno-linguistic approaches (e.g. Taine-Cheikh 2014

¹² ANN is the abbreviation for ‘Annexed state’, a morphological mark that alternates with ‘Absolute state’ (ABSL) at the initial of nouns in most Berber languages. See Mettouchi (2014) for an overview.

¹³ This is the Latin name of the sauce, which disappeared completely from North Africa after the fall of the Roman Empire, showing that it was probably not consumed by local populations and was an export product.

for milk and derived products in Zenaga). Dictionaries are not always very specific concerning food preparations or utensils either, and it is ultimately through fieldwork, and first-hand knowledge of the Berber groups under investigation, as well as in ethnographic texts that the most useful materials can be found. Traditional rural cuisine is highly endangered by several factors: the effects of colonization, rural-urban migration, civil wars (Algeria, Libya), sedentarization of nomadic populations (Mali, Niger, Algeria), technological changes (e.g. use of fridges for conservation), industrial food processing, as well as rejection of ancient culinary techniques in favour of meals that are easier to prepare. As with other elements of traditional culture, the next five to ten years are probably the end of the window when it will still be possible to record traditional cultural practice that has been passed on without interruption across dozens of generations or more. Finally, to our knowledge, no study on Berber has ever tried to link traditional rural food to language subclassification, or to linguistic contacts or migrations.

The following study is therefore exploratory, and aims to pave the way for more investigations in that area. The relevance of the language of food for linguistics is clear however, even when the studies under consideration do not openly address the question of the relationship of food to language and linguistic classification. For instance, the consumption of dog meat, considered as illicit by most Muslim interpretations but not all, is described in (Encyclopédie Berbère 1994, Prévost 2006), and although the authors do not make any relationship to linguistic groupings, the areas where dog meat used to be part of people's diet (and is now mostly consumed as prophylactic food, which is the fate of most foods considered religiously forbidden) covers a zone uniting (Eastern) Zenati (Gabes, Djerba, Djerid, Souf, Mzab, Touat, Aures, Oued Righ), and Eastern Berber (the Berber centers of Fezzan, but also in Ghadames, the Tripoli region, Misurata and Benghazi), thus making this consumption an element in favour of the hypothesis of a linguistic-cultural continuum for that macro-area. A link with the Ibadi religious movement has been hypothesized¹⁴ but things are slightly more complex, as Ghadames is outside the Ibadi network and Siwa (Cline 1936: 21) has been cited as a place where dog meat was consumed. This points to a more ancient practice, covering the two zones under investigation on this paper, and adopted by the Ibadis, probably because it was culturally important in the area. The presence of dog consumption in the West (Sidjilmassa, the triangle situated in Morocco on the map (Figure 13)) is additional evidence of the link

¹⁴ See E. B. 1994: 2166.

between the Oriental zone, from which Ibadism entered North Africa, and Sidjilmassa, point of arrival of one of the main caravan routes¹⁵ controlled by Ibadi tribes (Takedda -Touat - Sidjilmassa). But even before that, the founding of the Sidjilmassa kingdom by the Miknasa (Zenati) tribe is proof of the very ancient link of the city with the Oriental zone, and of the cultural continuum through time of Zenati tribes, Ibadism, and the spread of Arabic.

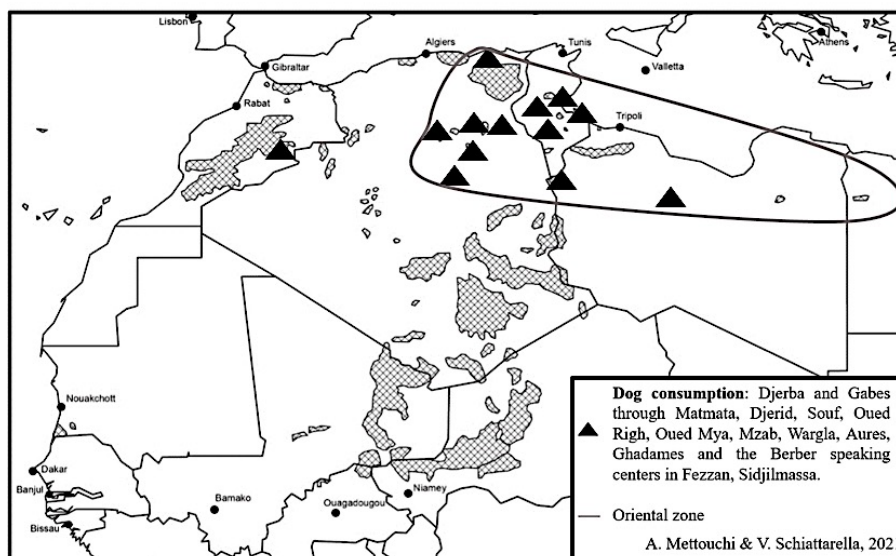


Figure 13: Dog consumption based on E. B. 1994 and Prévost 2006.

In smaller zones, some food preparations are identified by speakers as being related to a particular group and area (*tikurbabin*, plural of *takurbabt*, √KRB ('lump', 'pellet'), are semolina balls that all Kabyle speakers associate with the sub-region in Eastern Kabylie that used to be the Massyle Numid Kingdom from 400 to 46 AD). Deeper in time still, we can find traces of ancient eating habits in present-day populations: the Capsians (12000 to 8000 BP) were noted for their shell-mounds, containing hundreds of millions of snail shells (Camps 1999). Contemporary zones of production and consumption of snails (Souk-Ahras, Tebessa and Khenchela (Algeria)) are still located in the area of that ancient Capsian civilization hub. This shows that despite the integration, in more urban and wealthier populations, of borrowed ingredients (spices etc.) and recipes (Ottoman sweets, etc.), rural groups still maintain part of their deep ancestral culinary heritage alive, as a feature of their identity. This makes food very similar to language, and is an additional argument in favour of its use as support for historical linguistics hypotheses.

¹⁵ The other main caravan route is Ghadames-Ghat-Azawa, further South (and outside the Ibadi zone).

For the macro-zone under investigation (the Oriental part of the Berber-speaking area), we have decided to focus on a case-study: that of a cooked preparation which undergoes specific types of denotational shifts in the contact area between Eastern Zenati, Eastern Berber and the other Berber languages spoken in the Oriental zone, as well as with Arabic. This preparation will be presented as evidence in favour of (a) a cultural continuum between those languages, (b) the existence of cultural subgroupings in the zone reflecting linguistic subgroups, and (c) the presence of shifts and innovations characterizing zones of intense linguistic contact.

2.3. Method and hypotheses

We have based our research on terminological reconstruction, adapting to Berber culture the method described in (Ross, Pawley & Osmond 1998: 5):

“Terminological reconstruction is instead similar to the semantic reconstruction approach. In terminological reconstruction, the meanings of protomorphemes are not determined in advance. Instead, cognate sets are collected and their meanings are compared with regard to:

- their specific denotations, where these are known;
- the geographic and genetic distribution of these denotations (i.e. are the glosses from which the protogloss is reconstructed well distributed?);
- any derivational relationships to other reconstructions;
- their place within a working hypothesis of the relevant [Proto-Oceanic] terminology (e.g. are terms complementary – ‘bow’ implies ‘arrow’, ‘seine net’ implies ‘floats’ and ‘weights’? Are there different levels of classification - generic specific and so on?)”.

