# LEXICAL PARSING OF THE TEN QIRA`ĀT - AṢḤAB AṢ-ṢILAH

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## ABSTRACT

*Qur`ān being the word of our Creator, has been revealed in Seven Aḥruf and got preserved in the authentic Ten Qira`āt. One of the groupings among the Ten Qurrā` is termed Aṣḥāb aṣ-Ṣilah, which includes two of the Qira`āt (`Ibn Kathīr al-Makkī and `Abū Ja'far al-Madnī) and a Riwāyah of Qālūn 'an Nāfi' al-Madnī. They have specific fundamental rules associated with them, which we will explore in this research paper as their main features. Notably, the main common factor that unites them and from where their name got derived is the Ṣilah of Mīm al-Jam' (prolonging the plural mīm). Algorithms are developed to identify the main features of these companions on each word of the Qur`ān, and then an automated conversion of the words is carried out based on those rules. Eventually, this results in insights into these features and quantification of such words in an automated way which provides an efficient and reliable approach, covering thousands of occurrences and repetitions for each respective Riwāyah. Each word of the Qur`ān (77K) is then tagged with these features, and these converted words are ultimately made part of the corpora being developed for these Ten Qira`āt.*

**Keywords:** Ten Qira`āt, Aṣḥāb aṣ-Ṣilah, Lexical Parsing, Ṣilah of Mīm al-Jam', Qur`ān Corpus.

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## 1. INTRODUCTION

Qur`ān being the word of our Creator, has been revealed in Seven Aḥruf and got preserved in the authentic Ten Qira`āt. At times even the specialist in the field of Qira`āt Sciences finds it challenging to recall the Ten Qurrā` and their respective Rawīs fluently. One has a total of 30 individuals to remember. Thus, for easy reference and remembrance, we may devise a way to memorize these Ten Qurrā` along with their Rāwīs at our fingertips. Usually, our fingers have three sections marked by natural boundaries, which we may use for each Qārī and his respective two Rawīs (1+2=3).

Secondly, we will use the ten fingers of both hands to refer to the Ten Qurrā` of the Qira`āt by placing them at the tips. So, the thumb of the right hand will be given to the first Qira`āh, and moving anti-clockwise, the subsequent Qira`āh will be placed. Ultimately, the thumb of the left hand would be the position of the tenth Qira`āh. Furthermore, the first Rāwī of each Qira`āh would be placed beneath it, marked in green, and the second Rāwī underneath it, marked in blue.

*Figure 1. The Ten Qira`āt on Finger Tips developed by Haroon Lone*

The idea of representing the *Ten Qira`āt* on fingertips was influenced by the work of Dr. Abdul Aziz Abdul Raheem on 'Understand al-Qur`ān the easy way', where he divides each page of the Qur`ān into mainly four pointers and places them on each finger (Raheem, 2023).

Additionally, the below relationships are highlighted on each finger which may help create associations among the relevant individuals in each group. Ultimately, the more links, the more beneficial it would be in memorizing and recalling the group members.

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- **Finger 1:** *Qālūn's* actual name was *'Isa*, and this was his nickname given by his teacher *Nāfi' al-Madanī* because of the quality of his *qirā`ah* (Miṣrī, 2016). Also, *Warsh's* name was *'Uthmān*, and this was a nickname given by the same teacher due to his intense white color (Miṣrī, 2015). So, we have **2-Nick Names** on this finger.

- **Finger 2:** *al-Bazzī* and *Qunbul* did not take their respective *Riwāyah* directly from *`Ibn Kathīr* instead, it was via his students (Ḍamrah, 2006). So, we have the first **2-Indirect** connectivity with the *Qārī* (teacher) observed on this finger.

- **Finger 3:** *ad-Dourī* comes twice as a *Rawī*. On this finger, he appears as a *first Rawī* under *`Abū 'Amr al-Baṣrī*. So, *ad-Dourī* would come under *`Abū*. This pattern is repeated in his second appearance as a *Rāwī* too.

- **Finger 4:** The *Qārī*, *`Ibn 'Āmir ash-Shāmī* and his first *Rawī Hishām* have **shām** in common and are visualized on this finger. Secondly, on this finger, there are **2-`Ibn** too.

- **Finger 5:** This finger belongs to the most famous and commonly read *Rāwī*, *Ḥafṣ* under the *Qira`āh* of *'Āṣim*. So, we would mark it as a **star**.

- **Finger 6:** *Ḥamza al-Kūfī* on the sixth finger has the two *Rawīs*, *Khalaf* and *Khalād*. So, there are **2-Khas** on this finger.

- **Finger 7:** *ad-Dourī* appears the second time as a *second Rawī* of *al-Kisā`ī al-Kūfī* under *`Abū al-Hārith* on this

finger. So, again ***ad-Dourī*** comes under *`Abū*, as identified above.

- **Finger 8:** *`Abū Ja'far al-Madnī* on this eighth finger has the two *Rawīs*, *`Ibn Wardān* and *`Ibn Jammāz*. So, there are ***2-`Ibn*** under this *`Abū*.

- **Finger 9:** *Ya'qūb al-Hadhramī* on this ninth finger has the two *Rawīs*, *Ruwais* and *Rauh*. So, there are ***2-Rs*** under this *Qārī*.

- **Finger 10:** *Khalaf al-'Āshir* on this tenth finger has the two *Rawīs*, *`Ishāq* and *`Idrīs*. So, there are ***2-Is*** under *Khalaf*, who also appears as a *Rawī* on the sixth finger.

Furthermore, there are categorized groups among the *Qurrā`* and *Ruwāt* based on the common features and attributes listed in Table 1. *'Abdul Fattāḥ al-Qaḍī* refers to the groups like *al-Kufīyūn*, *al-Aṣḥāb*, *al-`Ikhwān*, *al-Baṣriyān* and *al-Madaniyān* in his book, *al-Budūr az-Zāhirah fī Qira`āt al-'Ashr al-Mutawatirah* (al-Qaḍī, 2009).

Table 1. Groups of Qurrā` / Ruwāt

| Group | Qurrā` / Ruwāt |
|---|---|
| *Asḥab aṣ-Ṣilah* | *Qālūn 'an Nāfi' & `Ibn Kathīr al-Makkī & `Abū Ja'far al-Madnī* |
| *al-Kufīyūn* | *'Āṣim al-Kūfī & Hamza al-Kūfī & al-Kisā`ī al-Kūfī & Khalaf al-'Āshir* |
| *al-Aṣḥāb* | *Hamza al-Kūfī & al-Kisā`ī al-Kūfī & Khalaf al-'Āshir* |
| *al-`Ikhwān* | *Hamza al-Kūfī & al-Kisā`ī al-Kūfī* |
| *al-Baṣriyān* | *`Abū 'Amr al-Baṣrī & Ya'qūb al-Hadhramī* |
| *al-Madaniyān* | *Nāfi' al-Madanī & `Abū Ja'far al-Madnī* |
| *al-Makkī* | *`Ibn Kathīr al-Makkī* |
| *ash-Shāmī* | *`Ibn 'Āmir ash-Shāmī* |

Noteworthy that most of these grouping which the scholars of the *Qira`āt Sciences* created, refer to the common regions among the *Qurrā`*, with the *Kufīs* constituting 40% of the *Ten Qira`āt*. Followed up by 20% each are the *Baṣrīs* and the *Madanīs*. Finally, the *Makkīs* and *Shamīs* get singled out with 10% each. Interestingly, **Aṣḥab aṣ-Ṣilah** is a group that stands out among them beyond the regional relevance. They are discussed in further detail in the upcoming sections.
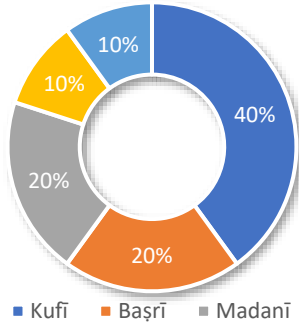
*Figure 2. The Ten Qurrā` Regional Distribution*

## 2. REVIEW OF LITERATURE

Linguistically, **Aṣḥab** is the plural form of *Ṣaḥib* which means companion, constructed from the root word *ṣād ḥa ba* (ص ح ب) (Dictionary, 2023). Thus, *Ṣaḥib* is the `*Ism al-Fā'il* (active participle) of the three-letter word *Ṣaḥiba* (صَحِبَ) which means to befriend and to accompany (Conjugation, 2023). Moreover, **Ṣilah** is the verbal noun originating from the trilateral root verb *waṣala* (وَصَلَ) (Dictionary, 2023). In the *Qira`āt* sciences, *Ṣilah* could be mainly of two kinds;

1- *Ṣilah* of *Mīm al-Jam'*

2- *Ṣilah* of *Hā aḍ-Ḍamīr*

Figuratively, **Aṣḥab aṣ-Ṣilah** refers to the *Rāwī, Qālūn 'an Nāfi'* and the two *Qurrā`*; `*Ibn Kathīr al-Makkī* and `*Abū Ja'far al-Madnī* including their respective *Ruwāt* (Ḍamrah, 2016). The main common factor that groups them together and from where their name is derived is the **Ṣilah of Mīm al-Jam'** (prolonging of the mīm of the plural). It is notable that among them, *Qālūn* has this

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as an optional feature and may follow Ḥafṣ ʿan ʿĀṣim by dropping this *Ṣilah* of *Mīm al-Jam'* in one of his ways of recitation ('Abdul'Azīz, 2016).

