Blind Spots in Raḍī l-Dīn al-ʻAstārabādī's Grammar of Numerals

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1 Introduction

The grammar of numerals is a fascinating chapter to explore in Arabic grammatical treatises because it is at the crossroad of many issues in these treatises. This, because numerals should theoretically apply to any other substantive in the language, and that the nominal group made up of the numeral and its counted object should be able to be in any nominal syntactic slot in the sentence. The problem is that numerals have very different morphologies (adjectives, substantives, compounds, plural-like) and this is incompatible with the freedom of behavior that is expected from them.

The blind spot in the eye is the point where the visual nerve connects to the retina. This point itself is blind but it enables vision. Any theory has their blind spots, i.e. assumptions that make the theory possible but that are not questioned per se by the author. They are interesting to unveil because they reveal what it is that holds the theory together.

Raḍī l-Dīn Muḥammad ibn al-Ḥasan al-ʻAstārabādī (d. 688/1289?) is a grammarian of whom little is known except maybe that he was Shīʿī from Tabaristan (Tawfiq 1978:11; Mango 1979:721; Weipert 2009:118). He is the author of two major commentaries on treatises by the Egyptian grammarian of Kurdish origin Ibn al-Ḥājib (d. 646/1249; Fleisch 1979:781), Šarḥ al-Kāfiya fi l-nahw, which is devoted to syntax (ʻirāb), and Šarḥ al-Šāfiya fi ʻilmay al-taṣrīf wa-l-ḥattāf, which is devoted to morphology and calligraphy (Larcher 1989:109 ff.).

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* I am very grateful to Manuel Sartori and to professors Pierre Larcher and Jonathan Owens for their valuable comments on this paper. To be sure, I am not a specialist of al-ʻAstārabādī. The incentive for my research was to trace the developments of the grammar of numerals in later grammarians. All mistakes in this paper are only imputable to my impertinence to dare to deal with such a difficult author as al-ʻAstārabādī.

In this article, I will explore Radi l-Din al-'Astarabādi's grammar of numerals in his commentary on al-Kāfiya fi l-nahw, in order to reveal its logic and its blind spots. Although al-'Astarabādi is only the author of the commentary, I will mention only his name as source of the views he expresses. It is however more than obvious that in many cases the paternity of these views should be attributed to Ibn al-Ḥājib, rather than to al-'Astarabādi. This is especially true of the mere outline of the commentary. Moreover, in his commentary, al-'Astarabādi extensively quotes Ibn al-Ḥājib's own commentary on his Kāfiya, as well as Ibn Ḥājib's commentary on al-Zamaḥšari's Mufassal (Larcher 1991:370).

There are to this day at least nine editions of this commentary:2

i. Two (different?) Iranian editions in Teheran dated 1271/1854–1855 and 1275/1858–1859;3 Sarkis (1928:1, 941) mentions two (different?) Persian editions dated 1268/1851–1852 and 1271/1854–1855


iii. An Indian edition dated 1282/1865–1866 in Delhi;4 and a (different?) edition dated 1882 in Lucknow5

iv. An Egyptian edition published in Būlāq in 1299/1881–1882

v. Two (different?) Russian editions published in Kazan in 1885 and 1896 mentioned only by Sarkis (1928:1, 941)


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2 This list is based on Larcher (1989), to which I added the two Iranian re-editions of the Libyan edition (no. vi) and the three editions published after 1989 (nos. vii, viii, ix).

3 Tawfiq (1978:35 f.) says that according to Van Dyke (1896:304) there are two Iranian editions dated 1271 and 1275. These are mentioned in Brockelmann (1943–1949/1996, S1, 532) but not in Van Dyke (1896).

4 Or dated 1280 in Lucknow, according to Van Dyke (1896:306).


According to Larcher (1989:112), the Libyan edition by Yusuf Hasan 'Umar is of very poor quality. He says that the editor has apparently 'corrected' the Ottoman edition, based on his own intuition. As for the Egyptian edition, it is based on five manuscripts and on both the Ottoman and the Libyan editions (Gilliot 2004, no. 19, 209f.). In this article, I will quote Makram's Egyptian edition. This edition, the Ottoman edition, and the Iranian reprint of the Libyan edition, are the only three editions I had access to.