An interesting example to illustrate our method is given by a basket used for food or water storage whose cognates are based on a $\sqrt{G}(\text{glide})N(N)$ root (which refers to the notion of ‘sewing, interlacing, weaving...’). Those cognates of $*g^y n(n)$ are rarely used outside of the Oriental zone (we found one instantiation of the term in South Morocco), and, within this zone:

- generally refer to a basket made of palm fibers or alfa,
- whose function is to store food or contain water,
- and whose shape (or cover) is conical or cup-like.¹⁶

¹⁶ Cognates are absent in de Foucauld 1951’s four-volume Tuareg dictionary and Dallet’s (1982) extensive Kabyle Dictionary (1052 pages). In Morocco, it is attested in Tashelhit (*agonin* ‘big basket in alfa’, Laoust 1921: 20), but it is not in the shape of a cone (K. Arkaoui, p.c.). Reviewer 2 mentions, as a counterexample to our hypothesis, Serhoual (2002: 394) for Rif Berber, *grgn* ‘donkey bag in esparto’ (vegetal fibers winnowed or woven). This is not a counterexample for us, as we



Figure 14: Baskets used to store grains (*agnin*), Siwa.

In Siwa *agnin* is a basket made of palm tree fibers used to store grains, with a cone-shaped cover. In Nafusa (Jadu, Libya, Provasi 1973: 529) *ugnîn* is a small container made of vegetal fibers in the shape of a cup. In Ghadames (Libya, Lanfry 1973: 141), *tadḡnînt* is a cone-shaped bread container in wickerwork. In Wargla (Algeria, Delheure 1987: 99), *agnin* refers to a basket of palm fibers or a cup in the shape of a cone and *tagnint* refers to a bucket made with the same material, but used to draw water in the garden or as a container where water cools while hanging in the air. In Mzab (Algeria, Delheure 1984: 61) *agnin* or *agənnun* is a big container in wickerwork, in the shape of an upturned cone or a funnel without a hole. In El Fogaha (Libya, Paradisi 1961: 300) *təgnît* is a vase or container made of palm fibers. In Awjila (Libya, Paradisi 1960: 164) the term *agənnîn* refers to a cushion made of old rags that one puts on one's head to transport heavy weights. Those rags, in the shape of a ring, can also be used around the cavity of a stone where dates are crushed, in order to keep them inside.

In Zwara (Libya) *angu* is the term for 'nest' (Bennana, p.c.). In Djerba too, *angu* is used for 'nest' (Brugnatelli 2010: 49). In Wargli, *agnin* is also a nest (Algeria, Delheure 1987: 99).

It is probable that the term *guni*, used in Temacine (Oued Righ) (and in Mzab and Wargla) for the upper part of the couscous-pot, traditionally made of palm fibers in the area, and of conical shape, is based on the same root $\sqrt{G}(\text{glide})N$.

From the various denotations above, one can reconstruct a common gloss around the notion of interlaced vegetal materials, the shape of cup or cone, and the functions of container/holder (grains, dates, water). The 'nest' meaning is also characteristic of the area (it is not

have not hypothesized that the root $\sqrt{G}(\text{glide})N$ was exclusively found in the Oriental zone. What we argue is that **the denotation** (cup or cone-shape + food or water container) **associated to the *g^yn(n) cognates** is common to our contact zone.

found elsewhere in the Berber-speaking zone), and probably a semantic shift based on the conical form and the materials (or it could be the other way around, the areal term for nest that would have given its name to such conical weaved baskets).

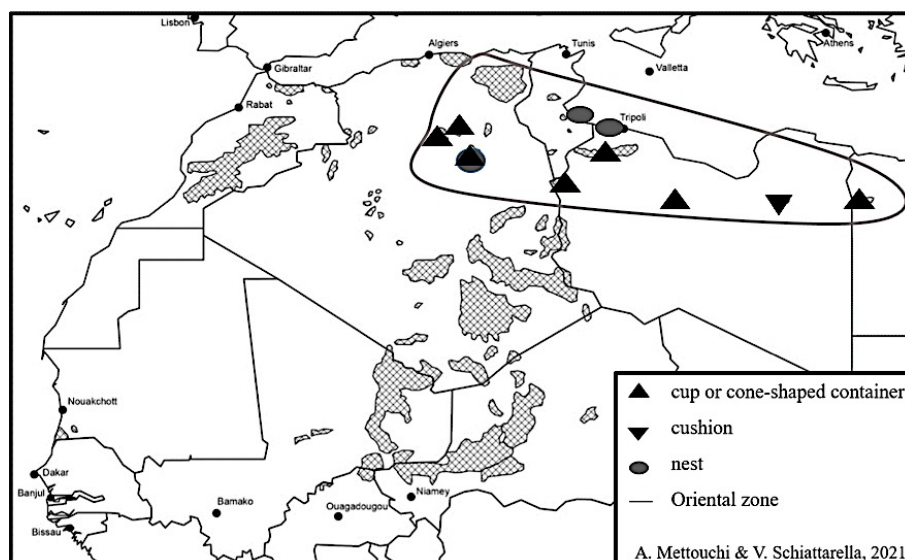


Figure 15: *g^yn(n) cognates referring to wicker-work containers made of alfa or palm fibers, with cup- or cone-shape, in the Oriental zone

In terms of subgroupings, it is interesting to note that in Awjila the referent is more of a head-cushion, and is also used for keeping dates from spilling around while they are crushed (therefore closer in shape to the notion of ‘nest’ than that of container). Awjila would appear once again slightly different from the rest of the languages spoken in the Oriental zone. Elsewhere in the zone the conical or cup form of the basket seems to be a cultural feature that links together some Eastern Zenati languages (Wargla, Mzab, Oued Righ), and Eastern Berber ones (Siwa, El Fogaha), as well as Ghadames and Nafusa (Jadu), thus reinforcing the hypothesis of intense cultural and linguistic contacts in the area. Zwara and Djerba are somewhat different from the rest of the languages: only *angu* ‘nest’ is attested there. This semantic link is also attested in Wargla, where the same cognate *agnin* is used to designate both a nest and a container in the form of a cone.

The preceding example is an object, and is thus easier to study, since it has a shape and a texture, a function, and a name. Food preparation is more complex to investigate, because it involves processes, with a material and an immaterial part. Therefore, we adapted the method above to include not only the shape and texture, but also the

ingredients, and the stages of the preparation (viewed as a ‘chaîne opératoire’ (Leroi-Gourhan 1964)).

The underlying hypothesis, given the fact that the cognates or the corresponding root of those food preparation terms can generally be found in the whole of the Berber-speaking zone, is that by looking at changes in aspects of their denotation, it is possible to hypothesize technical changes akin to bridging contexts (cf. Evans & Wilkins 2000), whose analysis, if consistent with linguistic reconstruction, points to possible horizontal transmission, possibly through intermarriage, abduction, slavery, trade or nomadism.