### 2.1 *Uṣūl* of *Aṣḥab aṣ-Ṣilah*:

There are a few common fundamental rules (uṣūl) that these Aṣḥab aṣ-Ṣilah follow. There are being summarized and discussed in the upcoming sub-sections.

### 2.1.1 *Mīm al-Jam'*:

Linguistically, *mīm* is the Arabic letter م, and *al-Jam'* means the plural. Thus, it is the *mīm* that appears at the end of the word referring to masculinity and plurality (**جمع مذكر**) (Gindy, 2020). It could occur after the below four letters only:

1- *Hā* (**ه**): Like هُمْ or عَلَيْهِمْ or أَنفُسَهُمْ. It could occur as an attached pronoun or an isolated one.

2- *Tā* (**ت**): Like أَنْتُمْ or كُنْتُمْ. It could also occur as an attached pronoun or an isolated one.

3- *Kāf al-Khiṭāb* (**ك**): Like أَنفُسَكُمْ. It could only occur as an attached pronoun.

4- *Hamzah ʿalā Waw Kursī* (**ؤ**): Like هَاؤُمْ which occurs only once and is in *Sūrah al-Ḥāqah* (al-AlJarmī, 2001).

The *Ṣilah* of *Mīm al-Jam'* is the conversion of the *sukūn* on the letter *mīm* to a *ḍammah* and lengthening it to the extent that it generates and connects a waw to it. So, for instance, the word أَنْتُمْ is converted to أَنْتُمُو, where both of them belong to the

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Classical Arabic (CA) language with their use present in poetry and elsewhere (al-Maqdisī, 1992).

Thus, wherever the word ends up with the *mīm* of the plural, and it is *sākin*, then the *sukūn* is converted to a *ḍammah*, and it is prolonged, placing a small waw as an indication of it. An exception to this rule is the words that have the letter *mīm* as the third root letter and the second root letter belonging to *hā* (*maksūr/madhmūm*), *kāf* (*madhmūm*), or *tā* (*madhmūm*);

$$( \text{--هِم / --هُم / --كُم / --تُم} )$$

Practically, there is only a root word (حكم) among the verbs which has this condition (*madhmūm kāf*), and its forms are considered as the exception to the general checks. Among the nouns, there are words like بُكْمَ and كَمَ which might be considered exceptions. However, while considering the *ḥarakāt*, they get excluded due to not fulfilling the *madhmūm* condition of the second last letter, as they have *sukūn* and *fatḥa*, respectively. There is a *Ṣilah* of such identified *Mīm al-Jam'* words where the *mīm* is prolonged in case of continuation (*waṣl*) while in case of stopping (*waqf*) over the word no conversion is carried out. Additionally, the *mīm* of the plural already having a *ḥarakah* does not go through this conversion. Consequently, upon the conversion, the word كُنتُمْ gets modified to كُنتُمُو. The *Rāwī*, *Qālūn ʿan Nāfiʿ* has two ways for the *Mīm al-Jam'* words; conversion to *mīm aṣ-Ṣilah* like *Aṣḥab aṣ-Ṣilah* or keeping it unchanged as *Ḥafṣ ʿan ʿĀṣim*.

In case the next word to the *mīm aṣ-Ṣilah* word starts with a *hamza*, the *Qurrā`*, `*Ibn Kathīr al-Makkī* and `*Abū Jaʿfar al-Madnī* will perform this conversion with two *ḥarakāt* as usual under the

circumstances mentioned above whereas, the *Rāwī*, *Qālūn 'an Nāfi'* has three ways;

1- No conversion, keeping the *mīm sākin* as *Ḥafṣ 'an 'Āṣim*.

2- Conversion *to mīm aṣ-Ṣilah* with **two** *ḥarakāt*.

3- Conversion to *mīm aṣ-Ṣilah* with **four** *ḥarakāt* (Ḍamrah, 2006).

The *Rāwī*, *Warsh 'an-Nāfi'* though is not included in the *Aṣḥab aṣ-Ṣilah*, but he also follows this conversion of *mīm al-Jam'* with the condition that the next word to it starts with a *hamza*. Also, he would prolong the *ṣilah* to **six** *ḥarakāt* (Ḍamrah, 2008). Since the majority of *mīm al-Jam'* which qualify for *mīm aṣ-Ṣilah* do not have a *hamza* starting in the following word, *Warsh* does not go for the conversion, and this is probably the main reason why he is not considered among the *Aṣḥab aṣ-Ṣilah*.

For instance, in *Sūrah al-Baqarah* [2:6], *mīm al-Jam'* occurs thrice. *Aṣḥab aṣ-Ṣilah* will do the conversion for all of them, with *Qālūn* having the three options mentioned above, whereas *Warsh 'an-Nāfi'* will do it for the first two occurrences, as they are followed up with a word starting with a *hamzah*.

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|---|---|
| *Ḥafṣ 'an 'Āṣim* | إِنَّ الَّذِينَ كَفَرُوا سَوَاءٌ عَلَيْهِمْ أَأَنذَرْتَهُمْ أَمْ لَمْ تُنذِرْهُمْ لَا يُؤْمِنُونَ |



| | |
|---|---|
| *Aṣḥab aṣ-Ṣilah* | إِنَّ الَّذِينَ كَفَرُوا سَوَاءٌ عَلَيْهِمُ ءأَأَنذَرْتَهُمُ ءأَمْ لَمْ تُنذِرْهُمُ لَا يُؤْمِنُونَ |

*Warsh ‘an-Nāfi'*   إِنَّ الَّذِينَ كَفَرُوا سَوَاءٌ عَلَيْهِمْ ءَأَنذَرْتَهُمُ ءَأَمْ لَمْ تُنذِرْهُمْ لَا يُؤْمِنُونَ

### 2.1.2 Mudūd:

Lexically, *Mudūd* is the plural of *Mad*, which means increase and prolongation. Contextually, it is the lengthening of the sound of one of the three *mad* letters, namely;

a- `Alif sākin* with a *fatḥah* preceding it. Example: أَبْصَارِهِمْ.

b- *Ya sākin* with a *kasrah* preceding it. Example: وَيُقِيمُونَ.

c- *Waw sākin* with a *ḍammah* preceding it. Example: قُلُوبِهِمْ (Swaid, 2021).

*Aṣḥab aṣ-Ṣilah follow Ḥafṣ ‘an ‘Āṣim in all types of mudūd, except for Mad al-Munfaṣil. All of them would prolong it to **two** harakāt with Qālūn ‘an Nāfi' also having the option of **four** harakāt. Thus, he matches Ḥafṣ when opting for four harakāt from the way of Shāṭibiyah (Qira`āt al-‘Ashr aṣ-Ṣughrā). This way of Shāṭibiyah covers the first seven Qira`āt, and the other well-known way where Ḥafṣ may prolong with two harakāt for Mad al-Munfaṣil is from the way of Ṭayibah an-Nashr (Qira`āt al-‘Ashr al-Kubrā). Qālūn also stands out from them when he combines this **Mad al-Munfaṣil** with four harakāt along with the **ṣilah of Mīm al-Jam'** (Miṣrī, 2016).*
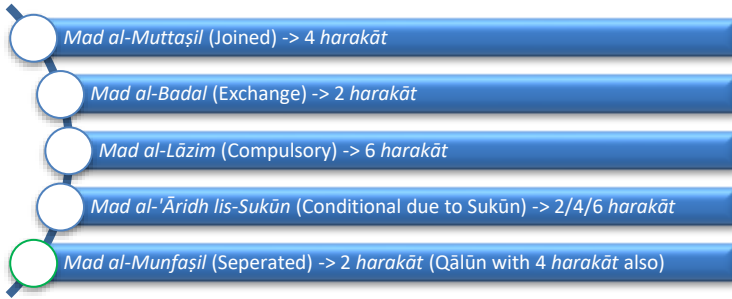
○ Mad al-Muttaṣil (Joined) -> 4 *harakāt*

○ Mad al-Badal (Exchange) -> 2 *harakāt*

○ Mad al-Lāzim (Compulsory) -> 6 *harakāt*

○ Mad al-'Āridh lis-Sukūn (Conditional due to Sukūn) -> 2/4/6 *harakāt*

○ Mad al-Munfaṣil (Seperated) -> 2 *harakāt* (Qālūn with 4 *harakāt* also)

*Figure 3. Mudūd Length for Aṣḥab aṣ-Ṣilah*

### 2.1.3 al-Hamzatān mīn Kalimah:

When there are two *hamza* letters, one after the other, within a word, `Ibn Kathīr al-Makkī* would make a *tashīl* (easing) of the second *hamza* (Ḍamrah, 2006). The remaining *Aṣḥab aṣ-Ṣilah* apart from him would go for a *tashīl* and have an addition (`Idkhāl) of *alif* before the second *hamza*. For instance, in *Sūrah Hūd* [11:72], the word ءَأَلِدُ would be read with a *tashīl* of the *second hamzah* by all *Aṣḥab aṣ-Ṣilah*. Additionally, *Qālūn* and `Abū Ja'far* would have an *idkhāl* of an `alif (Ḍamrah, 2016).

