This complexity is evident in relation to *r* and *ṛ* in CJA. Some phenomena can be explained by the presence of two distinct phonemes, while others only if [r] and [ṛ] are considered two conditional allophones of a single phoneme.[[1]](#footnote-1)

The arguments for viewing *r* and *ṛ* as separate phonemes are the minimal pairs quoted above, as well speakers’ awareness that they are clearly distinct.[[2]](#footnote-2) However, several other arguments support *r* and *ṛ* being conditioned allophones. Before discussing this aspect of CJA, it is worth recalling the allophonic picture described by H. Blank for the Druze dialects of the Galilee and Mt. Carmel, which is similar to that presented by J. Cantineau for other Mashriqi dialects. These dialects do not feature minimal pairs contrasting /r/ and /ṛ/, and show relatively clear conditioning. The allophone [ṛ] appears adjacent to back vowels [a, o, u] or to an original emphatic, back or labial consonant, while the allophone [r] appears adjacent to front vowels [i, e] and to consonants that are not emphatic or back.[[3]](#footnote-3) Cohen describes similar conditioning for the Jewish dialect of Tunis but he ultimately determines, in light of the minimal pairs he found, that these are two separate phonemes.[[4]](#footnote-4)

With CJA, as in other dialects, the vocal or consonantal surroundings can influence the presence of an emphatic or non-emphatic *r*.

The following are some examples of the tendency of *ṛ* to appear in certain surroundings and *r* in others:

ṛ

\* – often appears adjacent to an original emphatic consonant (ṣ, ḍ, ṭ). Examples:

*ġǝṛḍ-u* (חֶ֫פְצ֥וֹ, Ps 1:2), *l-ˁaṛḍ* (אָֽרֶץ, Ps 2:8), *ḍṛabti* (הִכִּ֣יתָ, Ps 3:8), *nḍaṛt* (רָ֭אִיתָ: Ps 31:8), *nḍaṛ* (רָ֝אָ֗ה, Ps 33:12), *ǝṛḍa* (רְצֵ֣ה, Ps 40:14), *ṭṛāyɪq* (אָרְח֥וֹת, Ps 8:9), *u-ṭāṛ* (וַיָּעֹ֑ף, Ps 18:11), *yimṭǝṛ* (יַמְטֵ֥ר, Ps 11:6), *l-quṛṣa* (מָע֑וֹג, Ps 35:16), *u-quṭṛǝt š-šhād* (וְנֹ֣פֶת צוּפִֽים, Ps 19:11).

\* – adjacent to the back vowels a, u. Examples:

*ṛ-ṛāṣ* (רֹֽאשׁ, Ps 22:8), *u-nāṛ* (וְאֵשׁ, Ps 18:9), *nhāṛ* (יוֹמָ֑ם, Ps 13:3), baṛṛāni (נֵ֝כָ֗ר, Ps 18:45), *l-uqāṛ* (הַכָּ֫ב֥וֹד, Ps 24:10), *l-bḥaṛ* (הַיָּ֑ם, Ps 8:9), *l-bḥūṛ* (יַמִּֽים, Ps 8:9), *l-kbāṛ* (כְּ֭פִירִים, Ps 34:11).

\* –adjacent to the back consonants q, ḥ, and ˁ in some instances. Examples:

*mǝn ǝṛ-ṛḥam* (מֵרָ֑חֶם, Ps 22:11), *fǝṛṛaḥt* (שִׂמַּ֖חְתָּ, Ps 30:2), *u-baṛq-āt* (וּבְרָקִ֥ים, Ps 18:15), *waqqǝṛū-h* (כַּבְּד֑וּהוּ, Ps 22:24), *ġnǝm u-bqaṛ* (צֹנֶ֣ה וַֽאֲלָפִ֣ים, Ps 8:8), *ˁṛǝft* (יָ֭דַעְתִּי, Ps 41:12), *qaṛˁat kās-hum* (מְנָ֣ת כּוֹסָֽם, Ps 11:6), *u-qǝṛn* (וְקֶֽרֶן, Ps 18:3).

\* –adjacent to the labial consonants (bilabial and labiodental) in some instances. Examples:

*qbǝṛ* (קֶֽבֶר, Ps 5:10), *qmǝṛ* (יָרֵ֥חַ, Ps 8:4), *nawṛ* (ה֥וֹד, Ps 21:6), *u-ǧmaṛ n-nāṛ* (וְגַֽחֲלֵי־אֵֽשׁ, Ps 18:14), *tˁammaṛ* (תְּמַלֵּ֪א, Ps 17:14), mkǝbbaṛ (מַגְדִּל֮, Ps 18:51), ḥǝfṛa (שָֽׁחַת, Ps 16:10), *mǝn ṛǝbw-āt* (מֵֽרִבְב֥וֹת, Ps 3:7),[[5]](#footnote-5) *kāfǝṛ* (בְלִיַּ֣עַל, Ps 18:5).

R

\* – appears often adjacent to the vowel *I* or *y*. Examples:

*r-rīḥ* (רֽוּחַ, Ps 18:11), *kbīr* (גָּד֣וֹל, Ps 21:6), *bīr* (בּ֣וֹר, Ps 7:16), *dāyɪr sāyɪr* (סָ֝בִ֗יב, Ps 3:7), *u-ḥayyǝr* (וְע֥וּרָה, Ps 7:7), *ktīr-a* (רַבָּ֑ה, Ps 36:7), *kbīr-a* (רָֽב, Ps 19:12).

\* – adjacent to consonants that not emphatic, back or labial. Examples:

*trǝkt* (עָזַ֖בְתָּ, Ps 9:11), *gǝrǧumt-hum* (גְּרֹנָ֑ם, Ps 5:10), *yuxrǝǧ* (יֵצֵ֑א, Ps 17:2), *rǝdd* (הָשֵׁ֖ב, Ps 28:4), *u-rkǝb* (וַיִּרְכַּ֣ב, Ps 18:11), *rǧǝl* (רֶ֣גֶל, Ps 36:12).

Despite the tendency of *r* and *ṛ* to appear in certain surroundings, the conditioning does not seem to be absolute, with exceptions such as: *rfǝd* (נָשָׂ֣א, Ps 24:4), *u-fi ṭrīq* (וּבְדֶ֣רֶךְ, Ps 1:1) / *ṭṛīq* (דֶ֗רֶךְ, Ps 2:12), *u-kaṣṣaṛ* (וַיְשַׁבֵּ֥ר, Ps 29:5),[[6]](#footnote-6) *mṛīḍ* (חֹלֶ֑ה, Gn 48:1), *qṛīb* (קָר֣וֹב, Ps 34:19).

To summarize, environmental conditioning influences the appearance of *r* and *ṛ*, which supports the definition of *r* and *ṛ* as allophones of a single phoneme. However, speakers’ awareness of a clear distinction between *r* and *ṛ* suggests two separate phonemes.

We may resolve this if we consider /r/ and /ṛ/ as two phonemes of restricted use and largely complementary distribution, with attested exceptions, that together form a single supra-phoneme //r-ṛ//. This means /r/ and /ṛ/ simultaneously enjoy valid phonemic status and yet are not completely independent, since they are conditioned by the surroundings in which they appear. In this respect they differ from the completely independent phoneme pairs /t/ – /ṭ/, /d/ – /ḍ/, and /s/ – /ṣ/.[[7]](#footnote-7)

It should be noted, however, that, as and in other Maghrebi dialects, the capacity of /ṛ/ to cause spread of emphasis in a word in CJA is just as great as that of the original emphatic consonants.[[8]](#footnote-8) Examples:

*ḍǝḅḅaṛ ˁli-ya* (יְעָצָ֑נִי, Ps 16:7), *ṛāṣ-i* (רֹאשִׁ֡י, Ps 27:6), *ḍyāṛ* (חֲצֵרִ֗ים, Ps 10:8).

This contrasts with Mashriqi dialects, where *ṛ* is less “powerful” than the original emphatic consonants, at most only influencing the adjacent vowel.[[9]](#footnote-9)

[2.2.6] The Lateral Consonant – /l/

The phoneme /l/ etymologically relates to the CA consonant \*l (ل).

[l] – a voiced alveolar lateral liquid. This is the commonest realization in initial, medial, and final positions, usually adjacent to non-emphatic consonants.

*lǝssǝs-ha* (יְסָדָ֑הּ, Ps 24:2), *layš* (לֹֽא, Ps 22:25), *l-ˁādl-īn* (צַדִּיקִ֑ים, Ps 1:6), *qūlu* (אִמְר֣וּ, Ps 4:5), *ulād* (בְּנֵֽי, Ps 18:45), yitkǝllǝm (יְדַבֵּ֣ר, Ps 2:5), l-mlīḥ (ט֤וֹב, Ps 23:6), *t-tākl-īn* (הַֽחֹסִ֬ים:, Ps 18:31), *li-tkāl* (לָ֝בֶ֗טַח, Ps 4:9).

[ḷ] – an emphatic voiced alveolar lateral liquid. This realization is found regularly in the divine name *aḷ-ḷah*;[[10]](#footnote-10) it also often appears when the [l] is adjacent to a stable emphatic consonant /ṣ, ḍ, ṭ/, and occasionally when adjacent to the uvular /q/. Examples:

*yiṣḷaḥ* (יַצְלִֽיחַ, Ps 1:3), *ṣuḷṭān* (מֶ֣לֶךְ, Ps 24:9), *ḍ-ḍāḷm-īn* (רְשָׁ֫עִ֥ים, Ps 1:1), *ṣḷāt-i* (תְּפִלָּתִֽי, Ps 4:2), *titfǝḍḍǝḷ* (תִּתְחַסָּ֑ד, Ps 18:26), *ṭḷǝbt* (שָׁאַ֣לְתִּי, Ps 27:4), *fḍǝḷ* (חֶ֣סֶד, Ps 25:10), *nxǝḷḷǝṣ* (אֲ֝שַׁלֵּ֗ם, Ps 22:26,), *nǝzḷaq* (אֶמְעָֽד, Ps 26:1), *ġaḷṭ-a* (Ps שִׁגָּי֗וֹן, Ps 7:1), *xāḷq-i*[[11]](#footnote-11) (צוּרִי֮, Ps 28:1).