Indeed, we consider that transmission of recipes in traditional rural areas is steadfastly vertical when the area is stable (the group has been anchored in a (small or vast) geographical zone for a long time, has stable intermarriage patterns, controls external input (religious or cultural), is not subjected nor subjects other tribes, does not undergo massive catastrophes (natural or human-related), etc.). On the contrary, vertical transmission is highly impacted by horizontal transmission when a group is not stable over time or space: new spouses with new recipes, changes in ecosystems, invasion of an already inhabited area, invasion by a new tribe from another area, enslavement, population displacements, etc.

Vertical transmission refers to the mother/daughter and mother-in-law/daughter-in-law transmission of recipes inside a stable group. Horizontal transmission refers to peer-to-peer transfer of techniques and methods, changes in food preparation imposed by new rulers, introduced by new servants/slaves/abducted women, or resulting from movement to another area with a different ecosystem (e.g. fleeing from the plains to the mountains or vice versa), from sustained trade exchanges with other tribes along a trade route, etc. Urban cuisine is a typical example of horizontal transmission, resulting in innovations.

2.4. *βazin (root √BZN)

Cognates of *βazin are attested over the whole Berber-speaking zone, although with very different denotations. The root √BZN or its stem *βazin does not refer to a unique preparation over the whole of North Africa, but to a defining feature of that preparation, that of being cooked without meat, fat, butter, milk or oil, as in the definition found in (de Foucauld 1951: 37) for *ābahîn* in Ahaggar Tuareg,¹⁷ for *abazin* in Tashelhit¹⁸ (Kossmann 1999: 129) and for *θaβazint* in Central

¹⁷ and the corresponding stative verb *buhān* (fi > protoBerber *z).

¹⁸ ‘food with no fat’.

Kabylie¹⁹ (Dallet 1982: 63). The meaning is not however ‘any preparation cooked without meat, fat, butter, milk or oil’: in each area, the term refers to one specific dish/recipe. The fact that this definition holds in at least two major branches of Berber (Southern and Northern) indicates that it is probably an ancient meaning.

A study that would limit itself to the linguistic analysis of cognates, and a general translation as ‘traditional rural dish cooked with no meat, fat, butter or oil’ would miss the wealth of information, relevant to cultural groupings and links, that one can gather from looking more specifically at ingredients and cooking techniques. However, researching those details is complex, as there is very little information available with that degree of specificity.

Indeed, the preparation of the recipe that bears that name can be manifold across the Berber-speaking area, from a vegetable mash in Central Kabylie to a type of bread in the Aures, through various types of boiled dough in Ghadames. Grouping together preparations whose name is a cognate of *βazin, and among them the ones that involve the same ingredients and/or preparation, makes it possible to paint a picture of possible intra-Berber contacts, and borrowings from Berber to Arabic and back.

While independent innovations or shifts in the food preparation are not to be ruled out, they are less probable in simple rural preparations (most often involving direct generational transmission, importance of tradition, and less ingredients) than in wealthy urban cuisine (involving pressure for new tastes and fashionable discoveries). Rural preparations are therefore a more stable reflection of linguistic and cultural groupings, as well as local contacts, than urban cuisine, which reflects large-scale and multiple influences.

2.4.1. *Categories of preparations*

We are going to classify the main preparation types according to their basic ingredients.

(a) Herb mash

In Central Kabylie²⁰, *θaβazint* (also named *aβazin*) is a dish composed of flour, tubers of arum and herbs, without meat and butter (Dallet 1982: 63) - with local variants involving wild vegetables, cooked and mashed, with a handful of semolina added at the end of the preparation, and possibly some olive oil²¹.

¹⁹ and the corresponding stative verb *bbuzən*.

²⁰ Not part of the Oriental Berber zone, but given here as a point of reference, as a stable and probably very ancient Berber-speaking zone.

²¹ A video of the preparation in Central Kabylie is proposed by Echourouk TV on their YouTube channel: <https://www.youtube.com/watch?v=nNZ29OYoe18>.

Here is the transcription of a description of *θαβαζιντ* (orthographed *tabazint*) in (Dallet 1982: 63): “*d ləħcic teṭṭen medden am ubeεεuq, tayiyact ney d elx^weḍra, geṣṣmen cwiṭ cwiṭ; sebb^wayen-ṭ alamma tefsi; xelleṭn-as cwiṭ bb^wewren; ddehhinen-ṭ mⁱ ara ṭ-eččen*” (“it is (made of) edible wild herbs, such as arum, silene or else green vegetables, cut into small pieces and cooked until they melt; one adds a handful of semolina, and seasons it with olive oil at the moment of eating”).



Figure 16: Picture of *aβazin*, Isefra n'Yema Facebook page.

This very same preparation can be found in Eastern Kabylie (in the Babors mountains and around Jijel) under a number of denominations, but not *βazin cognates (*aβazin* exists, but refers to a porridge-like dough made of wheat semolina, butter and eggs, without vegetables (Garaoun p.c.)). In that micro-region, characterized by intense Berber-Arabic contact since the first pre-Hilalian invasions in the 7th Century AD, and by an intrication of Berber-speaking (Tasahlit) and Arabic-speaking villages and tribes, several names are used for the wild herb/vegetable mash preparation: *arbīt^ε*, *ħārbīt^ε*, *al gəmra*, *bqūl*, *buhəllus*, *θahlult* (Garaoun, 2020). Some are based on an Arabic root, some on a Berber root, with some Berber-speaking groups using a term of Berber origin, others one of Arabic origin, and similarly, some Arabic-speaking groups using a term of Berber origin, others one of Arabic origin. The study in Garaoun (2020) is very interesting, although it does not bear on the term *aβazin* or cognates, because it underlines the multiplicity of names given to a similar preparation in a very small area, characterized by intense contacts. Conversely, Central Kabylie, whose only intense contact with Arabic is at its borders and (recently) in its urban capital Tizi-Ouzou, and which was not impacted by Zenati groups contrary to the nearby Babors mountains, shows much less variation in terminology. The denotation of *θαβαζιντ* in Central Kabylie is typical of cultural retention, and vertical intergenerational transmission. The area does not belong to the zone investigated in our paper, but as a major ancient and stable

monolingual Northern Berber area, just at the Western border of the Oriental zone, it provides a crucial point of reference.

(b) Vegetable coarse-grained couscous

In Oued Righ (Touggourt, Algeria), North-East Kabylie (At Yemmel, T. Iftissen, p.c.) and South-East Kabylie (Setif area, and Bibans mountain range, Algeria), *abazin* designates a type of coarse-grained couscous with broth/sauce. Those areas are natural geographic corridors of Zenati and Arabic penetration.

Abazine s'th'fejjhal (avec des feves)

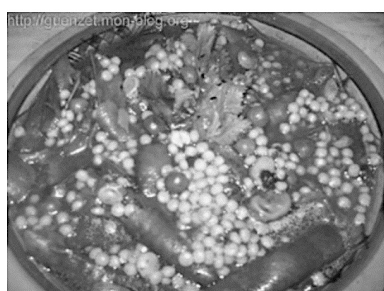


Figure 17: Picture of *abazin* in Ait Yaala (Guenzet), South-Eastern Kabylie (Bibans), *Ith Yaala Canal Blog*.

Our hypothesis here is that the handful of semolina that was often added to the Central Kabylie (*t*)*abazin*(*t*) (or its corresponding Babors (Tasahlit) preparation *ħārbīt*^f), has become the basic ingredient of the dish, and has triggered its reinterpretation and adaptation into a type of couscous.