*Ḥafṣ ʿan ʿĀṣim*        قَالَتْ يَا وَيْلَتَىٰ ءَأَلِدُ وَأَنَا عَجُوزٌ وَهَـٰذَا بَعْلِي شَيْخًا

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*`Ibn Kathīr al-Makkī*        قَالَتْ يَا وَيْلَتَىٰ ءَأَلِدُ وَأَنَا عَجُوزٌ وَهَـٰذَا بَعْلِي شَيْخًا

| Qālūn and `Abū Ja'far | قَالَتْ يَا وَيْلَتَىٰ ءَاۢلِدُ وَأَنَا عَجُوزٌ وَهَـٰذَا بَعْلِي شَيْخًا |
|---|---|

This concept of *tashīl* (easing) of *hamza* is not foreign to the *Riwāyah* of Ḥafṣ *'an 'Āṣim*. We find this in Verse 44 of *Sūrah Fuṣilat*, where Allāh (سبحانه وتعالى) says:

ءَأَعْجَمِيٌّ وَعَرَبِيٌّ

### 2.1.4 al-Hamzatān mīn Kalimatain (Mutafiqān):

Where there are two *hamza* letters, one after the other but in two different words (end of the first word and starting of the second word), following the same *ḥarakah* on both of them, there is a similarity between *Qālūn* and *Bazzī* where they both follow below rules:

1. *Maftūḥatān*: When both have a *fatḥah* on them, the **first** one would be dropped (*Isqāṭ*).

جَا أَحَدَهُمُ  →  جَاءَ أَحَدَهُمُ

2. *Maksūratān*: When both have a *kasrah* on them, the **first** one would be read with *tashīl*.

هَـٰؤُلَاءِ إِن  →  هَـٰؤُلَاءِ إِن

3. *Madhmūmatān*: When both have a *ḍammah* on them, the **first** one would be read with *tashīl*.

أَوْلِيَاءُ أُولَـٰئِكَ  →  أَوْلِيَاءُ أُولَـٰئِكَ

Source: (Ḍamrah, 2009a), (Ḍamrah, 2011).

Moreover, the remaining three (*Qunbul*, *`Ibn Wardān*, *`Ibn Jammāz*) also have similarity following below rules:

1.  *Maftūḥatān*: When both have a *fatḥah* on them, the **second** one would be read with *tashīl*.

<div dir="rtl">

جَاءَ أَحَدَهُمُ   →   جَاءَ أَحَدَهُمُ

</div>

2.  *Maksūratān*: When both have a *kasrah* on them, the **second** one would be read with *tashīl*.

<div dir="rtl">

هَـٰؤُلَاءِ إِن   →   هَـٰؤُلَاءِ إِن

</div>

3.  *Madhmūmatān*: When both have a *ḍammah* on them, the **second** one would be read with *tashīl*.

<div dir="rtl">

أَوْلِيَاءُ أُولَـٰئِكَ   →   أَوْلِيَاءُ أُولَـٰئِكَ

</div>

Source: (Ḍamrah, 2011), (Ḍamrah, 2009b).

### 2.1.5 al-Hamzatān mīn Kalimatain (Mukhtalifān):

Where there are two *hamza* letters, one after the other but in two different words (end of the first word and starting of the second word), having different *ḥarakah* on both of them, all Rāwīs of the *Aṣḥab aṣ-Ṣilah* where they all follow below rules:

1-  *Maftūḥah-Maksūrah*: When the first one has a *fatḥah* and the second one has a *kasrah*, then the **second** one would be read with *tashīl*.

<div dir="rtl">

شُهَدَاءَ إِذْ   →   شُهَدَاءَ إِذْ

</div>

2- *Maftūḥah-Madhmūmah*: When the first one has a *fatḥah* and the second one has a *ḍammah*, then the **second** one would be read with *tashīl*.

<div dir="rtl">

جَاءَ أُمَّةً  ←  جَاءَ أُمَّةً

</div>

3- *Madhmūmah-Maksūrah*: When the first one has a *ḍammah* and the second one has a *kasrah*, then the **second** one would be read with *tashīl* or *`Ibdāl*.

<div dir="rtl">

يَشَاءُ إِلَى  ←  يَشَاءُ إِلَى          (*Tashīl*)

يَشَاءُ وِلَى  ←  يَشَاءُ إِلَى          (*`Ibdāl*)

</div>

4- *Madhmūmah-Maftūḥah*: When the first one has a *ḍammah* and the second one has a *fatḥah*, then the **second** one would be read with *`Ibdāl*.

<div dir="rtl">

السُّفَهَاءُ وَلَا  ←  السُّفَهَاءُ أَلَا

</div>

5- *Maksūrah-Maftūḥah*: When the first one has a *kasrah* and the second one has a *fatḥah*, then the **second** one would be read with *`Ibdāl*.

<div dir="rtl">

السَّمَاءِ يَايَةً  ←  السَّمَاءِ ءَايَةً

</div>

(Ḍamrah, 2016), (Ḍamrah, 2006).

### 2.1.6 Hā aḍ-Ḍamīr:

Apart from the *ṣilah* of *mīm al-Jam'*, another prominent *ṣilah* is applied by *`Ibn Kathīr al-Makkī* for the *Hā aḍ-Ḍamīr*. This is a distinct feature belonging to him only among the *Ten Qira`āt*. Allegorically, this is the *hā* of the pronoun attached as a suffix to a noun (أَخِيهِ), a verb (فَكَذَّبُوهُ), or a preposition (عَلَيْهِ). In the *Riwāyah* of *Ḥafṣ 'an 'Āṣim*, if the **second last letter** of the word ending with a *hā aḍ-Ḍamīr* is **sākin** and the **next word** has a

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*ḥarakah* on the **first letter**, the *hā aḍ-Ḍamīr* is to be read with single *ḥarakah*. Whereas *`Ibn Kathīr al-Makkī* recites it with a *ṣilah* wherever such occurrence of *hā aḍ-Ḍamīr* appear, which is prolonging it to *two ḥarakāt* (عَلَيْهِ ,فَكَذَّبُوهُ, أَخِيهِ ) (Miṣrī, 2014). This concept is not foreign to the general public as this conventional *`Ibn Kathīr al-Makkī* rule appears as an exception in the *Riwāyah* of *Ḥafṣ 'an 'Āṣim* once in the *Qur`ān* and that is in *Sūrah al-Furqān* [25:69], where he performs the *ṣilah* of *hā aḍ-Ḍamīr* in the word *fīhi* (فِيهِ).

<div dir="rtl">

يُضَاعَفْ لَهُ الْعَذَابُ يَوْمَ الْقِيَامَةِ وَيَخْلُدْ فِيهِ مُهَانًا

</div>

### 2.1.7 Ḥurūf al-Muqaṭa'āt:

There are **29 Sūrahs** of the *Qur`ān* that start with *Ḥurūf al-Muqaṭa'āt* (the separate/disjointed letters) (Al-Tameemi, 2010). There are **14 forms** in which they present with *`Alif Lām Mīm* and *Hā Mīm* (excluding *Hā Mīm*; *'Ain Sīn Qāf*) appearing six times each, *`Alif Lām Rā* appearing five times, *Ṭā Sīn Mīm* appearing twice and rest ten forms appearing once. In terms of word count, we may add one to the total as in the case of *Hā Mīm*; *'Ain Sīn Qāf*, the representation is in **two verses**. This distribution of *Ḥurūf al-Muqaṭa'āt* is presented in Figure 4, along with the count of occurrence in the *Qur`ān*.

| | | | |
|---|---|---|---|
| Kāf Hā Yā 'Ain Ṣād | 1 | | |
| `Alif Lām Mīm Ṣād | 1 | | |
| Hā Mīm; 'Ain Sīn Qāf | 1 | | |
| Nūn | 1 | | |
| Yā Sīn | 1 | | |
| Ṭā Hā | 1 | | |
| Ṭā Sīn | 1 | | |
| Qāf | 1 | | |
| Ṣād | 1 | | |
| `Alif Lām Mīm Rā | 1 | | |
| Ṭā Sīn Mīm | | 2 | |
| `Alif Lām Rā | | | 5 |
| `Alif Lām Mīm | | | 6 |
| Hā Mīm | | | 6 |

*Figure 4. Ḥurūf al-Muqaṭa'āt Forms*

`*Abū Ja'far al-Madnī*` has a distinct way of reciting these letters, and that is with a *saktah* (stopping of voice without taking a breath) between each of these letters (Ḍamrah, 2007). So الٓمٓ would be read with a *saktah* between each of the three letters;

الٓمّٓ     ⟸     الٓمّٓ

⬇

أَلِفْۡ لَآمۡ مِيَمۡ

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### 2.1.8 Nūn as-Sākin wat-Tanwīn:

In the *Riwāyah* of *Ḥafṣ ‘an ‘Āṣim*, if *nūn as-Sākin* (نْ) or *tanwīn* ( ـٌ- ـٍ- ـً-) precedes any of the *ḥurūf al-ḥalaqī* (ء، هـ، ع، ح، غ، خ) there is *al-`Iẓhār* rule. This requires pronouncing the *nūn as-Sākin* or *tanwīn* from their articulation points without *ghunnah* (sound generated from the nose). However, `Abū Ja'far al-Madnī` in the case of *ghain* and *kha* (غ، خ) goes for an `Ikhfā` (concealing), which involves *ghunnah* and this is his distinct feature. In this characteristic, the *nūn as-Sākin* or *tanwīn* are concealed with a *ghunnah* sound from the nostrils only, avoiding the sound from the articulation point.