Fleisch is probably the first Orientalist to have praised the high level of sophistication of al-Āstarābādī's grammatical thinking, "car souvent il ne se contente pas de citer les paroles mêmes de ses devanciers, mais repense, résume les questions et donne des raccourcis vigoureux" (Fleisch 1961–1979:1, 41). He is considered by Bohas, Guillaume, and Koulder (1989:260) and Versteegh (1989:259) to be a summit in the Arab scholastic grammatical tradition, a synthesis of the linguistic reflection, subtle and sophisticated. I will present al-Āstarābādī's theory on numerals after having recalled three different grammatical frames in which grammarians have interpreted numerals in Arabic before him.

2 Three Different Solutions, Three Different Kinds of Problems

In Cambridge in 2012, I presented the three following frames, in which Sibawayhi (d. 180/796?), al-Mubarrad (d. 285/898) and Ibn al-Sarrāj (d. 316/928) analyze the grammar of numerals. For more details on these three frames, see Druel (2012), and its summary in Druel (2015).

2.1 Sibawayhi

Sibawayhi is visibly trying to find a unique frame that would account for all numerals. He chooses the frame of the "adjectives that resemble the active participles" (al-ṣifāt al-muṣabbaha bi-l-fā'il, Kitāb 1, 86.20–21), of which numerals can be considered to be a sub-case. Considered separately, numerals have very different behaviors, but considered collectively, all numerals behave like the adjectives that resemble the active participles. Compare for example ḥamsatu ʾawlādin 'five boys' with jamlū l-wajhi 'beautiful of face' (annexational construction); al-ʾawlādu l-ḥamsatu 'the five boys' with al-wajhu l-jaamilu 'the beautiful face' (appositional construction); al-ʾawlādu ḥamsatun 'the boys are five' with al-wajhu jaamilun 'the face is beautiful' (predicational construc-
tion); and 'išrīna waladan ‘twenty boys’ with jamilun wajhan ‘beautiful of face’ (specifying construction).

Not all numerals can be used in all four constructions, but when considered collectively, they behave like jamīl ‘beautiful’, an adjective resembling the active participle. More precisely, all numerals can be found in the predicative and appositional constructions, but the annexational and specifying constructions are in complementary distribution, depending on whether numerals are annexable or not. Annexable numerals can be found in annexational constructions (talātatatu atwābin ‘three garments’; Kitāb 1, 86.9), but the specifying construction hamsatun waladan ‘five boys’ is problematic (Kitāb 1, 87.8; 232.3; 253.3f.). For non-annexable numerals, the specifying construction ('išrīna dir-haman ‘twenty dirhams’; Kitāb 1, 85.5) is compulsory.

This interpretation of Sibawayhi is highly speculative and it is not without difficulties. The reason is that Sibawayhi believes that the specifying construction has a verbal origin, whereas the three other constructions have a nominal origin. Numerals are ‘substantives’ (‘asmā’) and some of them, the non-annexable ones, are found in a verbal-like construction. The main problem can thus be formulated as follows: where does the residual verbal syntactic strength in non-annexable numerals come from? Active participles derive their syntactic strength from the verb. This strength gives them freedom to put their complement in the dependent form, as in dāribun zaydan ‘hitting Zayd’ (Kitāb 1, 80.2). They are strong enough to be postponed after their dependent form complement, as in ‘anta zaydan dāribun ‘you are hitting Zayd’ (Kitāb 1, 54.8), and they can bear the definite article, which is considered in this case a shorter form of the relative pronoun, as in hadā l-dāribu zaydan ‘this is the one hitting Zayd’ (Kitāb 1, 77.8).