Here it is important to underline the fact that semolina is an ingredient in the preparation of the couscous grain, it is not the couscous grain itself: a product of ground wheat, semolina is used in several preparations: from breads, where it is used directly, to couscous, itself a complex dish. In couscous, the semolina is rolled into actual couscous grain through a complex technical process involving several stages of humidification, addition of dry semolina, rolling, sieving, drying, and the couscous grain is then stored for months, and used for couscous dishes (steamed and accompanied with all sorts of meats and vegetables, broths, sauces etc.). What happens in the case of this version of *abazin*, is that:

- (i) the handful of semolina is interpreted as a handful of couscous
- (ii) the couscous becomes the main (or a major) part of the dish, thus paving the way for transition from a herb mash to a vegetable couscous.

In order to understand the first stage of the shift, one must be aware of the fact that in Central Kabylie, the couscous (called *səksu*) is

preferably rolled into tiny grains, which look very much like a slightly coarse semolina. Other regions have differently calibrated couscous: typically, in Eastern and Southern Kabylie, as well as in the Aures and Oued Righ regions (all Zenati or Zenati-influenced), the mainstream basic couscous is rolled into comparatively bigger grains,²² sometimes steamed and sometimes cooked directly in water or in a broth or sauce.

Inhabitants of the regions where *aβazin* is a (coarse-grained) vegetable couscous probably interpreted the handful of semolina as a handful of couscous grain, and they added their coarse-grained couscous to the herb/vegetable mash. The couscous part was then reinterpreted as the basis of the recipe and the vegetable mash as an accompanying sauce/broth.

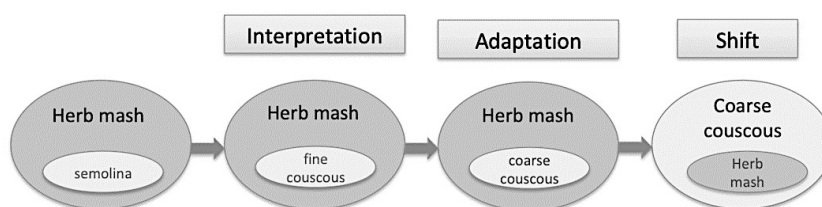


Figure 18: Bridging context and shift for the ‘vegetable couscous’ type of **βazin*

This shift to a couscous-based dish with a vegetable broth, from a herb/vegetable mash with a handful of semolina, is typically based on what we will call a cultural bridging context in the domain of food preparation: an added, secondary ingredient (semolina) is interpreted as (fine-grained) couscous, and reinterpreted as a couscous dish through a cultural difference between fine-grained (Central Kabylie staple) and coarse-grained (Eastern Kabylie, Aures and Oued Righ staple) couscous.

The notion of cultural bridging context is our adaptation from the concept of linguistic bridging context (cf. Evans & Wilkins 2000) and is used in a situation where a common stage of the food preparation can be found in two dishes bearing the same name but referring to different realizations of the preparation. We consider that the common element is the one around which the denotational change (akin to a semantic shift) revolves, and we hypothesize that this happens through (horizontal) contact between groups (exogamic marriage, migration, enslavement, abduction, etc.) rather than intergenerational (vertical) transmission.

²² That Central Kabyles call *barkukas*.

(c) Vegetable sauce

Another interesting shift can be seen in Nafusa (Jadu), where, according to Provasi (1973: 524), *bāzīn* is a kind of sauce “*bāzīn* specie di salsa (ar. *tbiḥa*)”, corresponding to the Arabic *tbiḥa* (a mix of vegetables and pulses in a spicy sauce).

This time, only the vegetable part of the recipe is retained, and instead of wild herbs, women use garden vegetables and pulses. This points to a wealthier agricultural economy than in Central Kabylie, where the use of wild herbs and vegetables (crucial in times of famine, and based on ancestral knowledge passed on since times immemorial), has been retained, and is still part of a number of special ceremonial preparations (e.g. the use of *Thapsia Garganica* (*aderjis*) to accompany the couscous celebrating the arrival of the spring season, as well as for medicinal use).

This time, it is not the semolina that is reinterpreted as main ingredient, but the herb/vegetable component which is retained, and adapted to local conditions (climate and agriculture). We consider this retention as proof that Nafusa (in its Jadu variant) is connected to the more ancient Berber zones to its West, and is an area of conservatism rather than innovation, a fact that is reflected in linguistic features as well, as mentioned in 1.1.

(d) Flour and water

The other main type of preparation, clearly different from all previous types, involves flour and water.

It is important to note that flour and water preparations of all kinds (gruels, porridges, hard doughs, breads...) are present over the whole of North Africa (and in all zones of the world where cereals are cultivated); what we are referring to here are flour and water preparations **named with a cognate of *βazin**, i.e. the association of a term and its denotation.

In some cases the original meaning of the recipe (without meat, butter or fat) is clearly retained (e.g. Zwara), while in others, its status is not so clear (e.g. Siwa). In some cases, the original meaning is lost altogether.

In the zone under investigation, the two main preparations are breads (Zwara and Aures) and doughs boiled in water or fried in oil (South Tunisia, Awjila, Ghadames, Siwa). A frequent and distinctive feature in those preparations is the fact that the dish is made of (or shredded into) smaller pieces (Aures, South Tunisia, Awjila, Ghadames).

In Zwara, *bazin* is a kind of bread eaten dry (Bennana p.c.), in Aures (Basset 1961: 22, 24), *bazin* is a kind of unleavened bread cut into

small pieces and seasoned with broth. In South Tunisia, *bazzina* (Louis 1986: 32) is a dish made of small rolls fried in oil; served with a sauce. In Awjila, *abazîn* (Paradisi 1960: 171) is made of wheat flour dough cut into strips. In Ghadames, *elbazin* (Lanfry 1973: 35) is a leavened dough of flour in the form of small flat patties cooked in boiled water. *elbazin n-alidam* ‘bazin with sauce/broth’ is seasoned with a fat date and egg sauce, *elbazin n-udj* ‘bazin with oil’ is served with olive oil (the accompanying sauce is named separately from the dish itself).

In Siwa, *bazin* is a dish made of flour cooked in water, and then given the shape of a dome. It is served with olive oil, or sauce (*lidam*). Just like in Ghadames, the term *bazin* itself only refers to the dough, the accompanying sauce being given a name of its own. When the dough contains dates in Siwa, it takes on a different name: *tagella n teni* (‘tagella with dates’). *Bazin* is said by Siwi people to be the staple food of *iṣarṣenən* ‘Bedouins Arabs’, some of whom live in some villages of the oasis.

Preparations involving flour and water seem (i) to characterize most of the zone under investigation for this paper, and (ii) to be more liable, in some areas, to systematic associations with a meaty or fat accompanying sauce, therefore no longer conforming to the original principle underlying the preparation’s name (even though speakers retain the cognate of *bazin* for the non-fat/non-meaty part of the preparation, and use a complement in the form of a prepositional modifier for the fat or meaty accompaniment). This, and the way Siwi people view their own *bazin* as a Bedouin dish, evoke loss of direct vertical transmission of the link between the meaning of *bazin* and the preparation, possibly due to contact with other languages/cultures.