‘‘مِّنْ خَشْيَةٍ’’ → *nūn sākin* is read with *al-`Ikhfā`*. (Miṣrī, 2011).

However, there are three exceptions to this rule where `Abū Ja'far al-Madnī` would follow *Ḥafṣ ‘an ‘Āṣim* with *al-`Iẓhār*;

1- يَكُنْ غَنِيًّا – *Sūrah an-Nisā`*, 4:135.

2- وَالْمُنْخَنِقَةُ – *Sūrah al-Mā`idah*, 5:3.

3- فَسَيُنْغِضُونَ – *Sūrah al-`Isrā`*, 17:51.

 (Ḍamrah, 2009b).

### 2.1.9 Hamzah Sākinah:

`Abū Ja'far al-Madnī` distinctly among the *Aṣḥab aṣ-Ṣilah* converts a *hamza sākinah* in the word to a *ḥarfu mad* following the type of *ḥarakah* preceding it.

| | | |
|---|---|---|
| وَامُرْ | → | وَأْمُرْ |
| شِيتُمَا | → | شِئْتُمَا |
| يُوتَ | → | يُؤْتَ |

There are a couple of exceptions to this rule where this conversion is not carried out;

1- The words like أَنبِئْهُم and وَنَبِّئْهُمْ.

2- The words where the *sukūn* on the *hamzah* is due to stopping on the word and not permanently like يَسْتَهْزِئ (al-Bardūnī, 2019a).

These are the main features related to the *Aṣḥab aṣ-Ṣilah*, and they could be summarized below table for easier correlation between them. Ultimately, we would require a methodology to identify such words and perform the conversions in an automated manner.

*Table 2. Aṣḥāb aṣ-Ṣilah Features Comparison*

| Features | 1 - Nāfiʿ al-Madanī<br>1.1 - Qālūn | 2 - ʾIbn Kathīr al-Makkī<br>2.1 - al-Bazzī | 2 - ʾIbn Kathīr al-Makkī<br>2.2 - Qunbul | 8 - ʾAbū Jaʿfar al-Madnī<br>8.1 - ʾIbn Wardān | 8 - ʾAbū Jaʿfar al-Madnī<br>8.2 - ʾIbn Jammāz |
|---|---|---|---|---|---|
| Mīm al-Jamʿ | Ṣilah (Optional) | Ṣilah | Ṣilah | Ṣilah | Ṣilah |
| Mad al-Muttaṣil (Joined) | 4 | 4 | 4 | 4 | 4 |
| Mad al-Badal (Exchange) | 2 | 2 | 2 | 2 | 2 |
| Mad al-ʿĀriḍh lis-Sukūn (Conditional due to Sukūn) | 2/4/6 | 2/4/6 | 2/4/6 | 2/4/6 | 2/4/6 |
| Mad al-Lāzim (Compulsory) | 6 | 6 | 6 | 6 | 6 |
| Mad al-Munfaṣil (Seperated) | 2/4 | 2 | 2 | 2 | 2 |
| al-Hamzatān min Kalimah | Tashīl + ʾIdkhāl | Tashīl | Tashīl | Tashīl + ʾIdkhāl | Tashīl + ʾIdkhāl |
| al-Hamzatān min Kalimatain (Mutafiqān) | 1- Maftūḥatān: Isqāṭ (first) 2- Maksūratān: Tashīl (first) 3- Madhmūmatain: Tashīl (first) | 1- Maftūḥatān: Isqāṭ (first) 2- Maksūratān: Tashīl (first) 3- Madhmūmatān: Tashīl (first) | 1- Maftūḥatān: Tashīl (second) 2- Maksūratān: Tashīl (second) 3- Madhmūmatān: Tashīl (second) | 1- Maftūḥatān: Tashīl (second) 2- Maksūratān: Tashīl (second) 3- Madhmūmimatān: Tashīl (second) | 1- Maftūḥatān: Tashīl (second) 2- Maksūratān: Tashīl (second) 3- Madhmūmatān: Tashīl (second) |
| al-Hamzatān min Kalimatain (Mukhtalifān) | 1- Maftūḥah-Maksūrah: Tashīl (second) 2- Maftūḥah-Madhmūmah: Tashīl (second) 3- Madhmūmah-Maksūrah: Tashīl / ʾIbdāl (second) 4- Madhmūmah-Maftūḥah: ʾIbdāl (second) 5- Maksūrah-Maftūḥah: ʾIbdāl (second) | 1- Maftūḥah-Maksūrah: Tashīl (second) 2- Maftūḥah-Madhmūmah: Tashīl (second) 3- Madhmūmah-Maksūrah: Tashīl / ʾIbdāl (second) 4- Madhmūmah-Maftūḥah: ʾIbdāl (second) 5- Maksūrah-Maftūḥah: ʾIbdāl (second) | 1- Maftūḥah-Maksūrah: Tashīl (second) 2- Maftūḥah-Madhmūmah: Tashīl (second) 3- Madhmūmah-Maksūrah: Tashīl / ʾIbdāl (second) 4- Madhmūmah-Maftūḥah: ʾIbdāl (second) 5- Maksūrah-Maftūḥah: ʾIbdāl (second) | 1- Maftūḥah-Maksūrah: Tashīl (second) 2- Maftūḥah-Madhmūmah: Tashīl (second) 3- Madhmūmah-Maksūrah: Tashīl / ʾIbdāl (second) 4- Madhmūmah-Maftūḥah: ʾIbdāl (second) 5- Maksūrah-Maftūḥah: ʾIbdāl (second) | 1- Maftūḥah-Maksūrah: Tashīl (second) 2- Maftūḥah-Madhmūmah: Tashīl (second) 3- Madhmūmah-Maksūrah: Tashīl / ʾIbdāl (second) 4- Madhmūmah-Maftūḥah: ʾIbdāl (second) 5- Maksūrah-Maftūḥah: ʾIbdāl (second) |
| Hā aḍ-Ḍamīr | - | Ṣilah | Ṣilah | - | - |
| Ḥurūf al-Muqaṭaʿāt | - | - | - | Sakt | Sakt |
| Nūn as-Sākin wat-Tanwīn | - | - | - | ʾIkhfāʾ on ghain/kha | ʾIkhfāʾ on ghain/kha |
| Hamzah Sākinah | - | - | - | ʾIbdāl to Ḥarfu Mad | ʾIbdāl to Ḥarfu Mad |

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## 3. RESEARCH METHODOLOGY

The Huffāẓ of the Qira`āt Sciences have been following the features (uṣūl) mentioned above while reciting these Qira`āt for the past centuries, and there have been several manual compilations of the Qur`ān specific to them where manual highlights of these features have been carried out. However, apart from the Riwāyah of Ḥafṣ 'an 'Āṣim, for other Qira`āt, such compilations are not available in soft copy or corpus format, and since we aim to create such corpora which would be of benefit to the required researches in the field of Qira`āt Sciences, we will devise an automated conversion approach for this.

Considering the Musḥaf of Madinah, page number 3, which has 15 lines, we may observe 21 words having mīm al-Jam'. So, if we have to do this conversion for a single page, we have to identify these words and then convert them from mīm sākin to mīm with a ṣilah. This will further be required to be repeated for all the five Rāwīs among the Aṣhab aṣ-Ṣilah. So, if we have to spend a minute each for these 21 words, then performing these changes for the five Rāwīs would require approximately 105 minutes if carried out manually. So, for the whole Qur`ān, we have to perform this on around 600 pages and 77K words. Also, there would be chances of typing and human errors. Thus, a need to have an automated identification and conversion approach is required to perform this task more efficiently. Technology is evolving rapidly, so the methodology should also be available to be easily repeated and implemented using the most used programming languages.
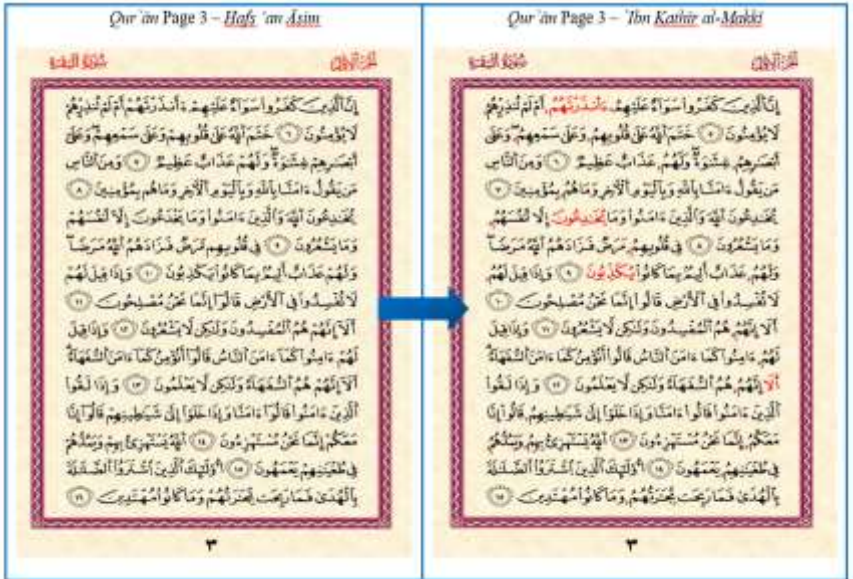
*Figure 5. Maṣāḥif at-Taysīr in the Qira`āt of ʿĀṣim and `Ibn Kathīr*

Source: (al-Bardūnī, 2019b), (al-Bardūnī, 2019c).