In certain roots in which the /l/ appears next to an emphatic consonant, its emphatic realization is permanent; examples include: *√ṣḷi*, *√xḷṣ*, *√ṭḷb*, *√fḍḷ*, *√ḍḷm*. However, we did not find any minimal pair in our corpus in which the contrast is based solely on l/ḷ. Accordingly, [ḷ] is provisionally determined to be an independent allophone. While M. Cohen determines that [ḷ] does not have an independent existence in the Jewish dialect of Algiers,[[12]](#footnote-12) D. Cohen documents three words in it differentiated by the emphatic quality of the *l*.[[13]](#footnote-13) The [ḷ], unlike /ṛ/, does not cause emphasis to spread to entire words.[[14]](#footnote-15) [[15]](#footnote-16) The [l] may become emphatic under the influence of other emphatic consonants, but the resulting [ḷ] cannot in itself prompt emphasis in other consonants, such as: b, m, f.[[16]](#footnote-17)

[2.2.7] The Palatal Consonants: /ğ/, /y/

/ğ/

The phoneme /ğ/ etymological relates to the CA consonant \*ğ (ج). Two principal realizations of this phoneme are found in CSA:[[17]](#footnote-18) the first – [ğ (=d͜ž)] – is an affricate, the first component of which is a voiced dental-alveolar plosive and the second a voiced palatoalveolar fricative or, to use an alternative definition, a voiced palatal fricative. The second realization – [ž] – is a voiced palatoalveolar fricative. These realizations are free and equal status variants of the phoneme /ğ/ that may be found in different instances of the sameword as pronounced by the sameinformant. For example:

|  |  |
| --- | --- |
| *yižˁal* (יִתֵּ֣ן, Ps 18:14) | *yiğˁal* (יָ֤שֶׁת, Ps 18:12) |
| *žmīˁ* ((כָּֽל־(הֶ֥בֶל, Ps 39:6) | *ǧmīˁ* ((כָּל־(אָ֝דָ֗ם, Ps 39:6) |
| *yiržaˁ* (יָשׁ֣וּב, Ps 7:17) | *yirǧaˁ* (יָ֭שׁוּב, Ps 7:13) |
| *ṛāžǝl* (אִישׁ, Ps 5:7) | *ṛ-ṛāǧǝl* (הָאִ֗ישׁ, Ps 1:1) |
| *tāž* (עֲטֶ֣רֶת, Ps 21:4) | *tāǧ* (תְּעַטְּרֵֽהוּ – תעמל ליה תאג', Ps 8:6) |

The presence of these two free variants is consistent with the Constantine Province dialectal situation. Cantineau’s map of the province[[18]](#footnote-20) identifies various isoglosses, including one distinguishing the [ž] from the [ğ] realization of the /ğ/ phoneme. The city of Constantine is on the dividing line between these two realizations, explaining their interchangeable usage among its residents. This division was also reflected in the informant born in Ain Beida preferring the realization [ž], this town (some 100 km southeast of Constantine) indeed falling within the [ž] pronunciation area on the isogloss map.

These realizations of the phoneme [ğ] match with the dialectal environment more broadly. In the Tunis region to the east of Constantine, the \*ğ is pronounced [ž] both by the Jews of Tunis itself and in the Tunisian nomadic dialects.[[19]](#footnote-21) However, in many dialects to the west of Constantine, such as those of Tlemcen,[[20]](#footnote-22) the Jewish and Muslim dialects of Algiers,[[21]](#footnote-23) and the nomadic dialects in the north of the Algiers Province (which Cantineau calls “type B” dialects),[[22]](#footnote-24) \*ğ is realized as [ğ].[[23]](#footnote-25) To complete the picture for Algeria, the realization [ž] is found in the nomadic dialects of the Algerian Sahara and in Berber dialects.[[24]](#footnote-26) Indeed, the [ž] pronunciation is the commonest throughout most of North Africa.[[25]](#footnote-27)

Returning to CJA, we should emphasize that not only is the phoneme /ğ/ realized by these two alternative realizations, but it is also carefully distinguished from the phoneme /z/. This contrasts with many North African dialects, in which the \*z and \*ğ have merged into a single phoneme.[[26]](#footnote-28)

Since the realizations [ž] and [ğ] enjoy equal status in CJA, we could classify this phoneme as a sibilant (based on the realization [ž]), but prefer to include it among the palatal consonants (based on the realization [ğ]) since this emphasizes the partial preservation of the classical phoneme \*ğ.

The different realizations of the phoneme /ğ/ are as follows:

[ğ (=d͜ž)] – an affricate the first component of which is a voiced dental-alveolar plosive and the second a voiced palatoalveolar fricative (or, to use an alternative definition – a voiced palatal fricative). As a free variant, this realization may appear in initial, medial, and final positions. Examples:

*ğnūs* (לְ֝אֻמִּ֗ים, Ps 9:9), *ǧays* (חַ֭יִל, Ps 18:40), *u-nǧūm* (וְ֝כֽוֹכָבִ֗ים, Ps 8:4), *yinǧaḥ* (יַצְלִֽיחַ, Ps 1:3), *nǧǝmˁu* (רָֽגְשׁ֣וּ, Ps 2:1), *b-ḥarǧ-u* (בְאַפּ֑וֹ, Ps 2:5), *ǧˁalti* (נָתַ֣תָּה, Ps 4:8), *wāǧǝb-ni* (עֲנֵ֤נִי, Ps 4:2), *yixarrǝǧ* (יוֹצִ֖יא, Ps 25:15), *ǧāhl-īn* (הֽ֭וֹלְלִים, Ps 5:6).

[ž] – a voiced palatoalveolar fricative. This realization may also appear in initial, medial, and final positions. Examples:

*žˁalti* (נָתַ֣תָּה, Ps 18:41), *žrāyɪm-hum* (פִּ֭שְׁעֵיהֶם, Ps 5:11), *yižbǝd-ni* (יַֽ֝מְשֵׁ֗נִי, Ps 18:17), *gǝržumt-hum* (גְּרֹנָ֑ם, Ps 5:10), *yiržˁu* (יָ֝שֻׁ֗בוּ, Ps 6:11), *u-žāwǝb-ni* (וְעָנָ֑נִי, Ps 34:5), *u-nmǝžždu* (וּֽ֝נְזַמְּרָ֗ה, Ps 21:14), *užiˁ-āt ǝl-mawt* (חֶבְלֵי־מָ֑וֶת, Ps 18:5), *mxarrǝž-ni* (גֹחִ֣י, Ps 22:10), *mǝn žbǝl* (מֵהַ֖ר, Ps 3:5).

Words in which the phoneme /ğ/ appears alongside a sibilant (š, s or z) are particularly interesting, and are used by dialectologists as one of the criteria for classifying dialects.[[27]](#footnote-29) In colloquial CJA, the phoneme /ğ/ is realized in these words as [ğ], for example: *ǧǝzzāṛ* (butcher), *ˁǧūz-a* (old woman), *ǧǝbs* (plaster), *ǧǝḥs* //*ǧǝḥš* (להוסיף תרגום), *kīf šǝǧr-a* (כְּעֵץ֮: Ps 1:3).

The presence of [ğ] adjacent to a sibilant is also found in the nomadic dialects in the Algiers area (Cantineau’s “type B” dialects). By contrast, in the Tunisian nomadic dialects to the east of Constantine (which Cantineau calls “type E” dialects), the \*ğ (which is usually pronounced [ž] in these dialects) is realized as [z] through assimilation; for example: *zäzzâr*. Cantineau also notes this pronunciation for several of the sedentary dialects of Constantine Province, reflecting Tunisian influence.[[28]](#footnote-30) This influence is not apparent in CJA.

The remaining two realizations of the phoneme /ğ/ in CJA are much rarer:

[tš] – an affricate whose first component is a voiceless dental-alveolar plosive, followed by a voiceless palatoalveolar fricative. This realization appeared solely in initial or medial position in the corpus: *͜tšmīˁ* (כָּל, Ps 12:4), *ǝt͜šˁal* (תְּנָ֥ה, Ps 8:2). This realization is the voiceless equivalent of one of the common realizations in CJA: [ğ (=d͜ž)].[[29]](#footnote-31)

[d] – a voiced dental-alveolar plosive. This realization was found only in the speech of one of the informants who is a native of Constantine, and it is created when the [ğ] = [d͜ž] loses its sibilant component: in the word *tdǝzzu* (ִּדְּפֶ֥נּוּ, Ps 1:4), probably due to dissimilation from the following sibilant (z); and in the word *tǝmdīd* (מִזְמ֥וֹר, Pa 4:1, 5:1), which seems to be due to assimilation to the following consonant [d]. This realization is documented in various parts of the Maghreb, as well as in Syria and Iraq.[[30]](#footnote-32)

/y/

A voiced palatal semivowel. The realizations of this phoneme will be discussed in Section [2.3].

[2.2.8] The Velars: /k/, /ġ/, /x/

/k/

From an standpoint, the phoneme /k/ etymologically relates to the CA consonant \*k (ك). Its principal realization in CJA is as:

[k] – a voiceless velar plosive. This realization appears in initial, medial, and final positions. Examples:

*ktāṛ* (רַבִּים֮, Ps 3:3), *kǝbbǝṛu* (גַּדְּל֣וּ, Ps 34:4), *kǝṣṣǝṛ* (שְׁ֭בֹר, Ps 10:15), u*-ḥākǝm* (וּ֝מֹשֵׁ֗ל, Ps 22:29), *u-tǝklu* (וּ֝בִטְח֗וּ, Ps 4:6), *skāt* (דֻֽמִיָּ֥ה, Ps 22:3), *yikǝmmǝl* (יִגְמָר, Ps 7:10), *qawm-ǝk* (עַמְּךָ֖, Ps 3:9), *ᵊmsǝk* (תָּמֹ֣ךְ, Ps 17:5), *mǝhlūk* (אֻמְלַ֫ל, Ps 6:3).

In a very small number of instances it is realized as a voiced velar plosive, [g], the voiced equivalent of [k].

The [g] may appear when the [k] is preceded by the liquid consonant /r/ (even if a vowel separates the two): rk > rg. This shift is merely possible and not permanent: we also found [rk] in these environments. The examples found testifying to this shift are *ibārǝg* (יְבָרֵ֖ךְ, Ps 29:11) and *rǝgˁ-u* (הַכְרִיעֵ֑הוּ, Ps 17:13). Similarly, D. Cohen documents a shift entailing voicing – rk > rg – for the root √rkˁ,[[31]](#footnote-33) noting that he only encountered this realization for this root among the Jews of Algiers. We presented above an example for this verb from an informant for CJA.