And indeed, Berber cognates of *βazin have been borrowed (or retained from a Berber substratum) into several contact Arabic dialects: in Jbala Arabic (a former Berber-speaking area, and a contact zone with Rif Berber (Western Zenati)) people use *abāzīn* for a coarse couscous dish (Layachi, p.c. in Garaoun 2020). In Maltese, Tunisian and Libyan Arabic, *bāzīn(a)* refers to a kind of thick dough or polenta (Naït-Zerrad 1998: 152) and in Dellys Arabic (Algeria) *bāzīna* is a ‘porridge, gruel’ (Souag 2018: 200). We will expand on this in 2.4.2. and 2.4.3.

2.4.2. Denotational shifts

If the preparation contains meat, fat, butter, milk or oil, then the link with the original meaning (and therefore the essence of the preparation) is lost, and the recipe has most probably been adapted in the context of another cultural or linguistic background. This loss generally happens with adaptations of the recipe in cities, where the

term is borrowed into Arabic, and the recipe retains only part of its ingredients, and introduces characteristically rich elements such as meat, animal fat etc. The Sfaxian *bazin*, typically prepared in the Tunisian city of Sfax for the main Muslim festival of *ʿĪd-əl-kəbīr*, is an example of such an adaptation. *Bazin bi lkleya* (lit. ‘*bazin* with *lkleya* (mutton meat and offal)’), where the term *bazin* is followed by an Arabic prepositional phrase), has the part called *bazin* made of starch (extracted from semolina) and water. In the centre, one adds honey.



Figure 19: *Bazin bel kleya*, *Du Bruit dans la cuisine* Blog²³.

Always eating *bazin* in association with this meaty accompaniment results in a semantic shift where the name of part of the dish (the starch and water dough) becomes the name of the whole dish (including the meat, offal and honey) with, in this case, loss of the original meaning of *bazin*.

This is particularly salient in the case of the following recipe, broadcast on Nessma TV, a Tunisian-French channel; even if in the text of the recipe, *lkleya* and *bazin* are both mentioned and explained, the whole dish is simply called *bazin*, and introduced in French as “Nessma cuisine vous propose la recette du Bézine une spécialité culinaire traditionnelle de la région de Sfax que l’on consomme le jour de l’Aid el kébir” (“Nessma cooking presents to you the Bézine recipe, a traditional culinary speciality of the region of Sfax, eaten on the day of Aïd El Kebir”).²⁴ This shows how the association of a preparation consisting of flour (or here starch powder) and water can shift to meaning the whole dish composed of this preparation and a rich meat accompaniment.

The abovementioned examples are typical of a metonymical shift, whereby the original recipe’s name becomes that of a new dish which includes the original one (that has now become only part of the

²³ The blog is by a Sfaxian cook (<http://milletunesaveurs.blogspot.com/2008/12/les-dlices-de-laid-bzine-bel-klya.html>)

²⁴ <https://cuisine.nessma.tv/fr/recette/2651/cuisine-tunisienne/viande/bazine-specialite-culinaire-sfaxienne-de-aid-el-kebir>

recipe). This kind of shift is probably already at play in Ghadames and Siwa (cf. (b)).

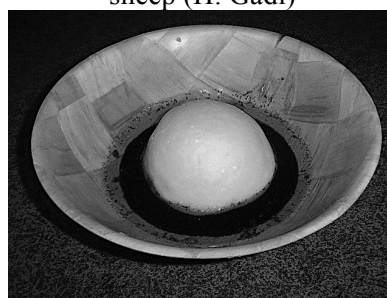
It is facilitated by the convergence of the *bazin* recipe with another recipe, originating from the Middle-East,²⁵ which is widespread in all Arabic-speaking zones of the Maghreb (as well as in Yemen, Saudi Arabia, Kuwait (areas from which Arabic invasions of the Maghreb originated in the early Middle Ages), Sudan, Somalia, Ethiopia, Eritrea, and Indonesia), and is called *ṣasʿida* (aseeda).

The whole zone on which our paper centers is characterized by this influence, which we see both in the dough base of the *bazin* recipe, and in its shape. This probably happened when Arabic warriors coming from the Arabic peninsula in the 7th Century AD conquered the area, established themselves in cities (e.g. Tripoli in Libya), and married or subjected Berber women.

Yemenite *ṣasʿida* in chicken broth



Libyan *ṣasʿida* with rub and molten sheep (H. Gadi)



Yemenite *ṣasʿida* with broth



Tunisian *ṣasʿida*

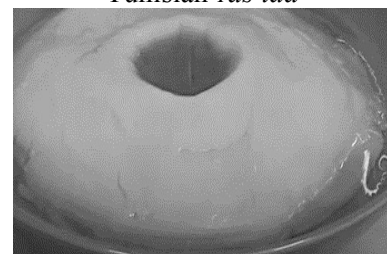


Figure 20: Yemenite, Libyan and Tunisian *ṣasʿida*

Indeed, like the Tunisian *bazin*, the Libyan *bazin*, a staple dish and national pride, looks very much like the Arabian *aseeda*, through its

²⁵ One of the first mentions of *ṣasʿida* is found in the 10th Century *Kitāb al-Ṭabīḥ* by Al- Warrāq (Nasrallah 2007: 97-98) where it is described as a thick pudding of dates cooked with clarified butter and in Al-Baghdādī's 1226 *Kitāb al-Ṭabīḥ*, for a rich porridge-like preparation, possibly with dates (Arberry 2001: 82, 89). Rodinson considers it a typically Bedouin and pre-Islamic dish, probably not part of the '*haute cuisine*' (Rodinson 2001: 150-151). In modern recipes, it is often a hard dough, rather than a porridge/pudding-like preparation.

dome shape, and its association of a flour-based recipe with an accompanying rich and often meaty broth.

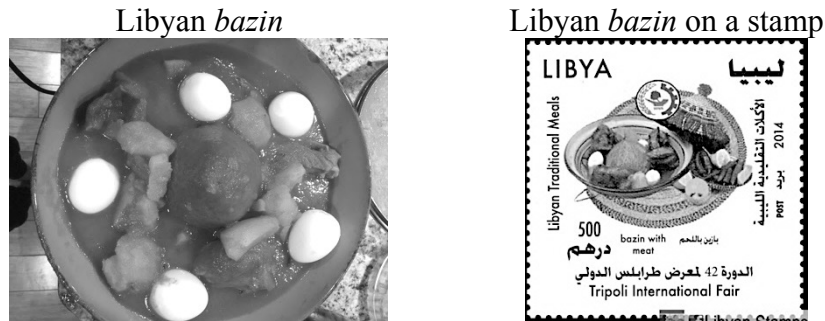


Figure 21: Libyan bazin

How did *aseeda* and *bazin* converge in this way? Is it just a question of abstract and random denotational shift, the *bazin* name being attributed to an *aseeda* preparation?

2.4.3. The Libyan *bazin*'s 'chaîne opératoire': an instance of cultural memory

An answer to the question is given by the precise analysis of the traditional preparation of the contemporary Libyan *bazin*. By unfolding it, we can identify technical gestures and branching possibilities towards other preparations. For this, we must consider the stages of the recipe, to which we will apply the concept of 'chaîne opératoire' (Leroi-Gourhan 1964) not only as a series of steps in a procedure, but as symbolic processes, interacting with technical processes, thus uniting mental representations and concrete realizations (Godelier 2012: 59-60).