Eventually, we need to develop a lexical parser that could go through each word of the *Qur`ān*, identify the words which fall into a specific category based on the set rules, and then perform the required conversions and tagging on them. This could be carried out for the fundamental rules only where the scenarios are known to be repeated, and manual interventions could be significantly reduced. Later the exceptions could be handled manually as it is known that they are always very few in quantity.

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### 4. ANALYSIS

The development of algorithms would follow the below focus areas, where we would be developing a pseudocode for the steps involved in it. This would serve as a guide for the developers to have this implemented in any programming language or tool based on their preferences.

### 4.1 Algorithm of *Ṣilah* of *Mīm al-Jam'* Identification and Labeling

Firstly, we need to identify the words which end up with a *sākin mīm al-Jam'* (*mīm* of the plural having a *sukūn*) in the *Riwāyah* of *Ḥafṣ 'an 'Āṣim*. Then we will have to convert those words to a *mīm al-Jam'* with a *ṣilah* and mark them as "*Ṣilah Mīm al-Jam'*". Moreover, though *Warsh an Nāfi'* does not belong to *Aṣḥab aṣ-Ṣilah* however, he has a particular condition of considering the cases where the next word to the *mīm al-Jam'* starts with a *hamza*. So, we would require the identification of the words in the *Qur`ān* which start with a *hamza* after the words which end up with a *mīm al-Jam'* and tag them as "*Ṣilah Mīm al-Jam'* - *Hamzah Suffix*". Accordingly, we would do the conversion of such words ending up with a *sākin mīm al-Jam'* to a *mīm al-Jam'* with a *ṣilah*.

To generalize the parsing of the words, we need to consider the words identical to *mīm al-Jam'* in terms of their ending and place them as exceptions as they do not belong to the plural pronouns that follow this rule. There are 207 such words that have *kāf-mīm* as their root letters. Considering the *ḥarakāt*, they reduce to 11, and ultimately while removing the repetition, there are just four words (فَٱحْكُم, يَحْكُم, وَلْيَحْكُمْ, آحْكُم) which need to be placed

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as exceptions in the algorithm while parsing the words. Apart from this, there are بُكُمْ and كَمْ which are not considered due to the *ḥarakāt* on the *kāf* and *mīm*.

While parsing the words, we need to focus on the suffix and the *ḥarakāt* are to be considered separate characters. It is known that at times the *sukūn* on the ending *mīm* is omitted, like in the case of `Ikhfā` where the following word starts with a *bā* ( هُم وَمَا بِمُؤْمِنِينَ). In such cases, we must consider each word's last **three letters**. Secondly, if there is a *sukūn* on the ending *mīm*, the parsing would involve the last **four letters**. Thirdly, if there is a *tashdīd* on the second last letter, then we would need the consideration of the last **five letters**, and this only occurs in a few words, with the tā being the second last letter (تُّمُ). Thus, in summary, we will run the algorithm on all 77K words of the Qur`ān. An initial check would be for the exceptions, and if matched, they would be tagged as "*Ṣilah Mīm al-Jam' - Exception*". Then the scenarios mentioned above for the last three, last four, and last five characters would be checked one by one and tagged accordingly.

**FOR** each word in the Qur`ān

**IF** the word is not from the list [آخْكُم, وَلْيَحْكُمْ, يَحْكُم, فَآخْكُم]:

**IF** the LAST 3 characters of the word = "هِم":
    Replace "هِم" with "هِمُ٘"
    Tag the word with *"Ṣilah Mīm al-Jam'"*
    IF the next word FIRST character is a    Hamzah (ء، أ، إ)
    Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 3 characters of the word = "هُم":

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Replace "هُم" with "هُمُ،"

Tag the word with *"Ṣilah Mīm al-Jam'"*

IF the next word FIRST character is a Hamzah (ء، أ، إ)

Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 3 characters of the word = "تُم":

Replace "تُم" with "تُمُ،"

Tag the word with *"Ṣilah Mīm al-Jam'"*

IF the next word FIRST character is a Hamzah (ء، أ، إ)

Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 3 characters of the word = "كُم":

Replace "كُم" with "كُمُ،"

Tag the word with *"Ṣilah Mīm al-Jam'"*

IF the next word FIRST character is a Hamzah (ء، أ، إ)

Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 4 characters of the word = "هِمْ":

Replace "هِمْ" with "هِمُ،"

Tag the word with *"Ṣilah Mīm al-Jam'"*

IF the next word FIRST character is a Hamzah (ء، أ، إ)

Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 4 characters of the word = "هُمْ":

Replace "هُمْ" with "هِمُ،"

Tag the word with *"Ṣilah Mīm al-Jam'"*

IF the next word FIRST character is a Hamzah (ء، أ، إ)

Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 4 characters of the word = "تُمْ":

Replace "تُمْ" with "تُمُ،"

Tag the word with *"Ṣilah Mīm al-Jam'"*

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        IF the next word FIRST character is a Hamzah (ء، أ، إ)

        Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 4 characters of the word = "تُّمْ":

        Replace "تُّمْ" with "تُّمُ،"

        Tag the word with *"Ṣilah Mīm al-Jam'"*

        IF the next word FIRST character is a Hamzah (ء، أ، إ)

        Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 4 characters of the word = "كُمْ":

        Replace "كُمْ" with "كُمُ،"

        Tag the word with *"Ṣilah Mīm al-Jam'"*

        IF the next word FIRST character is a Hamzah (ء، أ، إ)

        Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 4 characters of the word = "كُمُّ":

        Replace "كُمُّ" with "كُمُّ،"

        Tag the word with *"Ṣilah Mīm al-Jam'"*

        IF the next word FIRST character is a Hamzah (ء، أ، إ)

        Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE IF** the LAST 5 characters of the word = "مْتُّ":

        Replace "تُّمْ" with "تُّمُ،"

        Tag the word with *"Ṣilah Mīm al-Jam'"*

        IF the next word FIRST character is a Hamzah (ء، أ، إ)

        Tag the word with *"Ṣilah Mīm al-Jam' - Hamzah Suffix"*

**ELSE**:

        No replacement

        No tagging

**ELSE**:

---

No replacement

Tag the word with *"Ṣilah Mīm al-Jam' - Exception"*

## 4.2 Algorithm of *Ṣilah* of *hā aḍ-Ḍamīr* Identification and Labeling

The other *ṣilah* which is prominent as a feature of one of the *Aṣḥāb aṣ-Ṣilah*, is the *ṣilah* of *hā aḍ-Ḍamīr* and this is specific to *`Ibn Kathīr al-Makkī* only. The development of this algorithm would require, firstly, the identification of the words that end up with *hā aḍ-Ḍamīr*. Furthermore, we would need the identification of the words with the second last letter possessing a *ḥarakah* and the identification of the words with the next adjacent words starting with a letter with a *ḥarakah*. We would also need to consider the words with *hā* as their root letter and mark them as exceptions. Eventually, considering the above three identification and the exceptions, the conversion of such *hā aḍ-Ḍamīr* would be performed to *hā aṣ-Ṣilah*. Unlike the *ṣilah* of *mīm al-Jam'*, which always has a *ḍammah* on the *mīm* followed by a small waw, the *hā aṣ-Ṣilah* would depend on the *ḥarakah* on the *hā aḍ-Ḍamīr*. If the *ḥarakah* on it is a *kasrah*, then we would place a *small yā* next to the hā (إِلَيْهِ), indicating that it needs to be prolonged to *two ḥarakāt*. On the other hand, if there is a *ḍamah* on the *hā*, a *small waw* would be placed next to it (عَنْهُ) depicting the *ṣilah*.