The shift rk > rg is permanent in the verb *gǝrgǝb*, which originates from the root √krkb (كركب):[[32]](#footnote-34) *gǝrgǝb* (גֹּ֣ל, Ps 22:9). It is reasonable to assume the following process in this word: gǝrgǝb < \*kǝrgǝb < \*kǝrkǝb, with the second /k/ becoming [g] due to the preceding /r/ and the first /k/ then becoming pronounced [g] through assimilation.

A shift from *k* to its voiced equivalent [g] may also occur through assimilation to a following voiced consonant. This is a possible explanation for our informants’ use of the alternate forms *kdǝb* / *gdǝb* and *kdūb* / *gdūb*. These alternatives may also be explained by the borrowing of words with the voiced realization [g] from another dialect, whether the Jewish dialect of Tunis in which the k > g shift for this root is permanent,[[33]](#footnote-35) or others. These alternative forms for the root *√kdb* are also found among the Jews of Algiers.[[34]](#footnote-36)

An example of the realization of /k/ as [q], through assimilation to /q/, is discussed in Section [2.5.1.2].

As we noted above, the Jews of Constantine realize the phoneme /k/ as [k] in all but a few instances. In other words, they preserve the “original” realization of this phoneme rather than adopting the shifts documented in other dialects, such as [č] in several Algerian dialects, including the sedentary dialects in the Constantine Province, Jijli, Al-Malia, and Collo, Jewish dialects in Tlemcen and Oran,[[35]](#footnote-37) and certain Mashriqi dialects.[[36]](#footnote-38)

/ġ/

The phoneme /ġ/ etymologically relates to the CA consonant \*ġ (غ). The principal realization of this phoneme in CJA is:

[ġ] – a voiced velar fricative appearing in initial, medial, and final positions. Examples:

*ġīt-ni* (הֽוֹשִׁ֘יעֵ֤נִי, Ps 3:8), *ġǝṛḍ-u* (חֶ֫פְצ֥וֹ, Ps 1:2), *ġyāṛ* (יָג֣וֹן, Ps 13:2), *f-ǝl-nǝġm-āt* (בִּנְגִינ֗וֹת, Ps 4:1), *yiġǝmzu* (יִקְרְצוּ, Ps 35:19), *mġǝṭṭi* (כְּס֣וּי, Ps 32:1), *u-mǝġbūn* (וְאֶבְיוֹן֮, Ps 40:18), *yinġāt* (נוֹשָׁ֣ע, Ps 33:16), *fāṛǝġ* (רִ֑יק, Ps 4:3).

The realization of the phoneme /ġ/ as [x] – a voiceless velar fricative – occurs occasionally where there is assimilation to an adjacent voiceless consonant. This shift is not permanent, however, and the same word may be pronounced by the same rabbi with the voiced realization in one instance and the voiceless in another. All the examples are from the root *√fṛġ*: *nfǝṛṛǝx-hum*[[37]](#footnote-39) (אֲרִיקֵֽם, Ps 18:43), *yitfǝṛṛǝx fī-h* (יָצ֣וּק בּ֑וֹ, Ps 41:9), *fāṛǝx* (רִֽיק, Ps 2:1).

In the spoken language, a permanent shift \*ġ > x has occurred with the root *√ġsl* in the sense of “to wash”: for example, *xsǝl* (washed), *nǝxsǝl* (I will wash), *xsǝlti* (you washed). Even when reading verses from the *šarḥ* of the Psalms, two rabbis translated words from the Hebrew root ר.ח.צ using the [x] realization of \*ġ: *nǝxsǝl* (אֶרְחַ֣ץ, Ps 26:6), *u-xsǝlt* (וָֽאֶרְחַ֖ץ, Ps 73:13). However, under the influence of Rabbi Yosef Renassia’s use of ג to write these forms, the third informant pronounced *nǝġsǝl* here, careful to reflect the orthography precisely. The shift ġ > x in the verb “to wash” is found in other dialects, both Maghrebi and Mashriqi.[[38]](#footnote-40)

The realization of \*ġ as [q] is found in the dialects of the Algerian Sahara (which Cantineau calls “A” dialects).[[39]](#footnote-41) However, the influence of the Tunisian nomadic dialects, whose influence extends to a point east of Constantine (“E” dialects), as well as that of the nomadic dialects of the north of the Algiers Province (the “B” dialects), preserve the *ġ*. [[40]](#footnote-42) As we have seen, CJA also preserves the pronunciation of /ġ/ as [ġ], reflecting its location on the dialectal map of Algeria.[[41]](#footnote-43) We should note, however, that in one single instance one of the rabbis realized /ġ/ as [q]: *fāṛǝq* (fāṛǝq, Ps 2:1).

/x/

From an standpoint, The phoneme /x/ etymologically relates to the CA consonant \*x (خ). Its realization in CJA is as:

[x] – a voiceless velar fricative. This realization appears in initial, medial, and final positions. Examples:

*xālfu* (מָ֥רוּ, Ps 5:11), x*ammǝmt* (זַ֝מֹּתִ֗י, Ps 17:3), *xāyf-īn ǝḷ-ḷah* (יִרְאֵ֣י יְהוָ֣ה, Ps 15:4), *xdīˁ-a* (מִרְמָֽה, Ps 34:14), *tǝxfi* (תַּסְתִּ֖יר, Ps 13:2), *yixǝbbaṛ* (יְחַוֶּה, Ps 19:3), *nxāf* (אִ֭ירָא, Ps 3:7), *l-xǝdd* (לֶ֑חִי, Ps 3:8), *u-nxǝllǝṣ* (וַֽאֲשַׁלְּמָ֥ה, Ps 41:11), *xayr-ǝk* (טֽוּבְךָ֣, Ps 25:7).

The female informant born in Constantine pronounced the /x/ in the word *\*xubz* with the equivalent voiced realization, [ġ]: *l-ġubz lli šrīt…* (“the bread I bought…”).

[2.2.9] The Uvular Consonant – /q/

/q/

The phoneme /q/ etymologically relates to the CA consonant \*q (ق). The realization of the *q* traditionally serves as a criterion for dividing the Arabic dialects into two main groups: voiceless realizations (q, k, ˀ) are characteristic of the sedentary dialects (the *“qāl”* dialects), while voiced realizations (g, ġ, ğ, d͜z=ǵ) are characteristic of the nomadic and rural dialects (the *“gāl”* dialects).[[42]](#footnote-44)

In CJA, /q/ is realized as the voiceless [q]. The realization [g] was found to be confined to a handful of words that are borrowings from nomadic or rural dialects.

[] – a voiceless uvular plosive. This is the most common realization of the phoneme /q/, appearing in initial, medial, and final positions.[[43]](#footnote-45) Examples:

*qˁad* (יָשָֽׁב, Ps 1:1), *qawm-ǝk* (עַמְּךָ, Ps 3:9), *qǝflu* (סָּֽגְר֑וּ, Ps 17:10), *qāym-īn-i* (קָ֭מַי, Ps 18:49), *l-uqāṛ* (הַכָּבֽוֹד, Ps 24:9), *l-qbāḥ* (מְרֵעִ֑ים, Ps 26:5), *u-nitquwwa* (וְאַבְלִ֑יגָה, Ps 39:14), *u-ṭāyɪq* (וְ֝אֵ֗ל, Ps 7:12), *nǝzlǝq* (אֶמְעָֽד, Ps 26:1), *u-yilḥaq* (וְיַשֵּׂ֗ג, Ps 7:6).

The [q] realization of this phoneme, characteristic of the sedentary dialects, is found widely in the Maghreb: in the Sahel region of Tunisia,[[44]](#footnote-46) in Tunis,[[45]](#footnote-47) and in most of the settled part of the Constantine Province,[[46]](#footnote-48) for example, as well as in the sedentary and transitional-sedentary dialects in the Philippeville district,[[47]](#footnote-49) among the Muslims in Algiers, in Cherchell and Mostaganem, and in many of the sedentary dialects of Morocco.[[48]](#footnote-50)

Voiceless realizations of /q/ were not performed by the informants we recorded, though they are documented elsewhere in the Constantine Province. The realization of [q] as a post-palatal [k] is relatively common in the transitional-sedentary dialects of the Philippeville district. Its realization as a medio-palatal [k] is the commonest form in the Al-Maliah district to the northwest of Constantine.[[49]](#footnote-51)

The realization of [q] as a glottal plosive [ˀ] is also not found among the Jews of Constantine,[[50]](#footnote-52) though it is found in other sedentary dialects of the Constantine Province and very occasionally among urbanites in the Philippeville district to the north of Constantine city.[[51]](#footnote-53) This is the principal realization among the Jews of Algiers, although some of them adopt the [q] realization under the influence of their Arab neighbors.[[52]](#footnote-54) The realization of /q/ as [ˀ] is also found among some Muslims in Tlemcen,[[53]](#footnote-55) residents of the ancient quarters of Fez,[[54]](#footnote-56) in Sefrou,[[55]](#footnote-57) and elsewhere. We should recall that the realization of /q/ as a glottal plosive is common in the urban dialects of Syria and Palestine, in Alexandria and Cairo, and even in the mountains of Lebanon.[[56]](#footnote-58)

The realization of /q/ as [g] – a voiced velar plosive – appeared in several words in the reading of the *šarḥ* to the Psalms in CJA:

\* – the root s.g.m has its origins in s.q.m, a secondary root derived from Form X of the CA root قوم q-w-m: \*istaqāma. This root is productive and appears in the *šarḥ* to the Psalms in various conjugated forms, such as: *sǝggǝm* (הַיְשַׁ֖ר, Ps 5:9), msǝggǝm (יָ֝שָׁ֗ר, Ps 11:7), *b-tǝsgīm* (בְּמֵֽישָׁרִֽים, Ps 9:9), *l-msǝggm-īn l-qǝlb* (לְיִשְׁרֵי־לֵֽב, Ps 11:2).[[57]](#footnote-59)

\* – the realization [g] is found in the word *gdīm*, which is one of the translations of the word נשך in the Psalms (*b-ǝl-gdīm* – בְּנֶשֶׁךְ֮, Ps 15:5). This form comes from *gdǝm* (“bit”) which, in turn, originates from the root √\*qḍm (قضم). The realization similarly occurs in *gǝrğūm-a*, which translates the word [[58]](#footnote-60)גרון in the *šarḥ* (*gǝrǧumt-hum* – גְּרֹנָ֑ם, Ps 5:10).[[59]](#footnote-61)

\* – the verb *nǝggǝz* has its origins in the root √\*nqz (نقز). In the *šarḥ* it translates the Hebrew verb להרריד (*u-nǝggǝz-hum* – וַיַּרְקִידֵ֥ם, Ps 29:6).[[60]](#footnote-62)

\* – the realization of *q* as [g] is also found in the word “horns” – *gṛūn*.[[61]](#footnote-63) When reading the translation of the verse וּמִקַּרְנֵ֖י רֵמִ֣ים, the rabbis usually pronounced *u-mǝn gṛūn ǝr-rīm*, although they sometimes pronounced it with [q]. Among the Muslims, the doublet *gṛūn* (“horns”) / *qṛūn* (“centuries:) is found,[[62]](#footnote-64) with the difference between the two words clear.[[63]](#footnote-65) Speakers of the Jewish dialect use the word *ğyūl* for “centuries” and so they understand the pronunciation *qṛūn* with [q] unambiguously to also mean “horns,” despite their familiarity with the Muslim doublet.