In the case of the adjectives resembling the active participle, their syntactic strength also has a verbal origin, since they analogically correspond to the active participles of the verbs of the same root, just like ḥasan ‘beautiful’ analogically corresponds to *ḥāsin, the non-existent active participle of the verb hasuna/yahsunu ‘to be beautiful’. However, they have less strength than the active participles, which is clear from the fact that they cannot be postponed in the specifying construction. It is possible to say ḥasanun wajhan⁶ ‘beautiful of face’ but not *wajhan ḥasanun. They can also bear the definite article,

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⁶ The expression is not found literally in the Kitāb but it is the axis around which the demonstration is built. Carter (1972:486) believes that Sibawayhi considered this expression to be incorrect in Arabic and analogically replaced by 'išrīna dirhaman ‘twenty dirhams’ in the demonstration. I believe this is an over-interpretation of the absence of the expression in the Kitāb.
as in *al-hasānu wajhān* ‘the beautiful of face’ (*Kitāb I, 83.18*), *al-hasānu l-wajha* ‘the beautiful of face’ (*Kitāb I, 84.4*) and *al-hasānu l-wajhi* ‘the beautiful of face’ (*Kitāb I, 84.9*).

In the case of non-annexable numerals, where does their verbal-like syntactic strength come from? Sibawayhi does not mention a verbal origin for numerals and leaves us with a comparison between the numerals and the adjectives resembling the active participle that would be only at a surface level. Numerals cannot be postponed, as in *dirham an išrūna*, and it is not clear whether they can bear the definite article, as in *al-išrūna dirham an* ‘the twenty dirhams’.

A second problem that Sibawayhi does not address is why it would be ‘lighter’ to put the counted object in the singular above ‘ten’ and not between ‘three’ and ‘ten’? It seems to be obvious for him that above ‘ten’, it would be ‘heavier’ to have a plural counted object, but he does not comment on this any further (*Kitāb I, 85.5–7*).

### 2.2 Al-Mubarrad

The way al-Mubarrad deals with numerals and their counted object is very different from that of Sibawayhi. He distinguishes between ‘basic’ numerals (‘three’ to ‘ten’) and ‘subsidiary’ numerals (‘eleven’ to ‘one thousand’) (*Muqtaṣab II, 165.13 f.*). Basic numerals do not need a specifier (tamyīz), they are neither “vague” (mubhama) nor “bearing tanwīn” (munawwana) (*Muqtaṣab II, 164.4–5*). On the contrary, subsidiary numerals (‘eleven’ to ‘one thousand’) need a tamyīz (*Muqtaṣab II, 144.7; 164.5 f.; 165.2; 13; 167.10–12; 169.5–10; III, 32.6 f.; 38.3–5*). These subsidiary numerals are themselves subdivided into series that behave differently: ‘eleven’ to ‘nineteen’ and decades are *mubhama* and *munawwana*, whereas hundreds and thousands are not *munawwana* (but are probably *mubhama*). Here, *munawwana* practically means ‘non-annexable’.

The result of this Porphyrian subdivision is that numerals are divided into three categories: basic numerals (which are all annexable), annexable subsidiary numerals and non-annexable subsidiary numerals. Each category has a different behavior and the only point they have in common is that they have the same semantic relationship with their counted object, which can be expressed by the preposition min as in partitive *ḥamsatun min al-kilāb* ‘five (of the genus) dogs’ (*Muqtaṣab II, 158.6–159.1*) and *išrūna min al-darāhīm* ‘twenty (of the genus) dirhams’ (*Muqtaṣab III, 66.9 f.*). It is clear that al-Mubarrad only deals here with the most difficult issue, which is the complementary distribution of the annexable and specifying constructions.

Although it would have been enough to separate between annexable and non-annexable numerals, the division that al-Mubarrad introduces between basic and subsidiary numerals enables him to account for the difference be-
between plural counted objects (after basic numerals) and singular counted objects (after subsidiary numerals). Only the singular counted object is called a tamyiz, whether it surfaces in the dependent or in the oblique form. The category that relates to tamyiz is that of mubham ‘vague’ substantives, a subcategory of substantives that are semantically deficient and that need a specifier. Subsidiary numerals need a tamyiz, whereas basic numerals do not. Al-Mubarrad is not explicit about whether hundreds and thousands are mubahama, but it would be consistent with his own theory to consider them so since they need a tamyiz.