The following screen captures are from a YouTube video²⁶ representing the traditional preparation of 'Libyan Bazin' by a woman at her home.

²⁶ https://www.youtube.com/watch?v=4yVZti_WYqs (video-recorded at someone's home)

Stage 1: preparation of a dough made of flour, water and salt.



Stage 2: shaping into patties with a hole²⁷ poked in the middle.



Stage 3: cooking of those patties in boiling water.



Figure 22: First three stages of the preparation

At this point, we have reached what is called *elbazin* in Berber-speaking Ghadames: small flat patties cooked in boiled water. The same type of patties can also be cooked in boiling oil, thus becoming small rolls (Berber-speaking South Tunisia), or on a fire, thus becoming a bread (Berber-speaking Aures, Zwara).

At stage 3, we are still along the timeline of vertical transmission, within the Berber culture. But Libyan *bazin* does not directly emerge from this stage of the ‘chaîne opératoire’; instead, the patties are crushed with a wooden stick.



Figure 23: Stage 4: crushing those patties with a special wooden stick in order to form a homogeneous dough.

This is a crucial stage of the recipe: the destruction of the patties makes little sense in strictly technical terms, since the resulting dough

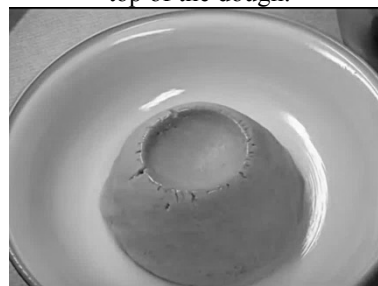
²⁷ That hole allows homogeneous cooking of the dough in boiling water or oil.

could very well be prepared directly without going through the patties preparation (cf the yemenite aseeda). And indeed, “in some regions it is cooked in a different way like pudding. But that’s taking the easy way out, like cheating. If you want the genuine thing, it has to be made the original way” (Of “Bazeen” and Local Cuisine By Zainab Al-Arabi, the Tripoli Post, 26 February 2012²⁸). In symbolic terms, ‘the original way’ is of utmost importance: it materializes both the result of stage 3, the actual traditional Berber preparation of the area, and its destruction and reconstruction into an aseeda-like dough. We consider that this is the trace of the cultural submission of Berber women to the Arabic invaders who had married or subjected them: the Berber dimension remains in the recipe, but it is beaten into a new Arabic shape, that of aseeda. Under the pressure of their husbands or masters, who wanted the dish to resemble their traditional Middle-Eastern *ḥasīda*, the Berber women reworked on the dough and turned it into a mound-like mass, presented in exactly the same way as *ḥasīda*, and enriched with fat or meat sauce, just like *ḥasīda*. The name *bazin* was nevertheless retained, together with the memory and technique of the traditional Oriental Berber preparation (stages 1 to 3), which was thus passed on to younger generations. In other words, food preparations can retain the memory of earlier versions, and of their evolution through time.

Stage 5: knead the resulting dough and then spin it to form a dome.



Stage 6: (optional) make a well on the top of the dough.



Stage 7: put sauce and meat, etc. round the dome.



Figure 24: Last three stages of the preparation

The mix of Berber and Arabic elements in the Libyan Bazin preparation is reflected in Arabic speakers' attitudes to that dish: considered as the National (Arabic) Libyan dish, it is also said to have originated in the Berber mountains of the country ("Indeed the kick [(gesture)] is difficult. Because er... Sometimes you begin to kick, there is what crumbles from it, but, my opinion is, I got used with er... due to my mother who is of Berber origin, of course from the mountains. And the Berbers are known er... because of this food, because they cook bazin well. And I eat it with my grandfather, who is my mother's father" (Libyan speaker N. Tayari about *bazin*; in Pereira 2003 (recordings in Tripolitan Arabic)).

The resulting dish has a very characteristic shape in the form of a small mound, with possibly a small depression at the top (stages 5 or 6).

This leads us to point to an interesting phenomenon, which is the local name of some funeral monuments of the Aures mountains and the Hodna area (two Zenati zones), dating back from the 3rd century AD: *bazina*. Those monuments are dome-shaped tumuli, they can be found all over North Africa, but only in the area where the preparation of *bazin* as a dome-shaped hard dough exists are they called *bazina*.

“Le terme bazina ne présente donc qu’une acception régionale, ce qui est un grave défaut lorsqu’il s’agit de l’appliquer à une forme de sépulture très largement représentée dans toute l’Afrique du Nord, depuis la Tunisie du nord ou du sud jusque dans la région de Meknès et au-delà”²⁹ (Camps 1991: 1400)

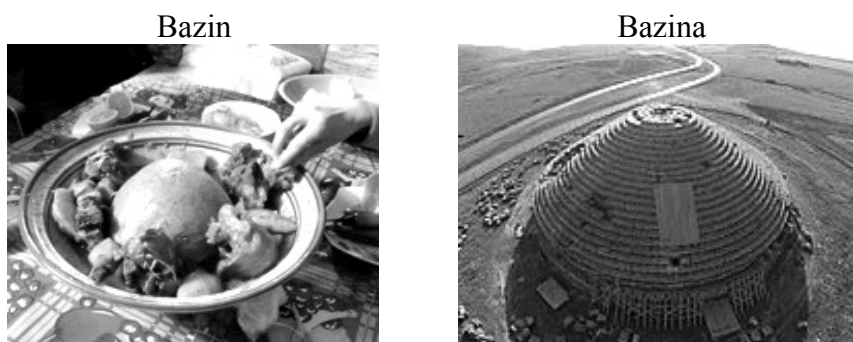


Figure 25: Picture of *bazin* and *bazina*.

²⁹ “The term bazina therefore only has a regional meaning, which is a serious flaw when it comes to applying it to a form of burial very widely represented throughout North Africa, from northern or southern Tunisia to the region of Meknes and beyond”.

Archaeologists report that local populations have told them that their term for those monuments, *bazina*, meant “mound” or “hill”, but this may well be metaphorical, and the word they used may well have been based on the shape of the Libyan-Tunisian *bazin*. The direction of the metaphorical shift is most probably from the dish to the monument, as there is no other indication of the use of the term *bazina* for topography (or architecture) in Berber languages, to our knowledge.

This last point is an argument in favour of the semantic shift characterizing the loss of the original meaning (‘cooked without fat, meat, or milk’) of the term *bazin* in parts of the Oriental zone, due to borrowing into Arabic and convergence with *aseeda*, which resulted in the current definition ‘dome-shaped dough preparation’. This dome shape became a feature that was then liable to be metaphorically transferred onto other referents.

2.4.4. *βazin: semantic shifts and bridging contexts

Figure 26 presents the ‘denotational map’ of *βazin cognates in the Oriental zone, with Berber terms and preparations under the top horizontal line, and Arabic *aseeda*-like preparation above the line. By identifying the denotational differences and shifts, and the cultural bridging contexts across the languages, we can see which preparations can be grouped together, and which ones diverge.