**FOR** each word in the Qur`ān
**IF** the word is not from the list [إِلَهِ, فَاهُ, وَإِلَهُ, وَجْهُ, وَجْهِ, وُجُوهُ, ٱلْوُجُوهُ]:
**IF** Next Word Mutaḥarrik="*Yes*"
**AND** Second Last Letter Mutaḥarrik="*No*"
**AND** Ha Ending="*Yes*":

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**IF** the LAST 3 characters of the word = "يِه":
Replace "يِه" with "يِهء"
Tag the word with "Ṣilah Hā aḍ-Ḍamīr"

**ELSE IF** the LAST 3 characters of the word = "هِْ":
Replace "هِْ" with "هِْء"
Tag the word with "Ṣilah Hā aḍ-Ḍamīr"

**ELSE IF** the LAST 3 characters of the word = "وُه":
Replace "وُه" with "وُهء"
Tag the word with "Ṣilah Hā aḍ-Ḍamīr"

**ELSE IF** the LAST 3 characters of the word = "هُْ":
Replace "هُْ" with "هُْء"
Tag the word with "Ṣilah Hā aḍ-Ḍamīr"

**ELSE IF** the LAST 3 characters of the word = "اه":
Replace "اه" with "اهء"
Tag the word with "Ṣilah Hā aḍ-Ḍamīr"

**ELSE IF** the LAST 3 characters of the word = "هُْ":
Replace "هُْ" with "هُْء"
Tag the word with "Ṣilah Hā aḍ-Ḍamīr"

**ELSE**:
No replacement
No tagging

**ELSE**:
No replacement
Tag the word with " Ṣilah Hā aḍ-Ḍamīr - Exception"

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## 5. RESULTS AND DISCUSSION

This pseudocode is not platform-dependent and could be implemented using any programing language or tool. Eventually, after running this algorithm on the 77K words of the Qur`ān, we learned that 13% of the total words have the letter mīm in their ending. Of the 10K words ending up with a mīm, 66% have a mīm sākin. However, since we need to consider mīm al-Jam', the ones having the second last letter as hā, kāf or tā are 6,280, constituting 93% of the mīm sākin words. Considering the ḥarakāt of ḍamah on the three-second last letters and also a kasrah on hā 22 words are further removed and marked as "Others". Additionally, 11 words get marked as "Exceptions". Ultimately, we have **6,247** words in the whole Qur`ān where the rule of ṣilah of mīm al-Jam' is to be performed. Among these 56% end up with him/hum (هُم/هِم), 34% with kum (كُم) and 10% with tum (تُم). This can be consequently applied to all the five Rāwīs of Aṣḥāb aṣ-Ṣilah. Moreover, since we have considered the Riwāyah of Warsh ʿan Nāfiʿ, we find **888** words among **6,247** mīm aṣ-Ṣilah words having a hamza as a starting letter of the next word to them. So, in the case of Warsh, only 14% of the mīm aṣ-Ṣilah words are to be converted and prolonged to six ḥarakāt (as per the Riwāyat), and 5,359 of the mīm aṣ-Ṣilah words are left unchanged as Ḥafṣ ʿan ʿĀṣim. Among these 888 words, we have 454 words ending up with him/hum (هُم/هِم), 340 words with kum (كُم), and 94 with tum (تُم). This could be further visualized in Figure 6.
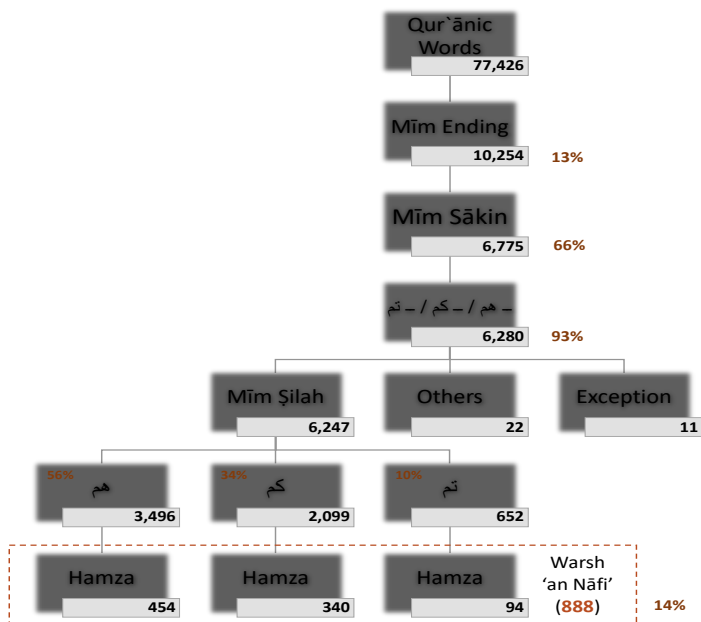
*Figure 6. Ṣilah of Mīm al-Jam' - Insights*

It is to be noted that these modifications of a *sākin mīm al-Jam'*
to the one with a *ṣilah* are to be carried out for *5 Riwayāt* of
*Aṣḥab aṣ-Ṣilah*. More precisely, this constitutes a conversion of
31,370 (6,274 x 5) such words. Adding 888 words related to the
*Riwāyah* of *Warsh an Nāfi'*, the total becomes 32,258 words.
Assuming the manual entry takes a minute each to do this
modification, we have saved the continuous manual efforts of
***~22 days*** (538 hours).

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*Table 3. Mīm al-Jam' Ṣilah Top Occurring Words*

| *Mīm al-Jam' Ṣilah* | Reoccurrence Count |
|---|---|
| لَهُمُ | 286 |
| لَكُمُ | 236 |
| كُنتُمُ | 188 |
| عَلَيْهِمُ | 183 |
| هُمُ | 180 |
| عَلَيْكُمُ | 146 |
| وَهُمُ | 133 |
| مِنْهُمُ | 82 |
| أَنتُمُ | 74 |
| منكُمُ | 70 |
| عَنْهُمُ | 67 |
| رَبِّهِمُ | 64 |
| مِّنْهُمُ | 63 |
| إِنَّهُمُ | 62 |
| لَّكُمُ | 58 |

After executing this algorithm, we observe that there are precisely 1,200 (19%) *mīm aṣ-Ṣilah* words in the *Qur`ān* which are unique in the sense that they occur only once. Furthermore, considering the top fifteen occurring words with this feature, we find 1,892 repetitions, covering 30% of the total. The top fifteen words and their reoccurrences are captured in Table 3.

We may further quantify the occurrences of hamza, mīm aṣ-Ṣilah, and the combination of the two as insights based on the

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tagging achieved in the process of execution of this algorithm. Consequently, we observe *Sūrah an-Nūr*, Verse 31 has the most words in the *Qur`ān*, where *hamza* is the word's first letter. Verse 61 of the same *Sūrah* follows it in terms of the quantity of this feature. Also, this Verse 61 is unique in terms of being the one with the most *mīm aṣ-Ṣilah* and even the one with the combination of both (*mīm aṣ-Ṣilah* followed with a *hamza*). Technically, *Aṣḥāb aṣ-Ṣilah* has the most work to be carried out for this feature in this Verse 61.

وَقُل لِّلْمُؤْمِنَاتِ يَغْضُضْنَ مِنْ أَبْصَارِهِنَّ وَيَحْفَظْنَ فُرُوجَهُنَّ وَلَا يُبْدِينَ زِينَتَهُنَّ
إِلَّا مَا ظَهَرَ مِنْهَا وَلْيَضْرِبْنَ بِخُمُرِهِنَّ عَلَىٰ جُيُوبِهِنَّ وَلَا يُبْدِينَ زِينَتَهُنَّ إِلَّا
لِبُعُولَتِهِنَّ أَوْ آبَائِهِنَّ أَوْ آبَاءِ بُعُولَتِهِنَّ أَوْ أَبْنَائِهِنَّ أَوْ أَبْنَاءِ بُعُولَتِهِنَّ أَوْ إِخْوَانِهِنَّ
أَوْ بَنِي إِخْوَانِهِنَّ أَوْ بَنِي أَخَوَاتِهِنَّ أَوْ نِسَائِهِنَّ أَوْ مَا مَلَكَتْ أَيْمَانُهُنَّ أَوِ التَّابِعِينَ
غَيْرِ أُولِي الْإِرْبَةِ مِنَ الرِّجَالِ أَوِ الطِّفْلِ الَّذِينَ لَمْ يَظْهَرُوا عَلَىٰ عَوْرَاتِ النِّسَاءِ
وَلَا يَضْرِبْنَ بِأَرْجُلِهِنَّ لِيُعْلَمَ مَا يُخْفِينَ مِن زِينَتِهِنَّ وَتُوبُوا إِلَى اللَّهِ جَمِيعًا أَيُّهَ
الْمُؤْمِنُونَ لَعَلَّكُمْ تُفْلِحُونَ

[Sūrah an-Nūr, 24:31] → 25 Hamza starting words, 1 mīm aṣ-Ṣilah word

لَّيْسَ عَلَى الْأَعْمَىٰ حَرَجٌ وَلَا عَلَى الْأَعْرَجِ حَرَجٌ وَلَا عَلَى الْمَرِيضِ حَرَجٌ وَلَا عَلَىٰ
أَنفُسِكُمْ أَن تَأْكُلُوا مِن بُيُوتِكُمْ أَوْ بُيُوتِ آبَائِكُمْ أَوْ بُيُوتِ أُمَّهَاتِكُمْ أَوْ بُيُوتِ
إِخْوَانِكُمْ أَوْ بُيُوتِ أَخَوَاتِكُمْ أَوْ بُيُوتِ أَعْمَامِكُمْ أَوْ بُيُوتِ عَمَّاتِكُمْ أَوْ بُيُوتِ
أَخْوَالِكُمْ أَوْ بُيُوتِ خَالَاتِكُمْ أَوْ مَا مَلَكْتُم مَّفَاتِحَهُ أَوْ صَدِيقِكُمْ لَيْسَ عَلَيْكُمْ
جُنَاحٌ أَن تَأْكُلُوا جَمِيعًا أَوْ أَشْتَاتًا فَإِذَا دَخَلْتُم بُيُوتًا فَسَلِّمُوا عَلَىٰ أَنفُسِكُمْ تَحِيَّةً
مِّنْ عِندِ اللَّهِ مُبَارَكَةً طَيِّبَةً كَذَٰلِكَ يُبَيِّنُ اللَّهُ لَكُمُ الْآيَاتِ لَعَلَّكُمْ تَعْقِلُونَ