Al-Mubarrad’s theory does not need to address Sibawayhi’s difficulty about a residual verbal syntactic strength in non-annexable numerals. The distinction between basic and subsidiary numerals also makes it possible to distinguish between a plural counted object after the former and a singular counted object after the latter, although this is not a justification. For Al-Mubarrad, it is enough to say that different categories behave differently. In the end, this question also loses its urgency in his theory, if compared to that of Sibawayhi.

But Al-Mubarrad’s theory also has its drawbacks. The first one, if compared with Sibawayhi, is that there is no syntactic consistency among numerals. Each series behaves differently, and therein lies the consistency: it is consistent for different series to behave differently. This is so frequent in the grammar of numerals that it can be called a ‘differentiation principle’.

The second difficulty is that although tamyiz is primarily described as a dependent form complement, it also surfaces in the oblique form after annexable subsidiary numerals, i.e. hundreds and thousands. There is a shift in the description of tamyiz. In order to maintain some consistency among subsidiary numerals, Al-Mubarrad also calls tamyiz the oblique case of the counted object after hundreds and thousands. The remaining characteristics of tamyiz is thus its singular and its meaning (partitive min ‘of, from’).

If Sibawayhi’s theory could be labelled a speculative one, Al-Mubarrad’s theory could probably be labelled an atomistic one, due to the numerous examples and counter-examples he gives, and his use of differentiation as an explanatory tool (the fact that words belong to different categories seems to be a sufficient justification for their different behavior).

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7 See for example the justification for the oblique form tamyiz after hundreds (Muqtadab 11, 167.10), or the justification for the fact that, unlike mīa ‘hundred’, ‘alf ‘thousand’ behaves like any other counted object (Muqtadab 11, 169.9).

8 In the end, the specifying construction and the annexational construction are both cases of tahṣis. See Sartori’s contribution in this volume.
2.3  Ibn al-Sarrāj

Ibn al-Sarrāj’s grammar is organized according to the parts of speech (verbs, nouns, particles) and the endings they can take (independent, dependent). He distinguishes between two types of nouns with a dependent ending (manṣūbāt): verbal and non-verbal complements. Tamyīz is one type of dependent form complement, and it can be of two types, verbal and non-verbal, depending on the word it specifies (‘Uṣūl I, 222–228). Numerical tamyīz belongs to the latter type. Unlike al-Mubarrad, Ibn al-Sarrāj says that all numerals are in need of a specifier (‘Uṣūl I, 311.2). This tamyīz surfaces in the oblique form after annexable numerals and in the dependent form after non-annexable numerals (‘Uṣūl I, 311.2–5). This is possible because annexation (‘idāfa) has two meanings, possession (‘Uṣūl I, 53.8), as in baytu zaydīn ‘Zayd’s house’, and species (jins; ‘Uṣūl I, 53.17), as in rafṭu zaytīn ‘a rotl of oil’. The ‘species’ meaning is equivalent to the particle min (‘Uṣūl I, 315.11–13). This meaning of the relationship between numerals and their counted object is true for all numerals, which was already al-Mubarrad’s teaching.

Just like al-Mubarrad, Ibn al-Sarrāj only deals with the complementary distribution of the annexational and specifying constructions, and not the other constructions. The difference is that al-Mubarrad would not call tamyīz the counted object if it is muḍāf ‘ilayh after a numeral between ‘three’ to ‘ten’, but only if it is after hundreds and thousands. Al-Mubarrad had to distinguish between basic and subsidiary numerals in order to account for the difference between plural and singular counted objects, since his definition of tamyīz required the singular. By defining an ad hoc category that applies only to numerals, Ibn al-Sarrāj avoids this issue. It is part of the definition of numerical tamyīz that it surfaces in the plural after three to ten and in the singular above ten.

The definition that Ibn al-Sarrāj gives of tamyīz has clearly no verbal origin and the dependent form is only there because some numerals cannot be annexed. The dependent form of this complement is only verbal at a surface level, but there is no verbal-like strength in the numeral that governs it. He also explicitly says (‘Uṣūl I, 324.7–9) that numerals cannot be compared to the active participles.