Two other words in which /q/ is realized as [g] are found in the spoken language: *bǝgṛ-a* (“cow”) and *gǝmṛ-a* (“moon”), although the informants also pronounced *qmǝṛ* in the *šarḥ* (יָרֵ֥חַ, Ps 8:4). The presence of these words, originating in \*q but pronounced with [g], in a dialect in which the principal realization of /q/ is [q] can be explained as their being borrowings from nomadic or rural dialects. As noted, in such dialects, spoken in significant parts of the Arab world, the shift \*q > g is permanent,[[64]](#footnote-66) as it is in the area addressed here. For example, Tunisian-type nomadic dialects (Cantineau’s “Es”dialects), found to the east of Constantine; and transitional-nomadic dialects, known as “Cs”) found to its west both realize /q/ as [g], as one would expect.[[65]](#footnote-67)

The above-mentioned process of borrowing is not unidirectional. Just as in our urban dialect, CJA, we find borrowed words with the pronunciation [g], so in the nomadic and rural dialects words borrowed from the urban dialects and pronounced with [q] may be found.[[66]](#footnote-68) Thus we encounter here the familiar phenomenon of dialectal mixing due to borrowing. This phenomenon is not unique to CJA. In many urban dialects in which the principal realization of /q/ is voiceless, borrowed words can be found in which /q/ is realized as [g].[[67]](#footnote-69) It is interesting that many of these borrowed words are common to numerous urban dialects across the Maghreb.[[68]](#footnote-70)

A handful of instances reflecting two additional realizations of /q/ were found in the corpus:

[ġ] – a voiced velar fricative. One informant used this realization occasionally: *d-ǝl-waġt* (עַתָּ֣ה, Ps 12:6), *fi waġt* (בְּעֵ֣ת, Ps 37:39), alongside his pronunciation *d-ǝl-waqt* in other occurrences of this word.[[69]](#footnote-71) The reverse shift – ġ > q – is found in the nomadic dialects of the Algerian Sahara. In CJA, however, as in many other Algerian dialects, this shift did not occur, and the above example is the only one that has been found.[[70]](#footnote-72)

The equivalent voiceless realization [x] – a voiceless velar fricative – appeared in several words:[[71]](#footnote-73) *nuxṣān* (מַ֝חְס֗וֹר, Ps 34:10), *l-xbālǝt* (לְנֶ֣גֶד, Ps 36:2), *xdǝrt* (יָכֹ֣לְתִּי, Ps 40:13). However, the same words were pronounced with [q] in other instances.

[2.2.10] The Pharyngeal Consonants

/ḥ/

The phoneme /ḥ/ etymologically relates to the CA consonant \*ḥ (ح). Its realization in CJA is as:

[ḥ] – a voiceless pharyngeal fricative. This realization appears in initial, medial, and final positions. Examples:

*ḥfǝṛ* (כָּ֭רָה, Ps 7:16), *ḥākǝm* (שׁוֹפֵ֥ט, Ps 9:5), *ḥbāl* (חֶבְלֵ֣י, Ps 18:6), *yaḥkǝm* (יִשְׁפֹּֽט, Ps 9:6), *fǝṛṛaḥti* (שִׂמַּ֖חְתָּ, Ps 30:2), *tṭīḥ* (יִבּ֑וֹל, Ps 1:3), *u-sāmaḥ* (וְ֝שָׂ֗א, Ps 25:18), *b-ǝl-qbāḥ* (בַּמְּרֵעִ֑ים, Ps 37:1), *dbāyǝḥ ǝl-ˁdǝl* (זִבְחֵי־צֶ֑דֶק, Ps 4:6).

/ˁ/

The phoneme /ˁ/ etymologically relates to the CA consonant \*ˁ (ع). It is realized in CJA as:

[ˁ] – a voiced pharyngeal fricative. This realization occurs in initial, medial, and final positions (and is strictly performed even in the latter). Examples:

*ˁlāš* (לָ֭מָּה, Ps 2:1), *ˁādl-īn* (צַדִּיקִֽים, Ps 1:5), *ˁaǧǧǝb* (הִפְלִ֘יא, Ps 31:22), *l-ˁāli* (עֶלְיֽוֹן, Ps 9:3), *yinˁatru* (יִכָּֽשְׁל֥וּ, Ps 9:4), *u-ǧˁal* (וַיִּתֵּ֬ן, Ps 40:4), *ṛǝffaˁ* (נְֽסָה, Ps 4:7), *yišāṛǝˁ* (יָדִ֪ין, Ps 7:9), *yiǧǝmmaˁ* (כֹּנֵ֣ס, Ps 33:7).

The [ˁ] is sometimes pronounced slightly weakly when it is in the initial position, for example: *ˁli-ya* (עָלָֽי, Ps 3:2), but this pronunciation is not permanent.[[72]](#footnote-74)

When /ˁ/ comes before /h/, the shift ˁ-h > ḥ-ḥ usually appears, so that the /ˁ/ is effectively pronounced as its unvoiced fricative counterpart [ḥ].[[73]](#footnote-75) For example: *ibǝllaḥ-ḥum* (יְבַלְּעֵ֑ם, Ps 21:10), *itǝbbaḥ-ḥum* (רֹֽדְפָֽם, Ps 35:6).[[74]](#footnote-76)

[2.2.11] The Glottal Consonants: /ˀ/, /h/

/ˀ/

In the dialect reflected in the *šarḥ* of the Jews of Constantine, the phoneme /ˀ/ has an unstable status. The glottal plosive was not realized in most of the instances of words that, from an etymological standpoint, include /\*ˀ/. This realization has not disappeared completely, however, and the glottal plosive is indeed realized as [ˀ] in a considerable number of words. Moreover, we have found instances where [?] has been reconstituted. Alongside the common realizations [ø] and [ˀ], additional realizations were also found:

[ˀ] – a voiceless glottal plosive. This realization may occur in various circumstances in the initial position, and more rarely in the medial position; it never occurs in the final position.

\* – [ˀ] may occur at the beginning of word, when followed by a vowel and when the preceding word ends in a vowel; this realization usually occurs when both vowels have the same quality. The realization of [ˀ] in these circumstances allows some separation between the two words involved, preventing the vowel contact through hiatus.[[75]](#footnote-77) However, [ˀ] is not realized in every instance of such circumstances.

Examples of the appearance of [ˀ] in the initial position between two vowels of the same quality:

*nǧəmˁu ˀumūm* (רָֽגְשׁ֣וּ גוֹיִ֑ם, Ps 2:1),[[76]](#footnote-78) *yinšərˁu ˀumūm* (יִשָּֽׁפְט֥וּ ג֝וֹיִ֗ם, Ps 9:20), *yiˁaṛfu ˀumūm* (יֵֽדְע֥וּ גוֹיִ֑ם, Ps 9:21), *ˁlāš ya ˀaḷ-ḷa* (לָמָ֣ה יְ֭הוָה, Ps 10:1), *ila ˀarz* (אֶת־אַרְזֵ֥י, Ps 29:5), *ḥatta ˀaš* (עַד־מֶ֬ה, Ps 4:3).

Examples of the appearance of [ˀ] between different vowels:

*u-naˁṭi ˀumūm* (וְאֶתְּנָ֣ה ג֭וֹיִם, Ps 2:8), *slām-i ˀəldi* (שְׁלוֹמִ֨י ׀ אֲשֶׁר, Ps 41:10), *li-ya ˀəsmaˁ* (לִ֝֗י שְׁמַ֣ע, Ps 17:6).

\* – in a few words whose first consonant, from an etymological standpoint, is /\*ˀ/, the glottal plosive is usually realized when the definite article is prefixed to the word. Examples: *əl-ˀaṛḍ* (הָאָ֑רֶץ, Ps 8:2, 10), *f-əl-ˀaṛḍ* (בָּאָ֣רֶץ, Ps 16:3),[[77]](#footnote-79) *l-əl-ˀabəd* (לָ֫נֶ֥צַח, Ps 9:7; נֶ֑צַח, Ps 13:2; 16;11), *l-ˀarz* (אֲרָזִ֑ים, Ps 29:5), *l-ˀumūm* (ג֭וֹיִם, Ps 9:6), *kīf l-ˀax* (כְּאָ֣ח, Ps 35:14),[[78]](#footnote-80) *l-ˀasm dyāl-hum* (שְׁמָ֥ם, Ps 9:6),[[79]](#footnote-81) as well as in the form with the enclitic possessive pronoun *ˀanf-ək* (אַפֶּֽךָ, Ps 18:16).

\* – the initial vowel of imperative forms is sometimes realized with an accompanying glottal plosive, particularly in the *ǝktǝb* form, which is the commonest in the corpus, as well as in several instances involving the *tkǝttǝb* form.[[80]](#footnote-82) In all the examples presented below, the imperative form appeared at the head of the verse;[[81]](#footnote-83) this may explain the realization of the glottal plosive. However, the corpus also includes imperative forms at the head of the verse in which [ˀ] is not realized: ˀ*uṭlub* (שְׁאַ֤ל, Ps 2:8), *ˀaˁbdu* (עִבְד֣וּ, Ps 2:11), *ˀədəbḥu* (זִבְח֥וּ, Ps 4:6), *ˀəḥrəz* (שָׁמְרָ֣ה, Ps 25:20), *ˀəfdi* (פְּדֵ֣ה, Ps 25:22), *ˀaṛḍa* (רְצֵ֣ה, Ps 40:14), *ˀətləffət* (פְּנֵֽה, Ps 25:16), *ˀətbənnu* (טַֽעֲמ֣וּ, Ps 34:9).