[Sūrah an-Nūr, 24:61] → 22 Hamza starting words, 16 mīm aṣ-Ṣilah words, 10 both

Likewise, the top fifteen verses in terms of occurrence quantity are identified for the *ṣilah* of *mīm al-Jam* in Figure 7. These verses could be taken as a practicing exercise for the ones learning this knowledge of *Qira`āt* and even for revision of the concept.
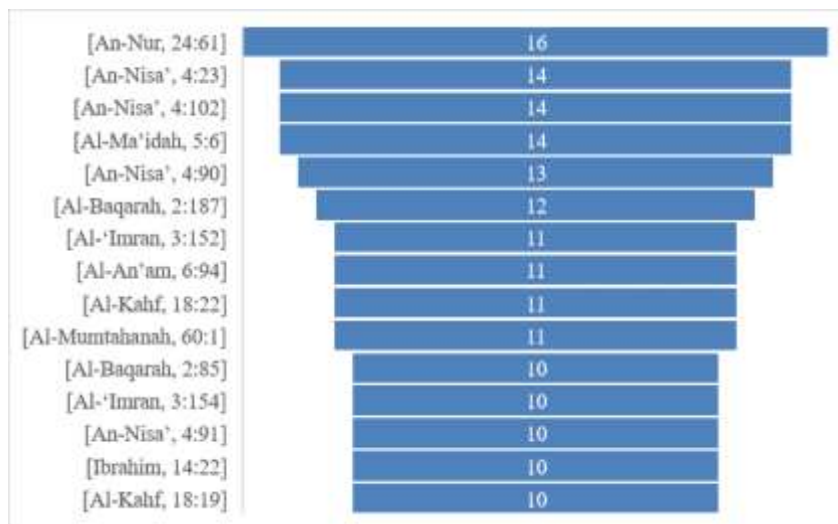


*Figure 7. Top Occurrence Ṣilah of Mīm al-Jam' Verses*

Further insights related to the Verses and Surahs can be observed in Table 4. This shows the kind of insights we could grab once we tag the word of the Qur`ān with these features.

*Table 4. Ṣilah of Mīm al-Jam' Statistics*

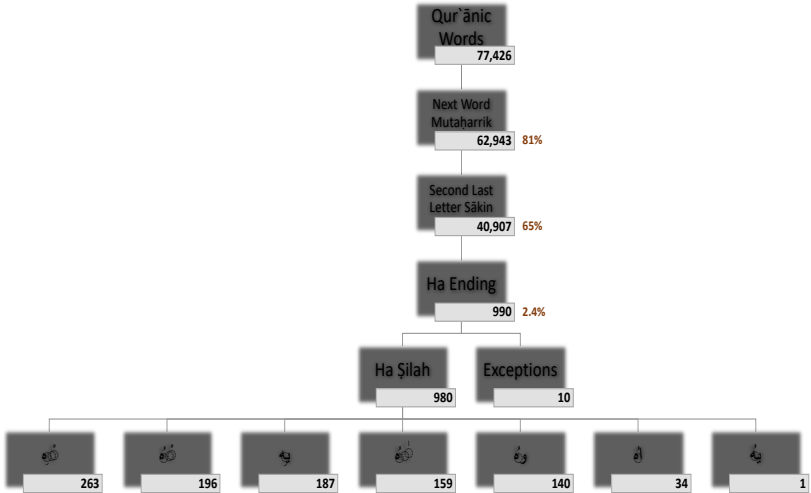| Feature | Count | Total | Percentage |
|---|---|---|---|
| *Hamzah* Identifier Next - Words | 10,176 | 77,426 | 13% |
| *Mīm al-Jam'* - Words | 6,247 | 77,426 | 8% |
| *Mīm al-Jam' + Hamzah* - Words | 888 | 77,426 | 1% |
| *Hamzah* Identifier Next - Verses | 4,398 | 6,236 | 71% |
| *Mīm al-Jam'* - Verses | 2,976 | 6,236 | 48% |
| *Mīm al-Jam' + Hamzah* - Verses | 735 | 6,236 | 12% |
| *Hamzah* Identifier Next - Chapters | 114 | 114 | 100% |
| *Mīm al-Jam'* - Chapters | 100 | 114 | 88% |
| *Mīm al-Jam' + Hamzah* - Chapters | 80 | 114 | 70% |

*Figure 8. Ṣilah of hā aḍ-Ḍamīr - Insights*

After executing this algorithm, we can identify **980** words in the whole Qur`ān which requires this *ṣilah* of *hā aḍ-Ḍāmīr*. Furthermore, Table 5 shows the top occurring words where this *ṣilah* of *hā aḍ-Ḍāmīr* is to be applied.

*Table 5. hā aḍ-Ḍamīr Ṣilah Top Occurring Words*

| Ha aḍ-Ḍamīr Ṣilah | Reoccurrence Count |
|---|---|
| عَلَيْهِ | 128 |
| فِيهِ | 120 |
| إِلَيْهِ | 72 |
| مِنْهُ | 42 |
| عَنْهُ | 36 |

| | |
|---|---|
| مِّنْهُ | 35 |
| وَإِلَيْهِ | 18 |
| يَدَيْهِ | 17 |
| أَنزَلْنَهُ | 14 |
| أَخِيهِ | 10 |
| لِأَبِيهِ | 9 |
| إِيَّاهُ | 8 |
| فَكَذَّبُوهُ | 8 |
| اَفْتَرَنهُ | 7 |
| جَعَلْنَهُ | 7 |

Accordingly, we can also pinpoint the verses where this *ṣilah* scenario would occur the most. The identification done by the algorithm is marked in below two verses in red.

وَقَوْلِهِمْ إِنَّا قَتَلْنَا الْمَسِيحَ عِيسَى ابْنَ مَرْيَمَ رَسُولَ اللَّهِ وَمَا قَتَلُوهُ وَمَا صَلَبُوهُ وَلَكِن شُبِّهَ لَهُمْ ۚ وَإِنَّ الَّذِينَ اخْتَلَفُوا فِيهِ لَفِي شَكٍّ مِّنْهُ ۚ مَا لَهُم بِهِ مِنْ عِلْمٍ إِلَّا اتِّبَاعَ الظَّنِّ ۚ وَمَا قَتَلُوهُ يَقِينًا

[Sūrah an-Nisā`, 4:157] → 5 *ṣilah* of *hā aḍ-Ḍāmīr*

وَأَوْحَيْنَا إِلَى أُمِّ مُوسَى أَنْ أَرْضِعِيهِ ۖ فَإِذَا خِفْتِ عَلَيْهِ فَأَلْقِيهِ فِي الْيَمِّ وَلَا تَخَافِي وَلَا تَحْزَنِي ۖ إِنَّا رَادُّوهُ إِلَيْكِ وَجَاعِلُوهُ مِنَ الْمُرْسَلِينَ

[Sūrah al-Qaṣaṣ, 28,7] → 5 *ṣilah* of *hā aḍ-Ḍāmīr*

Finally, we would present the verses in a sequence where the *ṣilah* of *hā aḍ-Ḍāmīr* occurs the most in Figure 9. So, this visual could be taken as a practice task for this feature by the students of the *Qira`āt*.

*Figure 9. Top Occurrence Ṣilah of Hā aḍ-Ḍāmīr Verses*

### 5.1 *Qur`ānic* Words Features Development

For each word of the *Qur`ān* below features have been developed after applying such algorithms by parsing the letters and *ḥarakāt* in them. Examples for each of the features have also been appended.
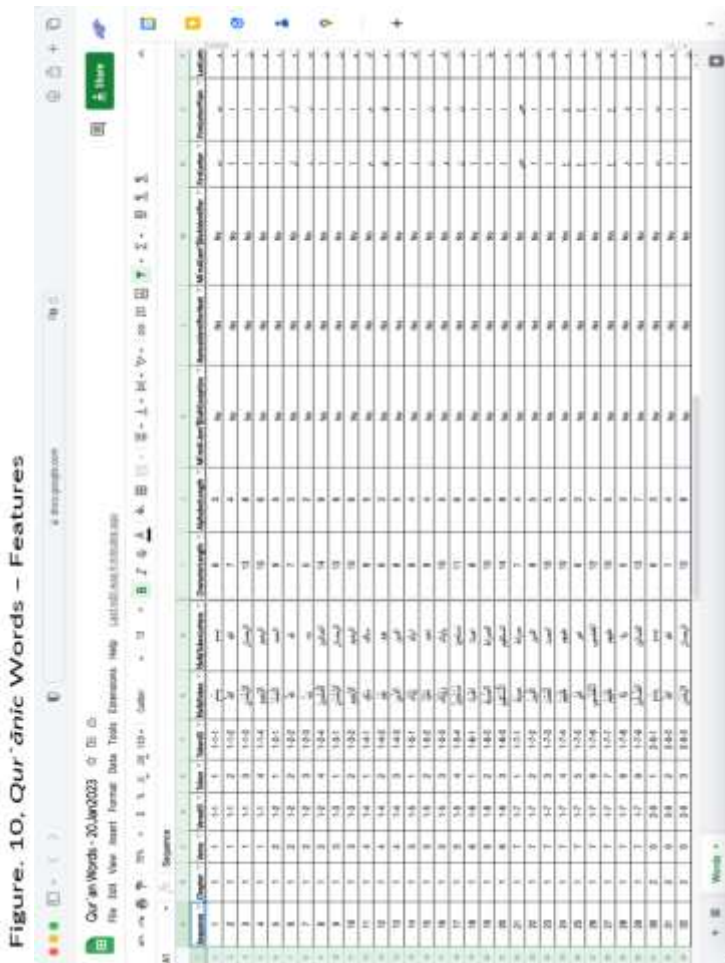
- **Sequence:** A sequence number is given to each word of the *Qur`ān*, which would help in the sorting of the words and could be used in visualizations. *Example:* 1 → First word & 77874 → Last word.