The main problem of Ibn al-Sarrāj’s theory is the fact that numerical tamyīz is inserted in a chapter devoted to dependent form complements although the oblique form is the base-form. It is only because some numerals are not annexable that their tamyīz has to surface in the dependent form. In a grammar organized according to the ending forms, there is no place for transversal categories. This is the case of many issues on which Ibn al-Sarrāj keeps silent: the gender of numerals, the gender disagreement between numerals and their counted objects, the gender disagreement between the two parts of compound
cardinal between 'thirteen' and 'nineteen', the verbal value of ordinals. Al-Mubarrad faced the same problem, but it was less obvious because his grammar is not organized according to the ending forms. This leaves him more freedom to deal with a greater number of issues in any part of his Muqtadaab.

Another point that was implied in al-Mubarrad’s grammar and that becomes prominent in Ibn al-Sarrāj’s grammar is that there is no one-to-one correspondence between syntax and semantics. For example, annexation has two meanings, possession and species, as mentioned above. And in turn, species can be expressed by two different constructions, annexational (ḥamsatu awlādin ‘five boys’) and specifying (ʾiṣrūna waladan ‘twenty boys’). Numerical tamyīz expresses the species, using either construction. In exactly the same manner, there is no one-to-one correspondence between morphology and syntax. For example, ‘ašara ‘teen’ is compared to a compensatory nūn in some chapters and to a tā marbūta in others, depending on the needs of the demonstration.

Ibn al-Sarrāj simplifies al-Mubarrad’s subdivision by creating an ad hoc category of numerical tamyīz that avoids two problems met by al-Mubarrad: the number of the counted object and the fact that some numerals are ‘vague’ (mubham), while others are not. To be sure, these problems are not ‘solved’, they simply disappear, just like most of Sibawayhi’s problems disappear in al-Mubarrad’s and in Ibn al-Sarrāj’s theories.

3 Al-‘Astarābādī’s Solution

3.1 Numerals Have an Adjectival Origin, Semantically and Syntactically

In his commentary on Ibn al-Ḥājib’s (d. 646/1249) Kāfyāfi l-nahw, al-‘Astarābādī presents an original synthesis of the grammar of numerals. Its most striking characteristic is the fact that al-‘Astarābādī considers that in their relationship with their counted objects, numerals originally have an adjectival meaning (ma’nā l-wasf), as in talāṭatu riṭālin ‘three men’, whose ‘base’ (ašl)9 is riṭālin talāṭatun, meaning riṭālin ma’dūdatun bi-hādā l-adad ‘men counted by this numeral’ (Ṣarḥ al-Kāfyā 4v, 239.1). Al-Mubarrad had already mentioned this

semantic equivalence (Muqtadab III, 341.6), but for al-`Astarābādī it seems
to reveal an underlying syntactic and semantic structure (which he probably
refers to when he speaks of `ašl), which has effects at the surface level, in
particular in the gender agreement and disagreement between numerals and
their counted objects. This is probably the most complicated point in his theory
of numerals. Here is the outline of the demonstration.