\* – in verb forms with roots with an initial א, in the forms *kǝttǝb* and *tkǝttǝb*, the first root letter is almost always realized as a glottal plosive. Examples:

*ˀammənt* (הֶֽ֭אֱמַנְתִּי, Ps 27:13), *ˀaddəbti* (יִסַּ֬רְתָּ, Ps 39:12), *ˀaddbu-ni* (יִסְּר֥וּנִי, Ps 16:7) [לבדוק אם ה-u צריכה להיות ארוכה], *tˀaddəb-ni* (תְיַסְּרֵֽנִי, Ps 6:2), *ˀəttəm-hum* (הַ֥אֲשִׁימֵ֨ם, Ps 5:11), *mˀammn-a* (נֶֽ֝אֱמָנָ֗ה, Ps 19:8), *mˀammn-īn*[[82]](#footnote-84) (אֱ֝מוּנִ֗ים, Ps 12:2), *tˀaddəbu* (הִ֝וָּֽסְר֗וּ, Ps 2:10), *yitˀattmu* (יֶאְשָֽׁמוּ, Ps 34:22, 23).

Thus, these function as roots with an initial א and have not shifted to the patterns for roots with an initial ו. The tendency for verbs with an initial א to shift to initial ו is found in many dialects,[[83]](#footnote-85) but this shift is only found in the root ו.כ'.ר. in our corpus.[[84]](#footnote-87) Realization of the glottal plosive in *kǝttǝb* forms is found in Tlemcen,[[85]](#footnote-88) alongside *kǝttǝb* forms originating in the same roots but which shifted to verbs with first root letter ו. Differential meanings have developed in several of these verb pairs in Tlemcen.[[86]](#footnote-89) W. Marçais suggests that forms realized with [ˀ] have their origins in scholastic language, while forms with [w] are used in the colloquial.[[87]](#footnote-90) Since our study involves examining the *šarḥ*, this explanation may also be relevant for our corpus.

\* – the initial realization of [ˀ] appeared on occasion in several particles, although these particles were generally realized without the [ˀ]: *ǝldi* / *ˀǝldi* (אשר, in various locations); *in* / *ˀin* (כי, in various locations), *aš* / *ˀaš* (מֶ֬ה, Ps 4:3; 8:5); *ida* / *ˀida* (אם, in various locations); *ila* / *ˀila* (את / אל, in various locations); *ˀili* (אֵלַ֥י, Ps 2:7), *ˀil-na* (אֵ֫לֵ֥ינוּ, Ps 40:6). The same is true of the first-person singular pronoun, which is sometimes realized with a glottal plosive and sometimes without: *ana* / *ˀana* (e.g., Ps 2:7).[[88]](#footnote-91)

The glottal plosive is also realized, though rarely, in the divine name *ˀaḷ-ḷah* (e.g., Ps 28:7).[[89]](#footnote-92)

\* – the words *ˀaṣqəl* and *ˀabyaḍ*,[[90]](#footnote-93) which translate the word אשרי in the *šarḥ*, may appear with or without the glottal plosive (e.g., Ps 1:1; 2:12; 32:1, 2; 34:9; 40:5). These words, formed according to the comparative pattern *\*ˀafˁal*, always preserve the initial vowel in CJA, and in some instances the [ˀ] is realized. In the colloquial, by contrast, the *hamza* is omitted together with its vowel in the names of the colors, which originate from the same pattern; for example: *ḥmǝṛ* (“red”), *kḥǝl* (“black”), *byǝd* (“white”); this illustrates the morphophonemic differences between the language of the *šarḥ* and the colloquial.[[91]](#footnote-94) In the Algerian nomadic (“B”) dialects, the comparative forms have lost their initial *hamza* together with its vowel; the same is true of the Jewish dialect of Algiers.[[92]](#footnote-95) Conversely, in the dialect of the Jews of Tunis, an initial vowel appears in these forms, albeit without the glottal plosive (which is completely absent from this dialect).[[93]](#footnote-96)

In our discussion of the presence of [ˀ] in the examples above, we see that phonetic factors may cause its realization in some instances, such as preventing contact with the vowels in hiatus. However, this realization also occurs in circumstances in which there is no phonetic necessity. Accordingly, the question arises as to the origins of this realization of these forms. Does it reflect the partial preservation of the original *hamza*? Is it restoration of the *hamza* by re-classicization? Were these words perhaps borrowed from CA? Or is the nature of CJA being the language of the *šarḥ* an influential factor?

This phenomenon should not be regarded as the simple preservation of an original *hamza*, given that this consonant has disappeared almost entirely from most Maghrebi dialects,[[94]](#footnote-97) and even its phonemic status has been weakened in CJA.

The restoration of the *hamza* through a process of re-classicization may occur under the influence of CA words that have penetrated the speakers’ language. According to Heath, recognition of the presence of the *hamza* in CA borrowings facilitates its restoration even in well-established words in the dialect. He explains the realization of the glottal plosive in family relationship nouns, when these are accompanied by the definite article: e.g., *l-ˀab(b)*, *l-ˀŭmm*, *l-ˀăx* / *l-ˀǝx*, *l-ˀǝsm*. This realization also removes the problem of the short initial vowel, which is impossible in other words in the dialect.[[95]](#footnote-98)

We found the phrases *kīf l-ˀax* (כְּאָ֣ח, Ps 35:14) and *l-ˀasm dyāl-hum* (שְׁמָ֥ם, Ps 9:6)[[96]](#footnote-99) realizing the glottal plosive in the corpus.[[97]](#footnote-100) Heath’s explanation may also apply here. However, since in the conversation with the informants (including the female informant), the words “brother,” “sister,” “father,” and “mother” were pronounced with a glottal plosive even when they were not accompanied by the definite article (*ˀax*, *ˀuxt*, *ˀab*, *ˀumm*), I believe it appropriate to include the following morphophonemic explanation: It is possible that the [ˀ] is realized here in order to grant this two-consonant word greater stability when it appears without affixes. It is already stabilized once enclitic possessive pronouns are added[[98]](#footnote-101) such as *xū-ya* (“my brother”), *xt-ǝk* (“your sister”), and *umm-i* (אִ֝מִּ֗י, Ps 22:11)[[99]](#footnote-102) and so there is no imperative to pronounce the [ˀ]. Similarly, we may explain the presence of the glottal plosive in the word *ˀism* / *ˀasm* (name)[[100]](#footnote-103) as a tool for providing these words with the stability three consonants offer.[[101]](#footnote-104) In CJA, too, the form is realized without a glottal plosive when accompanied by affixes: *sm-ǝk* (שִׁ֭מְךָ, Ps 8:2), asəm-hum (שְׁמָ֥ם, Ps 9:6), *b-ism* (בְשֵׁ֖ם, Ps 33:21). As we have seen, the addition of the definite article *–l* does not prevent the realization of the [ˀ] in these words, although it can provide stability for a word by itself). In these instances, the re-classicization hypothesis presented above may be the more appropriate explanation.

The third explanation suggests that the realization of the glottal plosive in certain words is due to their being late borrowings from CA. We may find some support for this hypothesis in the fact that most of the words sampled above with realization of the glottal plosive are uncommonly used in the spoken dialect. However, since our corpus is a sacred text that by its nature includes numerous words uncommon to everyday speech with a distinct register, the question needs refining. Do these findings indeed reflect the large-scale borrowing of words realized with *hamza* in CA, or is the realization of the glottal plosive here influenced by the overall register of the *šarḥ* and the scholarly character of the informants? It is clear that the latter is the more plausible explanation in our context. This finds support in the fact that various scholars explain the presence of a handful of words in which the [ˀ] is pronounced, in dialects in which it has otherwise disappeared, as due to their being words borrowed from the literary or educated language.[[102]](#footnote-105)

To sum up: instances in which the glottal plosive is realized and not omitted may be explained by way of phonetic and morphophonemic factors combined with the scholastic nature of the language of the *šarḥ*.

There are even instances, albeit infrequent, when a “new” glottal plosive is realized alongside the vowel of the definite article *ǝ(l)*, the coordinating conjunction *u,* and the realization of /y/ as [i]:[[103]](#footnote-106) *kīf ˀəl-awāli* (כִּכְלִ֥י, Ps 31:13), *ˀəǧ-ǧmīˁ* (יַ֗חַד, Ps 41:8), *ˀaṛ-ṛṣam* [CHECK] (חֹ֥ק, Ps 2:7), *ˀu-nxəḷḷəṣ* (וַֽאֲשַׁלְּמָ֥ה, Ps 41:11), *ˀu-māl* (וַיֵּ֥ט, Ps 40:2), *ˀu-r-rīḥ* (וְר֥וּחַ, Ps 11:6), *ˀu-nǧūm* (וְ֝כֽוֹכָבִ֗ים, Ps 8:4), *ˀiṭīḥu* (יִפְּלוּ֮, Ps 5:11).

In some of these words the realization of the [ˀ] may be explained by phonetic factors, when the preceding word ends in a vowel. However, this does not explain the realization in all of the examples quoted.

The omission of the glottal plosive, that is, its realization as ø, is the default situation in CJA. This realization is universal in final positions and usually in medial and initial ones. In most cases, but not all, the omission of the *hamza* does not lead to the omission of the vowel that carries it.

\* – omission of the glottal plosive in initial position:

In most cases the *hamza* is omitted at the beginning of a word (of after the definite pronoun),[[104]](#footnote-107) leaving behind the vowel that bore it. Accordingly, this omission leaves a short vowel in a closed or open syllable. Examples:

*insān* (אֱנ֖וֹשׁ, Ps 9:21), *iyyām* (יָ֝מִ֗ים, Ps 21:5; יְמֵ֣י, Ps 27:4), *ana* (אֲנִֽי, e.g. Ps 27:6), *ism/asm*[[105]](#footnote-108) (שֵֽׁם, e.g. Ps 7:18), *f-əl-umūm* (בָֽ֝עַמִּ֗ים, Ps 9:12), *fi l-amān* (לָ֝בֶ֗טַח, Ps 4:9), *l-udən* (אֹ֭זֶן, Ps 18:45),[[106]](#footnote-109) *ənta* (אַ֑תָּה, e.g. Ps 2:7).