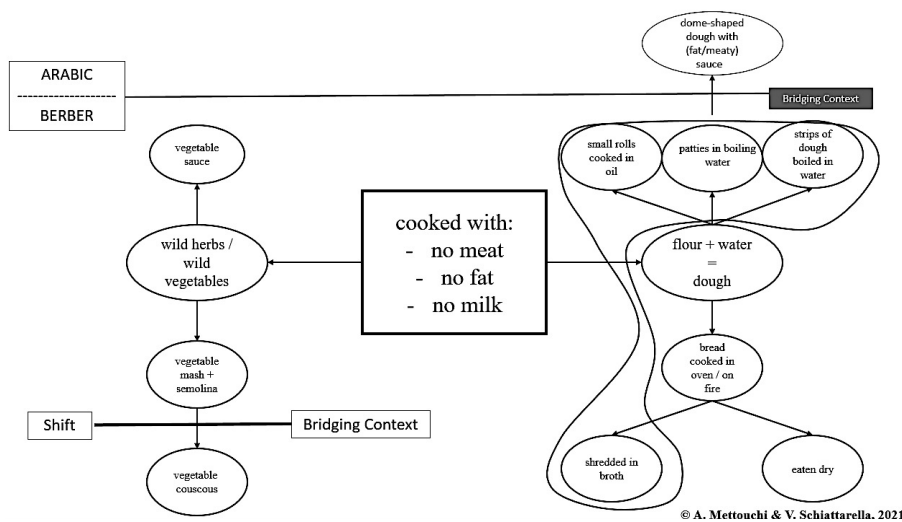


Figure 26: Different types of preparations of *βazin and cultural bridging contexts

When this information is geographically mapped (Figure 27), we see that denotational differences and shifts inside Berber are not random,

and can be related to hypothesized linguistic subgroupings, and contacts.

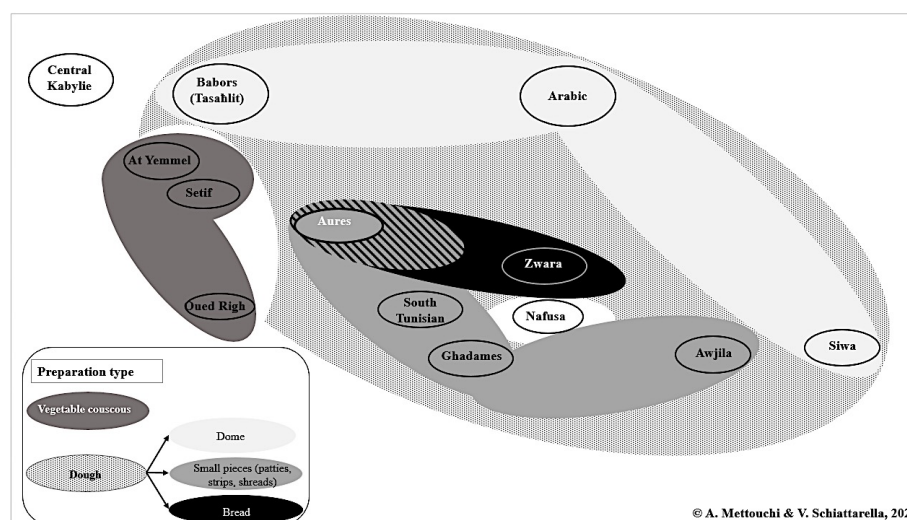


Figure 27: Languages corresponding to the preparations in Figure 26 (root $\sqrt{\text{BZN}}$, stem $*\beta\text{azin}$)³⁰

The various types of preparation associated to the stem $*\beta\text{azin}$ point to the following clusters or isolated languages:

- Central Kabylie (vegetable mash) (included in the map as a vantage point, in contact with but not part of the Oriental zone, which starts with Eastern Kabylie)
- Nafusa (vegetable sauce) (part of the Oriental zone, but an isolate in term of the preparation of *bazin*)
- North-East Kabylie (At Yemmel), South-East Kabylie (Setif), Oued Righ (couscous with vegetable sauce)
- Aures, Zwara (dry bread, or bread shredded in broth)
- Awjila (strips of dough, boiled in water)
- Ghadames (dough patties boiled in water)
- South Tunisian (small dough rolls boiled in oil)
- Siwa Berber, Libyan Arabic, Tunisian Arabic, Babors (Tasaḥlit Berber), (dome-shaped dough with (fat/meaty) sauce): all those languages are either Arabic varieties, or Berber languages in intense contact with Arabic, where we hypothesize re-borrowing via Arabic back into Berber of the Arabic recipe (modified from the Berber one) together with its borrowed Berber name (*a*)*bazin*.

The re-borrowing hypothesis can be illustrated with the case of the Ghadamsi *elbazin*: Lanfry (1973: 35) presents the entry as referring to one basic and two complex preparations:

³⁰ Language placement on the semantic map is broadly geographical.

- “- bazin, leavened flour dough put into flattened patties, thrown into boiling water, seasoned with fresh olive oil,
- *elbazin n-alidam*, dish with fatty sauce mixed with dates and eggs.
- *elbazin n-udj*, bazin served with oil”³¹

One cannot but notice the fact that while the entry bears the borrowed³² Arabic article *el-*, the second and third sub-entries are complemented by a Berber *n-* prepositional complement (lit. ‘elbazin with fat sauce’, ‘elbazin with oil’). The first sub-entry describes a preparation compatible with the original meaning of *bazin* (cooked without animal meat or fat), whereas the next two involve fat in the preparation. The fact that the basic preparation and the two altered recipes coexist in Ghadames exemplify partial loss of vertical transmission, comparable to what we noted with Tunisian and Libyan Arabic *bazin*. A preparation compatible with the original meaning (patties boiled in water) is retained, but named with an Arabic re-borrowed denomination, *elbazin* (along the following path: Berber *bazin* was borrowed into Arabic (*el-bazin*), and then borrowed back into Ghadamsi Berber with the article amalgamated (*elbazin*)).

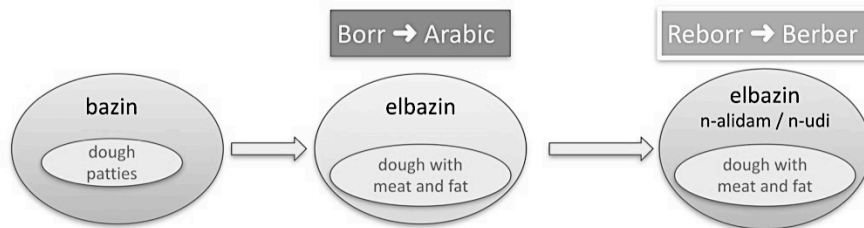


Figure 28: Borrowing into Arabic (denomination) and re-borrowing into Berber (denomination+ preparation) of the Ghadamsi *bazin*

A new denotation, the Arabic meaty/fatty recipe (with oil and dates, with meaty sauce), now dome-shaped (as is clear from a description in a folktale in Lanfry 1968: 35), was borrowed into the Berber-speaking community.

The coexistence of the three preparations in one Berber variety shows how intense Berber-Arabic contact is in some zones.