Understood as adjectives, numerals agree in gender and number with their
counted objects, thus complying with the general rule. However, since all plural
nouns are made feminine singular (Šarḥ al-Kāfiya IV, 239.11 f.), numerals agree
in the feminine singular, as in rijālun ṭalāṭatun `three men'. This is proved by
the fact that it means rijālun ma’didatun bi-hādā l-‘adad `men counted by this
numeral' (Šarḥ al-Kāfiya IV, 239.16 f.). However, masculine nouns in the plu-
ral have been deprived of their tā’ marbūta, as in rijāl `men'. Their feminine
marker has been deleted (hudīfat). In exactly the same manner, the plural noun
niswa `women' is a feminine singular with a deleted feminine marker. How-
ever, this deletion is not visible, since niswa actually carries a tā’ marbūta. The
fact that, unlike in rijāl, the deletion of the feminine marker is not visible in
niswa makes it masculine, or in al-`Astarābādī’s words, “niswa has become like
a masculine because of the hiding of its feminine marker” (fa-šāra ‘niswa’ ka-
‘annahu mudakkar li-ḥafā’ ta’niṭihi; Šarḥ al-Kāfiya IV, 243.9). However, what is
actually hidden is the deletion of the feminine marker, not the marker itself.
The paradoxical consequence is that niswa agrees in the masculine singular,
as in niswatun ṭalāṭatun `three women'. This behavior is further justified by the
fact that “something is not affected by its equivalent the way it is affected by
its opposite” (li-`anna l-šay’ lā yanfa’il ‘an miṭlihi inš’alahu ‘an ǧaddīhi; Šarḥ al-
Kāfiya IV, 243.8 f.). This rule is very close to the ‘differentiation principle’ we
found in al-Mubarrad’s grammar. Because they are different, rijāl and niswa
should behave differently. This gender ‘agreement’ rule is true for numerals
between ‘three’ and ‘ten’. Other numerals present no difficulty in this matter
(Šarḥ al-Kāfiya IV, 246.9–19): ‘one’ and ‘two’ regularly agree in gender and num-
ber, as do ‘eleven’ and ‘twelve’; ‘thirteen’ to ‘nineteen’ display mixed behavior,
partly ‘analogous’ (qiyyās) and partly not. Al-`Astarābādī does not explore this
question any further. As for decades, hundreds and thousands, there is no prob-
lem since they have only one form in the masculine and in the feminine.

An immediate consequence of this behavior is that the ending tā’ marbūta
in numerals in their ‘absolute form’ (muṭlaq al-`adad), as when enumerating
‘one, two, three’ or when saying ‘six is the double of three’, is not ‘part of their
pattern’ (lāsimah; Šarḥ al-Kāfiya IV, 243.1). It is an adjectival feminine marker.

This lengthy demonstration (Šarḥ al-Kāfiya IV, 239.6–243.11) is probably the
key to the grammar of numerals in al-`Astarābādī’s theory. Indeed, once he
has proven that all numerals behave like regular ‘derived adjectives’ (ṣifāt muš-taqqa) at an ‘underlying level’ (ašl), he can tackle the issue of the complementary distribution of the specifying and annexational constructions. However, in order to understand the next demonstration, one needs to refer to his general syntactic theory.

3.2 Numerals Usually Surface in Other Slots Than Their Own
Another striking characteristic of al-‘Astarābādī’s grammar lies in the clear distinction he draws between the predicative elements (‘umad, sg. ‘umda ‘support, main issue’) and the non-predicative ones (fadalāt, sg. fadla ‘remnant, surplus’). They correspond to two ‘grammatical slots’ (mahall): raf ‘independent slot’, which is the base-form for ‘umad; and naṣb ‘dependent slot’, which is the base-form for fadalāt (Ṣarḥ al-Kāfiya I, 49.7–19).10

As for the nouns in the oblique form (majrūrāt), they are of two types. The first type is a fadla that surfaces in the oblique form because it comes after a preposition (Ṣarḥ al-Kāfiya I, 49.20 ff.), as in marartu bi-zaydīn ‘I passed by Zayd’ (Ṣarḥ al-Kāfiya II, 264.14). In this case, zayd is a “non-predicative element introduced by a preposition” (fadla bi-wāṣiat ḥarf), “in the dependent slot” (mansūb al-mahall). The second type is because a ‘umda or a fadla has been annexed to it (Ṣarḥ al-Kāfiya I, 60.14–16), as in darabani ġulāmu zaydīn ‘Zayd’s servant hit me’ and darabtu ġulāma zaydīn ‘I hit Zayd’s servant’. In the first example, ġulām ‘servant’ is a ‘umda (the subject) and it is annexed to zayd, and in the second example, ġulām is a faḍla (direct object) and it is also annexed to zayd. What is confusing is that Ibn al-Hājib calls muḍaf ‘ilayh a noun in the oblique form after a preposition (Ṣarḥ al-Kāfiya II, 264.6 ff.), following Sibawayhi (cf. Kitāb I, 177.10 ff.), as al-‘Astarābādī reminds us (Ṣarḥ al-Kāfiya II, 264.8–11). It is however clear for al-‘Astarābādī that the two constructions are completely different, since the oblique form after a preposition (al-majrūr bi-ḥarf) is a faḍla, whereas the muḍaf ‘ilayh (in the modern sense of the second term of an annexation) has no slot in the sentence, it only completes either a ‘umda or a faḍla.