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In instances a short vowel in a closed syllable remains when *hamza* is omitted, it generally retains its quality, despite CJA short vowels normally being neutralized to *ə*.[[107]](#footnote-110)

In the remaining instances, the omission of the *hamza* leaves behind a short vowel in an open syllable. The omission of a short vowel in an unstressed open syllable is a familiar phenomenon in many Maghrebi dialects.[[108]](#footnote-111) The non-omission of this short vowel in the forms discussed here is, firstly, because these vowels are perceived by speakers as long,[[109]](#footnote-112) and, secondly, because they were preserved in order to maintain the stability of these words, some of which would have only two consonants without this vowel. Since the principal distinction in CJA between the vowels is qualitative rather than quantitative,[[110]](#footnote-113) speakers are not careful to pronounce the vowel left following the omission of the *hamza* as a long vowel, although in terms of the rules of the dialect it is perceived as such.[[111]](#footnote-114)

In certain circumstances the /\*ˀ/ is omitted together with its vowel. We found such omission in \*ˀafˁāl > fˁāl forms. Examples:

*\*ˀawlād* (أولاد) > *ulād*: *ulād* (בְּנֵֽי, Ps 18:45)

\* *ˀawqāt* (أوقات) > *uqāt*: *l-l-uqāt* (לְעִתּ֥וֹת, Ps 10:1)

The formation of such words, in which C1 is the semi-vowel /w/, is a combined process of omission of the *hamza* and contraction of the initial diphthong \*aw.[[112]](#footnote-116) Alternately it can be described as the process \*ˀawlād > wlād > ulād, with the usual pronunciation of /w/ in initial pre-consonantal position, such as in *uqār*.[[113]](#footnote-117) We did not find any instances of the pattern \**ˀafˁāal* in which C1 was a simple consonant and so cannot gauge the extent of the omission of \*ˀa in words that do not begin with a semi-vowel.[[114]](#footnote-118) In the word *insān,* which belongs to a different pattern, such omission did not occur.[[115]](#footnote-119)

In Form IV verbs, the initial \*ˀa is omitted in CJA, as in many other Maghrebi dialects:[[116]](#footnote-120) \**ˀafˁal* > *fˁel*, for example: \**ˀaˁṭa* > *ˁṭa* (נָתַ֣ן, Ps 15:5).

The form *sās*, meaning “foundation,” was created following the omission of the *hamza* together with its vowel: \*ˀasās > sās. Our corpus includes the plural form sīsān[[117]](#footnote-121)(מֽוֹסְד֪וֹת, Ps 18:16; הַ֭שָּׁתוֹת, Ps 11:3), which was created after the omission of the \*ˀa in the singular form through analogy to forms such as *wād* > *wīdān* ( וְֽ)נַחֲלֵ֖י), Pd 18:5), *bāb* – *bībān* (מִ)שַּׁ֥עֲרֵי) / (בְּ)שַֽׁעֲרֵ֥י, Ps 9:14, 15).

An additional category in which the initial *hamza* is omitted together with its vowel includes the names of family relations together with clitic possessive pronouns, such as: *xū-k* (your brother), *xt-ək* (your sister).[[118]](#footnote-122)

To sum up, an initial /\*ˀ/ is usually eroded, but its vowel remains; in some cases, the glottal plosive is omitted together with its vowel and, in still others, the glottal plosive is retained. We found only one example of a shift from an initial glottal plosive to a semi-vowel;[[119]](#footnote-123) this shift is found, for example, in the Jewish dialect of Tunis[[120]](#footnote-124) and in the dialect of Tlemcen,[[121]](#footnote-125) but not among the Jews of Algiers.[[122]](#footnote-126)

It is interesting that two verbs with أ as their first root letter: أكل, أخذ. The past forms of these verbs, which one would expected to begin with an initial \*ˀ, behave as if their final root letter were י: *kla*, *xda*.[[123]](#footnote-127) This reflects both the influence of the weak *hamza* on the morphology and the power of analogy. We shall discuss below the future forms of these verbs, in which the \*ˀ always appears in medial position.

\* - omission of the glottal plosive in medial position:

A medial non-vocalized glottal plosive is omitted, with lengthening of the preceding vowel:

\*kaˀs > kās : *kās-hum* (כּוֹסָֽם, Ps 11:6)

\*raˀs > ṛāṣ : *ṛ-ṛāṣ* (רֹֽאשׁ, Ps 22:8)[[124]](#footnote-128)

\*biˀr > bīr : *bīr* (בּ֣וֹר, Ps 7:16)

This phenomenon is found in many dialects, both Mashriqi and Maghrebi.[[125]](#footnote-129)

The lengthening of the vowel due to the omission of the medial *hamza* is also found in the future forms of the verbs *xda*, *kla*, which are conjugated in the past tense as if their middle root letter was י, but which in the future tense act as if there first root letter were א:[[126]](#footnote-130) \*yaˀxud > yāxud (יִקָּֽח, Ps 6:10),[[127]](#footnote-131) and also *li-yākul* (לֶֽאֱכֹ֪ל, Ps 27:2).

\* - omission of the glottal plosive in final position:

/\*ˀ/ in final position is always omitted, both in nouns and in verbal forms. In nouns belonging to the pattern \*C1VC2ā, a shift has occurred to the form C1C2a (C1C2ā). The final vowel obtained in these forms is perceived as long due to its location,[[128]](#footnote-132) but it is not always realized as such: *šqa* (עָמָ֥ל, Ps 10:7, 14) / *šqā* (עָ֝מָ֗ל, Ps 7:15), *xba* (אֹ֥הֶל, Ps 19:5), *əs-sma* (הַשָּׁמָֽיִם, Ps 8:2), *fi xfa* (בְּסֵ֣תֶר, Ps 27:5), *l-bka* (בֶּ֗כִי, Ps 30:6); and similarly \*māˀ > ma: *əl-ma* (מַ֝֗יִם, Ps 18:12).

Verbs whose original final root letter was ly /\*ˀ/ are conjugated as if the final letter was י.[[129]](#footnote-133)

In Form I: *l-bāri* (, Ps 10:8; 15:5; 24:4), *mən li-yixṭi* (מֵֽחֲט֪וֹא, Ps 39:2), *xṭēt* (חָטָ֥אתִי, Ps 41:5).

The same is true of complex verbs whose final root letter was originally /\*ˀ/: *ğa* (בָּ֤א, Ps 41:5), *tği* (תָּב֬וֹא, Ps 18:7), *u-yiḍwāw* (וְנָהָ֑רוּ, Ps 34:6).

In the *kətteb* form: *hayya* (הֵכִ֣ין, Ps 7:14), *xabbīti* (צָפַ֪נְתָּ, Ps 31:20), *tḍawwi* (צָפַ֪נְתָּ, Ps 31:20), *bərri-ni* (נַקֵּֽנִי, Ps 19:13).

We shall now discuss the other realizations of the glottal plosive:

[y] – a voiced palatal semi-vowel. This realization of /ˀ/ is a conditioned allophone that appears when /\*ˀ/ is situated between two vowels, the first of which is [a] / [ā] and the second [i].[[130]](#footnote-134) These conditions are realized in the following categories:

In the plural pattern \*fˀāˁil > fˁāyɪl: *ḍbāyɪṛ* (עֵצ֡וֹת, Ps 13:3), *klāyɪm* (דְּבָרִ֑ים, Ps 19:4), *šrāyɪk* *l-ˀaṛḍ* (אַפְסֵי־אָֽרֶץ, Ps 2:8), *ṭrāyq-ək* (דְּרָכֶ֣יךָm Ps 25:4), *fˁāyɪl-hum* (מַֽעֲשֵׂיהֶֽם, Ps 33:15), *ǧrāym-i* (פְּשָׁעַ֥י, Ps 39:9), *uˁāyd-i* (נְדָרַ֥י, Ps 22:26).

In the pattern\*fāˁil > fāyɪl, found in the participle of verbs whose middle root letter is ו or י; most of these forms still serve as participles: *ǧāyɪz* (עֹ֝בֵ֗ר, Ps 8:9), *dāyɪm* (חַי, Ps 18:47), *xāyɪf əḷ-ḷah* (יְרֵ֣א יְהוָ֑ה, Ps 25:12), *ḍāyɪˁ* (אֹבֵֽד, Ps 31:13). However, some serve as adverbs: *dāyɪr sāyɪr* (סָ֝בִ֗יב, Ps 3:7), *dāyɪm*[[131]](#footnote-135) (סֶֽלָה, Ps 3:3). The form *ṭāyɪq* is used as to refer to God (e.g. Ps 17:6).

Examples of the masculine plural of the participle in verbs whose middle letter is ו in the pattern \*fāˁil-īn > fāyl-īn: *qāym-īn* (קָמִ֥ים, Ps 3:2), *xāyf-īn əḷ-ḷah* (יִרְאֵ֣י יְהוָ֣ה, Ps 15:40, *u-māyl-īn l-kdəb* (וְשָׂטֵ֥י כָזָֽב, Ps 40:5). In verbs whose last letter is א, the pattern is\*fāˁiˀ-īn > fāˁy-īn: *xāṭy-īn* (חַ֭טָּאִים, Ps 1:1).[[132]](#footnote-136)

In nouns in the pattern \*fāˀil-a > fāyl-a (בֶּ֥צַע, Ps 30:10), *l-māyd-a* (שֻׁלְחָ֗ן, Ps 23:5), and in the conjunction *ḥatta lāyən* (עַד־אָ֣נָה, Ps 13:2, 3).

One of the rabbis realized a handful of forms in these patterns with [ˀ], probably through hypercorrection; for example: *ṭāˀɪq* (אֵֽל, Ps 5:5), *ṭrāˀɪq* (אָרְח֥וֹת, Ps 8:9), *uhāˀɪš* (בַּֽהֲמ֥וֹת, Ps 8:8).