- **Verse ID:** A distinct ID for the identification of a verse following the convention, Chapter No-Verse No. *Example:* 1-2 → Chapter 1 and Verse 2.

- **Token ID:** A distinct ID for the identification of each word in the *Qur`ān* with the following convention, Chapter No-Verse No-Token No. *Example:* 1-2-1 → Chapter 1, Verse 2 and first word; "ٱلْحَمْدُ".

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- **Ḥafṣ Token:** Words of the Qur`ān with *ḥarakāt* extracted using Java JQuran API. *Example:* "وَأُولَـٰئِكَ"

- **Ḥafṣ Token Letters:** Words of the Qur`ān without *ḥarakāt* extracted using Java JQuran API. *Example:* "الْحَمْدُ" → "الحمد".

- **Character Length:** The length of the characters for each word, including the letters and *ḥarakāt*. *Example:* "الرَّحْمَـٰنِ" → 13.

- **Alphabet Length:** The length of the alphabets for each word, considering only letters and excluding the *ḥarakāt*. *Example:* "الرحمان" → 8.

- **Hamza Identifier Next:** A flag set to Yes, if the next word starts with a *hamza* and No, if it is any other letter. *Example:* "سَوَآءٌ عَلَيْهِمْ ءَأَنذَرْتَهُمْ" → عَلَيْهِمْ has a flag set to Yes.

- **First Letter Plain:** The first letter without *ḥarakah*, extracted for each word. *Example:* "كفروا" → ك.

- **Last Letter Plain:** The last letter without *ḥarakah*, extracted for each word. *Example:* "عليهم" → م.

- **Sec Last Letter Plain:** The second last letter without *ḥarakah* extracted for each word. *Example:* "عليهم" → ه.

- **Last Symbol:** The last *ḥarakah* extracted for each word. *Example:* "عَلَيْهِمُ" → ُ.

- **Hamza Sākin:** A flag set to Yes, to mark a word having *hamza* sakin. *Example:* "وَيُؤْمِنْ" → Yes.

- **Hamza Second Letter:** A flag set to Yes, to mark if the second letter of a word is having *hamza*. *Example:* "وَأَحۡطَتُّ" → Yes.

- **Hamzatain First Letters:** A flag set to Yes, to mark the words having the first two letters having *hamza*. *Example:* "ءَأَنذَرۡتَهُمۡ" → Yes.

- **Hamzatain Two Words:** A flag set to Yes, if the word ends with a hamza and the next adjacent word starts with a hamza. *Example:* "جَاءَ أَحَدَهُمُ" → Yes.

- **Next Word Mutaḥarrik:** A flag set to Yes, if the next word has a *ḥarakah* and to No, if it is *sākin*. *Example:* "لِلَّهِ ٱلۡحَمۡدُ" → Yes for "ٱلۡحَمۡدُ".

- **Second Last Letter Mutaḥarrik:** A flag set to Yes, if the second last letter of the word has a *ḥarakah* and No, if it is *sākin*. *Example:* "فِيهِ" → No.

- **Ha Ending:** A flag is set to Yes, if the word ends with a *hā*, and to No, if it ends with any other letter. *Example:* "فِيهِ" → Yes.

- **Ha Root Ending:** A flag set to Yes, if the word has a root word having hā in the end. *Example:* "نَّشَـٰبَة" → Yes (ش ب ه).

- **Ha Ṣilah Exception:** A flag set to Yes, if the word has a hā ending but an exception making it not eligible for the ṣilah of *hā aḍ-Ḍamīr*. *Example:* "ٱلۡوُجُوهُ" → Yes.

- **Mīm Al-Jam'Ṣilah Exception:** A flag set to Yes, if the word ends up with a *sākin mīm* but that *mīm* is from the last root letter. *Example:* "وَلْيَحْكُم" → Yes (ح ك م).

- **Mīm AlJam' Ṣilah Identifier:** A flag set to Yes, if the word qualifies for the *ṣilah* of *mīm al-Jam'*. *Example:* "عَلَيْهِمْ" → Yes (عَلَيْهِمُۥ).

- *HaṢilah* **Identifier:** A flag set to Yes, if the word qualifies for the ṣilah of hā *aḍ-Ḍamīr*. *Example:* فِيهِ → Yes (فِيهِۦ).

- **Ḥurūf Al-Ḥalqi Starting:** A flag set to Yes, if the starting letter of the word is among the *ḥurūf al-Ḥalqi* (ء، ه، ع، ح، غ، خ). *Example:* "عَابِدٌ" → Yes.

- **Nūn Sākin Tanwīn:** A flag is set to Yes, if the word ends up with a *nūn* with a *sukūn* or *tanwīn* (ـٍ، ـٌ، ـْ). *Example:* "مِنْ" → Yes.

- **Ghain Khā Starting Next Word:** A flag set to Yes, if the starting letter of the word is *ghain* or *kha* (غ، خ). It is a subset of the *ḤurūfAl-ḤalqiStarting* field. *Example:* "غَيْر" → Yes.

- **Nūn Sākin Ghain Khā Same Word:** A flag set to Yes, if within a word after *nūn sākin*, *ghain* or *kha* (غ، خ) appears. *Example:* "فَسَيُنْغِضُونَ" → Yes.

These features are merged together in a file and made available for others. This would allow various insights to be developed by this and maybe a source for other projects and researches.

Figure. 10, Qur'ānic Words – Features

https://docs.google.com/spreadsheets/d/1UPu7xmBceMXiRclbYULpTrchqdbiVhkdbnWBstTZnFU/edit?usp=sharing

For instance, if we consider the feature of the starting letters, we can create the visual shown in Figure 11. Consequently, we come to know that the most occurring starting letter in the

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words of the *Qur`ān* is *hamza al-Waṣl* (14.3%), followed up by the normal *hamza* (13.1%). This *hamza* has a vital role to play when it comes to *mūdūd* and also *mīm al-Jam' ṣilah*. Similar to this, various insights and dimensions could be created on the words of the *Qur`ān*. Eventually, the end-user has enough raw data to explore the words due to the lexical parsing performed on them in this work.



*Figure 11. Qur`ānic Words – Starting Letters*

## 6. CONCLUSION

Ultimately, after applying the parsing of the words of the Qur`ān related to the main features of Aṣḥāb aṣ-Ṣilah, we have reached a stage where we may quantify them. These have been presented in Figure 12, and this tagging beside each word is

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available for further analysis and research work. The complete
file can be extracted from the link shared in Figure 10.
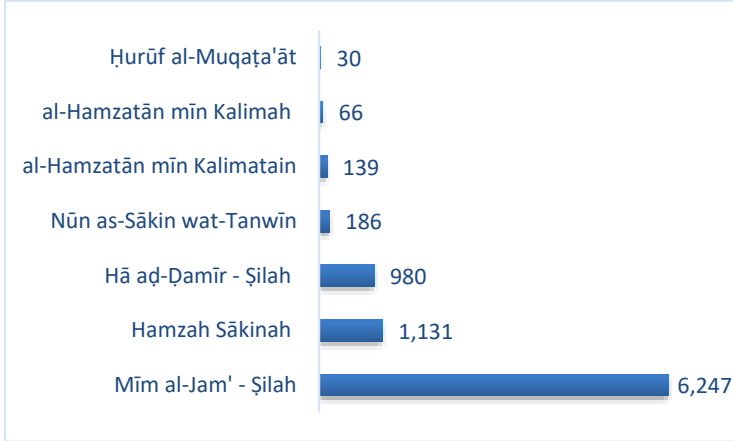


*Figure 10. Aṣḥāb aṣ-Ṣilah Major Features*

Furthermore, these words are being marked along with the
required modification in the master file of corpora of the *Ten
Qira`āt*. Following this approach, the fundamental rules of other
*Riwayāt* would be explored and parsed. We sought *Allāh's* help
to accomplish this task and make it beneficial to the *Ummah*.

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