Between ‘three’ and ‘ten’, the base form is rijālun ṭalāṣatun ‘three men’, as mentioned above. The counted object is described (mawsūf) by an adjective and the numeral ‘agrees’ in number and gender (all plural nouns are feminine singular; Ṣarḥ al-Kāfiya IV, 242.9). For the sake of lightness (taḥṣif; Ṣarḥ al-

10 See Bohas, Guillaume, and Kouloughli (2006:64–72) for more insight in the difference between government and predication, two competing models that account for form endings in Arabic grammatical theory.
Kāfiya IV, 239.20), the numeral has been annexed to its counted object in the expression ṭalāṭatu ṭijālin ‘three men’, but nothing changes as far as agreement is concerned, the numeral still being in the feminine singular and the counted object in the plural, even though it is now muḍāf ʿilayh. Its syntactic slot has changed, it cannot be a fadla any more, it only "completes what precedes it" (min tamām al-ʿawwal; Šarḥ al-Kāfiya IV, 257.2). By resorting to the lightness argument, al-ʿAstarābādī simply avoids further discussion.

Between 'eleven' and 'ninety-nine', the base form (ʿašl) is always the same: darāhimu ʾiṣrūna 'twenty dirhams' (Šarḥ al-Kāfiya IV, 241.11), the counted object is mawṣūf, but the numeral does not agree in number and gender because of its specific morphology (Šarḥ al-Kāfiya IV, 241.12–17). For these numerals, annexation is not possible because of their morphology, so when the numeral was put first it could not be annexed to its counted object. Instead, the counted object has now the status of a fadla, it does not simply complete what precedes, as was the case for the counted object after 'three' to 'ten', but it has a slot (mahall) in the sentence, whose meaning is specification (tamyz). In this case, the plural is not necessary any more, it is understood (al-jamʿiya mafhūma; Šarḥ al-Kāfiya IV, 257.5). By taking the shape of a fadla (ṣurat al-fadalāt), the counted object keeps its mawṣūf' base (yurāʿa ʿašluhu ḥina kāna mawṣūfan; Šarḥ al-Kāfiya IV, 257.7).

The point at stake here is not completely obvious. It seems that al-ʿAstarābādī draws a clear distinction between counted objects after numerals from 'three' to 'ten', which lose their syntactic slot in the sentence by becoming muḍāf ʿilayh, i.e. merely completing what precedes them, and counted objects after numerals from 'eleven' to 'ninety-nine', which acquire a new syntactic slot, namely that of a tamyz. In other words, the base form is the same for all counted objects and their numeral (the counted object is mawṣūf; it has a slot in the sentence, and the numeral is its šifa), but when they surface, they come in two different structures. In ṭalāṭatu ṭijālin ‘three men’, the counted object ṭijāl loses its grammatical slot, whereas in 'iṣrūna dirhaman 'twenty dirhams', the counted object dirham keeps a grammatical slot in the sentence.

For hundreds and thousands, their specifier is in the oblique form and in the singular. Al-ʿAstarābādī simply says that the oblique form is the base form (ʿalā l-ʿašl; Šarḥ al-Kāfiya IV, 257.17). As for the singular, he says that when the Arabs realized that the singular was sufficient to express a plural for the dependent form tamyz in the numerals that precede hundreds and thousands, they kept it (Šarḥ al-Kāfiya IV, 257.19–258.1). He adds that it is not rare for a singular to refer to a plural meaning. He then at length comments the Qurʾānic exceptions of a plural tamyz in the dependent form (Šarḥ al-Kāfiya IV, 258.5–259.17).
In the end, the whole demonstration may not seem very convincing, except if we understand that the syntactic slots are efficient per se in al-‘Astarābāḏī’s theory: the mere change in the position of a word in the sentence has efficient implications for its declension and behavior. It is as if the slots in the sentence had an inherent functionality. In the case of the numeral and its counted object, it seems that his method is first to ensure that numerals fit the general rules of the language (they can be considered as adjectives at an underlying level), and then to explain the changes that happen at surface level due to any change in their position in the sentence.