The vowel realized after the [y] is [ɪ], a conditioned allophone of the short vocal phoneme /ə/ when it appears adjacent to [y], and we have marked it as such.[[133]](#footnote-137)

1. Heath provides a similar description of the dialect of the Fez-Meknes region: 1987, p. 298. [↑](#footnote-ref-1)
2. This is apparent from conversations with the informants. [↑](#footnote-ref-2)
3. For further details of these conditions, see: Blanc 1953, p. 63; Cantineau 1960, p. 50. [↑](#footnote-ref-3)
4. Cohen 1975, pp. 26-29. [↑](#footnote-ref-4)
5. Although *ṛ* is in the final position in many of these examples, there are also instances where it is initial. Accordingly, I would argue that the influence of the labials is the crucial factor here, rather than the final position of the *ṛ*. [↑](#footnote-ref-5)
6. The emphatic quality of the *ṣ* in this root is secondary. [↑](#footnote-ref-6)
7. Cohen 1975, p. 29. [↑](#footnote-ref-7)
8. See: Brockelmann 1961, I, pp. 167-168, and see also the discussion on emphasis in section [2.4.2]. [↑](#footnote-ref-8)
9. Heath 1987, p. 297. However, Blanc presents two (possibly three) instances of *ṛ* influencing the emphasis of adjacent consonants (1953, pp. 65-66). [↑](#footnote-ref-9)
10. This pronunciation is found in numerous dialects, and its basis (in certain circumstances) lies in the *tajwīd* rules for the recitation of the Quran. See: Cantineau 1960, p. 51. Due to the regular nature of the realization [ḷ] in this word, we note it in our transliteration, despite its allophonic status. [↑](#footnote-ref-10)
11. The emphatic quality in this word may be due to the sentimental nature of the appeal to God, rather than the influence of the consonants that surround the /l/. [↑](#footnote-ref-11)
12. Cohen 1912, p. 55. [↑](#footnote-ref-12)
13. Cohen 1975, p. 26. Blanc also presents contrasting pairs for /l/ and /ḷ/ in the Druze dialects of the Western Galilee and Mt. Carmel (1953, pp. 62-63). [↑](#footnote-ref-13)
14. See p. 44 above and section [2.4.2]. [↑](#footnote-ref-15)
15. On the nature of /ḷ/ as a “marginal” emphatic consonant in the dialect of Fez-Meknes, see: Heath 1987, pp. 304-305. [↑](#footnote-ref-16)
16. On exchanges of *l* and other liquids, see section [2:6] “Exchange of Liquids.” On *ḷ* as a syllabic consonant, see section [5.4]. [↑](#footnote-ref-17)
17. Two additional and much less common realizations will be discussed below. [↑](#footnote-ref-18)
18. See Appendix II [↑](#footnote-ref-20)
19. Cohen 1975, pp. 21-22; Cantineau 1938, pp. 857-858. [↑](#footnote-ref-21)
20. Marçais 1902, pp. 31-32. [↑](#footnote-ref-22)
21. Cohen 1912, p. 23. [↑](#footnote-ref-23)
22. Cantineau 1938, p. 861; Cantineau 1937, p. 706. [↑](#footnote-ref-24)
23. Other locations where the [ğ] realization is found are mentioned in: Discher and Jastrow 1980, p. 252. [↑](#footnote-ref-25)
24. Cantineau 1937, p. 706; Marçais 1908, pp. 16-17, fn. 1. [↑](#footnote-ref-26)
25. Cantineau 1960, p. 59; Fischer and Jastrow 1980, p. 252. [↑](#footnote-ref-27)
26. See Section [2.2.4] [↑](#footnote-ref-28)
27. Cantineau 1938, pp. 855-860; Fischer and Jastrow 1980, p. 252; Heath 1987, pp. 216-217. [↑](#footnote-ref-29)
28. Cantineau 1938, p. 855. See also the map in Appendix II. For the example of most of the Philippeville district, see: Ostoya-Delmas 1938, p. 69. [↑](#footnote-ref-30)
29. This realization [č] = [t͜͜š͜] is documented in Mashriqi dialects, in Palmyra and the Anti-Lebanon Mountains: Cantineau 1960, pp. 59-60. [↑](#footnote-ref-31)
30. Cantineau 1960, p. 61; Heath and Bar-Asher 1982, p. 37. [↑](#footnote-ref-32)
31. Cohen 1912, pp. 81-82. [↑](#footnote-ref-33)
32. Cherbonneau 1876, II, p. 1037. cf. Marçais 1956, p. 227. [↑](#footnote-ref-34)
33. Cohen 1975, p. 30. [↑](#footnote-ref-35)
34. Cohen 1912, p. 72. [↑](#footnote-ref-36)
35. Cantineau 1960, p. 66; 1940, p. 224; 1938, p. 853. [↑](#footnote-ref-37)
36. Such as the dialect of the Suhana oases in the Syrian Desert. See: Cantineau 1960, p. 66. See also other shifts that may occur in the pronunciation of *k*. One such shift - \*k > t*,* is found among the Jews of Tafilalat; see: Heath and Bar-Asher 1982, p. 34. [↑](#footnote-ref-38)
37. Assimilation in a similar form is found in Tlemcen: Marçais, W. 1902, p. 26. [↑](#footnote-ref-39)
38. For example, in the Algiers Haggadah (Hatal, Avraham Robert 1975): ורחץ – נכ'סלו יידנא (p. 2). Cohen 1975, p. 44 (ḫšǝl); Brockelmann 1961, I, p. 162; Barthélemy 1930, p. 202. See also: Morag 1963, pp. 17-18. [↑](#footnote-ref-40)
39. Cantineau 1937, p. 706; Marçais, Ph. 1947, p. 40. This realization is also found in the southern Moroccan and Mauritanian Sahara, as well as in certain nomadic dialects in northern Arabia. See: Cantineau 1960, p. 72. [↑](#footnote-ref-41)
40. Cantineau 1938, pp. 857-858, 861. [↑](#footnote-ref-42)
41. See map in Appendix II. [↑](#footnote-ref-43)
42. For detailed discussion of the origins of these realizations, see: Blanc 1969, pp. 7-37. [↑](#footnote-ref-44)
43. On the strength of *q* in causing emphasis, see section [2.4.4]. The influence of *q* on the surrounding vowels will be discussed in section [3.3.2]. [↑](#footnote-ref-45)
44. Cantineau 1960, pp. 68-69. [↑](#footnote-ref-46)
45. Cohen 1975, p. 31. [↑](#footnote-ref-47)
46. Cantineau 1938, p. 853; 1960, p. 69. [↑](#footnote-ref-48)
47. Ostoya-Delmas 1938, p. 71. [↑](#footnote-ref-49)
48. Cantineau 1960, p. 69. [↑](#footnote-ref-50)
49. Ostoya-Delmas 1938, p. 71. [↑](#footnote-ref-51)
50. This realization is also absent from the Jewish dialect of Tunis: Cohen 1975, p. 31. However, see Section [2.2.11] for the realization of /ˀ/ as [q]. [↑](#footnote-ref-52)
51. Cantineau 1938, p. 853; Ostoya-Delmas 1938, p. 72. [↑](#footnote-ref-53)
52. Cohen 1912, pp. 43-46. [↑](#footnote-ref-54)
53. Marçais 1902, p. 17. [↑](#footnote-ref-55)
54. Heath 1987, p. 13. [↑](#footnote-ref-56)
55. Stillman 1981, p. 237. [↑](#footnote-ref-57)
56. Cantineau 1960, p. 69. [↑](#footnote-ref-58)
57. Among the Jews of Algiers, the forms *sǝggǝm* and *sǝqqǝm* are both found; the latter has a different nuance of meaning; among the Muslims of the city, only *sǝggǝm* is found: Cohen 1912, pp. 48-49. If the root סגם had not penetrated CJA and become dominant, we would have expected the form תצקים in place of תסגים (cf.: צוקני – נְחֵ֬נִי, Ps 5:9). See Section [7.3.9]. [↑](#footnote-ref-59)
58. According to the informants, this word is mainly used in the colloquial with the sense of “pleasant voice.” [↑](#footnote-ref-60)
59. Cf. Ben-Sedira 1882, p. 426. [↑](#footnote-ref-61)
60. The dictionary of Rabbi Yosef Renassia also documents a voiced realization for this root: *naggaze*, p. 402. [↑](#footnote-ref-62)
61. The word קרון is also written with a ק in the šarḥ, in contrast to the other words presented above for the realization [g], which were written with a ג by Rabbi Yosef Renassia. The singular form is pronounced with [q] in the šarḥ: u-qǝṛn (וְקֶֽרֶן, Ps 18:3). [↑](#footnote-ref-63)
62. Ben-Sedira 1882, p. 429. [↑](#footnote-ref-64)
63. Cantineau believes that such doublets do not occur in the Mashriqi dialects (1960, p. 70). [↑](#footnote-ref-65)
64. See, for example, the Iraqi *gǝlet* dialects (Blanc 1964a, pp. 5-6), the rural dialects of Horan and Transjordan, parts of Yemen and Oman, all the nomadic dialects of Algeria and Morocco, among others. See: Cantineau 1960, pp. 69-70. [↑](#footnote-ref-66)
65. Ostoya-Delmas 1938, p. 71. [↑](#footnote-ref-67)
66. Cantineau 1960, p. 70; Marçais 1947, p. 40. Accordingly, the scholars note that the words borrowed from the nomadic and rural dialects are drawn from the agricultural referential world, while the words borrowed by the nomadic dialects from their urban counterparts relate to administration, education, and similar fields. See, for example: Cohen 1912, p. 46. [↑](#footnote-ref-68)
67. Cohen 1912, p. 46; Cohen 1975, pp. 30-31; Talmoudi 1980, p. 22; Heath and Bar-Asher 1982, p. 37. [↑](#footnote-ref-69)
68. Cf. the words quoted in the works mentioned in (note 2 on p. 54 in the original). [↑](#footnote-ref-70)
69. Isolated instances of the realization of \*q as [ġ] are also documented in the dialects of the Algerian Sahara (e.g., *qalīl* > *ġlīl*). See: Fischer and Jastrow 1980, p. 252. [↑](#footnote-ref-71)
70. See discussion of *fāṛǝq* in Section [2.2.8]. [↑](#footnote-ref-72)
71. As pronounced by the same informant, who pronounced it *d-ǝl-waġt*. [↑](#footnote-ref-73)
72. A weakly-performed *ˁ* is found, for example, in Tlemcen. See: Marçais 1902, p. 18. Conversely, in the dialect of Ouled Brahim it is pronounced very strongly; see: Marçais 1908, p. 10. The *ˁ* is pronounced strongly by men in the Jewish community of Algiers, but more weakly among the women. See: Cohen 1912, p. 31. An analogous practice is found in the Hebrew tradition of the Adenite community, where ע at the beginning of a word is pronounced like א. See: Morag 1963, pp. 13-14. [↑](#footnote-ref-74)
73. Conversely, in the Hebrew tradition of the Jews of Djerba, /ḥ/ is rarely pronounced as a voiced pharyngeal fricative [ˁ]. See Katz 1978, p. 9. [↑](#footnote-ref-75)