The extension of the zone where *βazin is a dough-based preparation covers both Eastern Berber, some Eastern Zenati languages, and some other Oriental Berber languages, thus making it a feature of a possible “Essen-Sprachbund”, to coin a term parallel to Sprachbund. Other

³¹ “- bazine, pâte levée de farine mise en boulettes aplaties, jetées dans l'eau bouillante, assaisonnées d'huile d'olive fraîche,
 - *elbazin n-alidam*, plat à sauce grasse mêlée de dattes et oeufs.
 - *elbazin n-udj*, bazine servie avec de l'huile (0155)”

³² widely borrowed into Berber languages in the whole of the Berber-speaking area.

Eastern Zenati and Zenati-influenced Berber languages, with their couscous-based preparation are somewhat distinct and closer to Central Kabylie, with shifts and bridging contexts in relation to the herb mash, rather than a completely different basic preparation. The area would be better characterized as a contact zone between Zenati and non-Zenati Northern Berber languages.

Berber clusters and isolates (from the point of view of food preparation, and based on *βazin and cognates) align with linguistic data:

- Ghadames and Awjila are isolates within the dough-preparation zone, with possible linguistic contacts among them (Kossmann 1999). The possibility of linguistic contact with Aures, and South Tunisian varieties (Zenati) could be investigated (given the common type/shape of the preparation (dish composed of smaller pieces of dough): shredding, patties, strips, rolls).
- Central Kabylie is different from neighbouring Babors (Tasahlit), and an isolate but with contacts with At Yemmel, Setif and Oued Righ (and possibly Nafusa), through the ‘bridging context’ of the semolina (a handful in Central Kabylie, fully prepared couscous in At Yemmel, Setif and Oued Righ) or through the shift of the vegetable puree into a vegetable sauce/broth in Nafusa.
- Contacts between At Yemmel, Setif (Eastern Kabylie) and Oued Righ,³³ all three Zenati or Zenati-influenced, which all have couscous as a referent for *βazin, perhaps through the establishment of the Zirid Dynasty (972-1148)?
- Distinction between Nafusa (Jadu) and Zwara (usually classified as linguistically non-Zenati for the former and Zenati for the latter), and closer proximity between Zwara and Aures (both usually classified as linguistically Zenati).

Several other pairs of denominations/denotations should be investigated, so as to form isotrophes³⁴, on the same principles as isoglosses for dialectal zones. Such criss-crossing isotrophes would be of great help in order to define linguistic/cultural subgroups in the Berber-speaking zone.

2.4.5. Perspectives

For lack of space, we will not investigate further denotational shifts, but the following examples invite investigations on the way food may

³³ Although not (at least on the basis of the √BZN preparation data) with the Aures region which is Zenati, and situated in-between geographically - but which forms a more independent and larger area, in the mountains.

³⁴ from τροφή, ‘food’

help us understand cultural and linguistic contacts in the Oriental Berber-speaking zone and beyond, over the whole area.

Cognates of **rwaj* (root \sqrt{RWJ}), whose meaning is associated to the notion of stirring, can be associated to denotations that we investigated in this paper under the name of *bazin*, as is shown by the Jadu Nafusa *arwaj* (Figure 29). Preparations named with cognates of **rwaj* are often linked to the Arabic *ʕasʕida* (Awjila, Paradisi 1960: 171; Ghadames, Lanfry 1973: 322; Djerba, Brugnatelli 2010: 64, just to name a few), probably because the two roots \sqrt{RWJ} (Berber) et $\sqrt{ʕSʕD}$ (Arabic) both mean ‘stir’, and because both preparations are very similar and consist only in flour stirred in water, sometimes with the addition of a fatty element. But unlike **βazin* flour-based preparations in the Oriental part of the Berber-speaking zone, **rwaj* flour-based preparations are not divided into small pieces.

Similarly, cognates of **gʷlla* (root $\sqrt{G(\text{glide})LL}$), whose meaning is associated to the notion of handful or measure (Mettouchi 2019), can refer to preparations that we investigated in this paper under the name of *bazin*, as is shown by the Siwi *tagalla n teni*, a dish containing dates like the *ʕasʕida* described in the Medieval Arabic cook books.

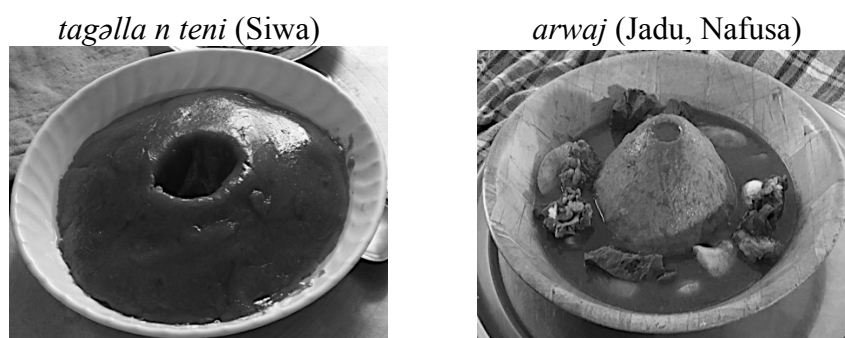


Figure 29: *tagalla n teni* (Siwa) and *arwaj* (Jadu, Nafusa (Duga, p.c.))

In Zwara, the same preparation is simply referred to as *ufffu* (root $\sqrt{ʃʃʃ}$ ‘eat’) (Mitchell 2009: 327, 333; Ben Khalifa, Nanis p.c.).

This criss-crossing of denominations and denotations mirrors the dialectal situation of the Oriental zone (and more generally the whole Berber-speaking area), which can be characterized as a linkage (cf Ross (1988) for a general definition). Mapping all those term-denotation pairs in layers should result in a more fine-grained visualization of contacts and subgroupings in the Berber-speaking area.

Conclusion

We have shown that the detailed study of food preparation, from ingredients and techniques to denominations, can shed light on cultural contacts and retentions, and provide supporting evidence for linguistic subgroupings, and hypotheses of linguistic contacts.

Inside the Oriental zone, we have delimited a main area (including Eastern Zenati, Eastern Berber, and other Oriental Berber languages) characterized by a dough-based *βazin, declined into (i) bread, (ii) patties, or (iii) a thick dome-like dough - the latter subtype born of convergence with the aseeda preparation, in Arabic-speaking zones. A smaller area, fully Zenati (or heavily influenced by Zenati, in the case of Nafusa), is characterized by a couscous-based *βazin or a vegetable sauce.

We have proposed a methodology for the analysis of food preparation in relation to linguistic reconstruction, based on the use of analytical tools borrowed from linguistics ('bridging context', 'shift') and anthropology ('chaîne opératoire'), and on the systematic analysis of denotations, not just as definitions, but as technical processes involving material and immaterial knowledge, passed on across generations and/or space.

We suggest that similar studies on other denominations/denotations pairs be conducted, so that multiple evidence based on food preparation can converge to support linguistic hypotheses on language evolution and reconstruction.

Finally, we would like to underline the proximity between the transmission of such cultural heritage as food, and the transmission of language, and encourage detailed transdisciplinary studies of food data in relation to language. Our coined "Essen-Sprachbund" and "Isotrophes", understood as concerning cognate-denotation pairings, could be tried on other language groupings outside Berber, in order to test their validity.

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