74. For a detailed discussion of this phenomenon, see Section [2.5.1.2]. [↑](#footnote-ref-76)
75. It is interesting to compare this with the Jewish dialect of Tunis, which tends to prevent the phenomenon of vowel contact by hiatus (when two vowels are adjacent in the same word) mainly in the verbal system; one way it resolves this is by creating a diphthong. See: Cohen 1975, p. 64. [↑](#footnote-ref-77)
76. The other informants pronounced *nǧəmˁu əl-umūm* here; the definite article prefixed to *umūm* served to separate the two consecutive vowels, thereby obviating the need to realize the [ˀ]. [↑](#footnote-ref-78)
77. This was the usual realization of this word; see also: Ps 10:18; 12:7; 17:11; 18:8; 27:13. This realization also appeared in some instances without the definite article (e.g. Ps 2:2). [↑](#footnote-ref-79)
78. See the discussion of these words on p. 59. [↑](#footnote-ref-80)
79. See previous note. [↑](#footnote-ref-81)
80. On the imperative forms of this form, which feature an initial *ǝ*, see Section [7.7]. [↑](#footnote-ref-82)
81. These instances naturally encourage a comparison with CA, where imperative forms at the beginning of a sentence feature the *hamza*. However, there does not seem to be any connection between the phenomena in these two settings. [↑](#footnote-ref-83)
82. Cf. the form *mūmnîn*, which is a remnant of Form IV of this type of verb current in the Ouled Brahim dialect. See: Marçais 1908, p. 8; Marçais 1902, p. 20 (*mûmen*). [↑](#footnote-ref-84)
83. For example, in the Jewish dialect of Tunis: Cohen 1975, p. 39, although there, too, the verb *ä̐mmən* is an exception: ibid., p. 117. For detailed discussion of this issue, see Section [7.3.4]. [↑](#footnote-ref-85)
84. See below, p. 64. [↑](#footnote-ref-87)
85. Marçais mistakenly believed that this characteristic was unique to the Tlemcen dialect () However, this realization is also found in Tlemcen in the root “XX” [להוסיף את השורש]. [↑](#footnote-ref-88)
86. Ibid., pp. 75-75. [↑](#footnote-ref-89)
87. Marçais 1908, p. 5, fn. 1. [↑](#footnote-ref-90)
88. Heath argues that the realization of the [ˀ] in this word (and others) may offer some evidence suggesting that speakers are beginning to identify an initial *a* vowel as a new representation associated with the appearance of a glottal plosive (even if the latter is not actually realized). He bases his comments regarding the word /ˀana/ on the existence of the play on words /naˀa/. See: Heath 1987, p. 20. Regarding the pronunciation of a “new” glottal plosive, see my comments below. [↑](#footnote-ref-91)
89. Cf. the realization of the /ˀ/ in this word as [q], p. 65. [↑](#footnote-ref-92)
90. The original meaning of this word is “clear” or “white.” [↑](#footnote-ref-93)
91. Similarly, in his commentary on the Song of Songs, Sefer Shir Ben David, Rabbi Yosef Renassia uses color names following the אפעל pattern; for example: Sg 1:6: כאהלי קדר" - "אלכ'בא מתאע ג'נס אלקדר אצלה אביץ' ומן בעד אכחל. In his trilingual dictionary, Rabbi Renassia documents the form ابيض – abiode (p. 42). The “short” forms fˁal < \*ˀafˁal are found in the dialects of the Philippeville district to the northeast of Constantine. See: Ostoya-Delmas 1938, p. 78. [↑](#footnote-ref-94)
92. Cantineau 1938, p. 862. M. Cohen notes that this omission occurred in all the comparative forms, but not in two adverbs. [↑](#footnote-ref-95)
93. Cohen 1975, p. 37. [↑](#footnote-ref-96)
94. Cantineau 1960, p. 84; Cohen 1912, p. 35. [↑](#footnote-ref-97)
95. Heath 1987, pp. 18-19. [↑](#footnote-ref-98)
96. This clitic phrase was performed by just one rabbi. The others used an enclitic possessive suffix (*asəm-hum*), so not realizing the [ˀ]. See my comments below. [↑](#footnote-ref-99)
97. Cohen describes the form *əl-ˀäḫ* as possible, though uncommon, among the Jews of Algiers (1912, p. 468). [↑](#footnote-ref-100)
98. Cf. the enclitic pronouns presented by Heath 1987, pp. 18-19. [↑](#footnote-ref-101)
99. Although this word is also realized as *ˀummi* (אִמִּֽי, Ps 22:10). [↑](#footnote-ref-102)
100. The word “name” is sometimes translated by the rabbis as *(ˀ)ism* and sometimes as *(ˀ)asm*; the realization of the [ˀ] is not permanent. In the Bar Yochai liturgical poem (Renassia 1956, p. 18), the form with the *a* is documented: ונסֶממִי באַסמך, transliterated there as *one-semmi basmek*. [↑](#footnote-ref-103)
101. A similar process occurs in many Mashriqi dialects in the words: *ˀesem*, *ˀeben*. See: Cantineau 1960, p. 113. Among the Jews of Constantine, however, the form *bǝn* is used. Cf. the pronunciation of the word *īsǝm* among the Jews of Algiers. See: Cohen 1912, p. 42. [↑](#footnote-ref-104)
102. Marçais 1908, p. 5; Marçais 1902, pp. 19-20. Cohen describes this phenomenon among educated Muslims in Algiers (1912, pp. 35-36). [↑](#footnote-ref-105)
103. See Section [2.3], p. 72. [↑](#footnote-ref-106)
104. Although the addition of the definite pronoun *l* means that the /\*ˀ/ is no longer in the initial position, we discuss them here due to the similar behavior of these forms to words beginning with *hamza* (and not to those where the *hamza* is medial, as in *kās*). Regarding the realization of [ˀ] after the definite article *l* in several words, see p. 56 above. [↑](#footnote-ref-107)
105. See the discussion on an additional realization of this word above, p. 59. [↑](#footnote-ref-108)
106. When this word appears without the definite article, the /\*ˀ/ will be realized as [w]; see below, p. 64. Cf. the discussion on the realizations of this word: Cohen 1912, p. 40 & fn. 2; Marçais 1908, p. 7. [↑](#footnote-ref-109)
107. The qualities a / i / u of the closed vowel appear only in certain circumstances that do not necessarily pertain here. See Section [3.3.2]. [↑](#footnote-ref-110)
108. See Sections [3.3.1] and [5.3.1]. [↑](#footnote-ref-111)
109. Cf. the presence of full vowels in these circumstances in Moroccan dialects. See: Heath 1987, p. 19. Marçais only documents such vowels for the Tlemcen dialect when they carry the stress: 1902, p. 19. [↑](#footnote-ref-112)
110. See Section [3.1] [↑](#footnote-ref-113)
111. Marçais documents the lengthening of these vowels in several words in the dialect of Oualed Brahim (e.g., *āmân*): 1908, p. 6. Cohen also offers examples of such lengthening in the dialect of the Jews of Algeria (e.g., *å̄ṣəl*): 1912, pp. 39-40. [↑](#footnote-ref-114)
112. See Section [4.3] regarding the contraction of diphthongs. See also: Cohen 1975, p. 68. [↑](#footnote-ref-116)
113. See Section [2.3] [↑](#footnote-ref-117)
114. In the pattern \*ˀafˁal, used to form the names of colors, the \*ˀa is omitted in CJA: *ḥmər* (red), *kḥəl* (black). See the discussion on p. 58 above. [↑](#footnote-ref-118)
115. The vowel is also retained in this word in the Jewish dialect of Algiers, although it is omitted in similar words: Cohen 1912, p. 41. [↑](#footnote-ref-119)
116. Cohen 1912, pp. 36, 211-212; Cohen 1975, p. 37; Marçais 1908, p. 6. Regarding the remnants of Form IV, see Section [7.6]. [↑](#footnote-ref-120)
117. In their replies to my questions, the rabbis used the singular form *sās* in the sense of “foundation.” The similar form *šǟš* is found among the Jews of Tunis. See: Cohen 1975, p. 39. Among the Jews of Algiers the form *lsās* is found, where the *l* is regarded as part of the word. See: Cohen 1912, p. 42. On the creation of the secondary root *ləssəs* in CJA, see Section [7.3.9]. [↑](#footnote-ref-121)
118. See the discussion of these words on p. 59 above. [↑](#footnote-ref-122)
119. The word *wudən* and its plural, realized as *wudn-īn* / *wudn-ayn*. [↑](#footnote-ref-123)
120. Cohen 1975, p. 39. [↑](#footnote-ref-124)
121. Marçais 1902, p. 20. [↑](#footnote-ref-125)
122. Cohen 1912, p. 41. [↑](#footnote-ref-126)
123. See Section [7.2.5.7]. [↑](#footnote-ref-127)
124. The *hamza* in the original plural form \* رُؤُوس, which is vocalized, is also omitted: *ṛūṣ-kum* (רָֽאשֵׁיכֶ֗ם, Ps 24:7, 9). [↑](#footnote-ref-128)
125. Cantineau 1960, pp. 84-85. [↑](#footnote-ref-129)
126. For a detailed discussion of these verbs, see Section [7.2.5.7]. [↑](#footnote-ref-130)
127. Grammarians and reciters of the Quran have already noted this phenomenon. See: Cantineau 1960, p. 78. [↑](#footnote-ref-131)
128. Cf. Cohen 1975, p. 37; Cohen 1912, p. 37. [↑](#footnote-ref-132)
129. For detailed discussion of these verbs, see Sections [7.2.5.6] and [7.3.7]. [↑](#footnote-ref-133)
130. The same conditions led to the shift y > ˀ in CA: Between a (long) *ā* and a short *i* or *u*, *w* and *y* shifted to \*qāwil > qāˀil: Cantineau 1960, p. 86. [↑](#footnote-ref-134)
131. The rabbis often translated the word סלה by this word, even when the printed translation shows ללאבד. See Section [3.6] for discussion of this word. [↑](#footnote-ref-135)
132. An example of this phenomenon can already be found in the reading of the Quran: ḫāṭiyûna < ḫâṭiˀûna (Sura 69:37). See: Cantineau 1960, p. 81. [↑](#footnote-ref-136)
133. See Section [3.3.2] for detailed discussion of these vowels. [↑](#footnote-ref-137)