3.3 Numerals and the Theory of ‘amal

In order to have a better view of al-‘Astarābāḏī’s grammatical theory of numerals, we have to consider his theory of ‘amal, which he presents in a chapter devoted to declension in general (Šarḥ al-Kāfiya 1, 39–87), because this is where the originality of his views resides. These views are presented in Tawfiq (1978:191–201). As we have mentioned above, al-‘Astarābāḏī draws a clear distinction between ‘umad and fidā{lāt}. In order to be speech (kalām), an utterance needs a minimum of two ‘umdas (Šarḥ al-Kāfiya 1, 17.2–8). Fidā{lāt} can be added to these core elements, either with or without a preposition. Lastly, each of these elements, ‘umad and fidā{lāt}, can be either annexed to one or more muḏāf ‘ilayh, which will surface in the oblique form, or described by a qualitative. This applies to the underlying level. Of course, at the surface level, these elements can appear in a different form, each element can be implicit, or it can be represented by a phrase or a full sentence. We will not enter into all these possible cases.

We have already mentioned what happens to numerals and their counted object when they are moved from one slot to another, for example, when the numeral is annexed to its counted object instead of being its qualitative, or when the numeral cannot be annexed. The question that kept previous grammarians occupied is that of the ‘amal of numerals, in the specifying relationship in particular. Al-‘Astarābāḏī explains that ultimately the ‘āmil is the speaker (al-mutakallim; Šarḥ al-Kāfiya 1, 43.15; see also Peled 1994:151–153). Words are modified in their endings, the agent (‘āmil) of this modification is the speaker and the tool (‘ala) he uses is declension (‘rāb). Al-‘Astarābāḏī adds that the tool and the agent are like the knife and the person who cuts (Šarḥ al-Kāfiya 1, 43.14), which cannot be separated in their action. But “the grammarians have equated the agent and the efficient cause, although it is only a sign, not the cause, this is why they called it ‘agent’” (al-nuḥāt ja’alā l-‘āmil ka-l-‘illa l-muṭṭātiraw wa’-in kāna ‘alāma lā ‘illa wa-li-hādā sammahu ‘āmilan; Šarḥ al-Kāfiya 1, 43.14–16). The result is that he distinguishes between the ‘grammatical
agent (al-‘āmil al-nahwī) and the ‘real agent’ (al-‘āmil fi l-haqiqā; Šahr al-Kāfiya I, 54.12), the former being only a ‘sign’ (‘alāma) of the latter, which is the speaker. See Peled (1994:155 ff.) for more insight in the difference between the functional principle and the immediate grammatical ʿāmil. In the case of al-ʿAstarābādī, the functional principle is clearly the enunciation itself.

To summarize, the (grammatical) agent on the subject is the verb, because the verb transformed the subject in the second part of the speech (Šahr al-Kāfiya I, 50.10 ff.); the muhtadaʿ and the ḥabar are their mutual (grammatical) agent (Šahr al-Kāfiya I, 50.12 ff.);11 the (grammatical) agent on the fadalāt is the verb and the subject together (Šahr al-Kāfiya I, 51.9); and, lastly, the agent on the mudāf ‘ilayh is the “meaning of annexation” (maʾnā l-ʾidāfu) not the mudāf itself (Šahr al-Kāfiya I, 61.12–14). For al-ʿAstarābādī, the ʿāmil of the dependent form tamyīz, just like all other fadalāt, is the completeness of the speech that precedes, not a particular word in the sentence. In al-ʿAstarābādī’s words:

Their completeness [of the noun or of the speech] is the reason for the dependent form of the tamyīz, by resemblance with the complement, which comes after the completeness of the speech that is achieved by the subject (ʿanna tamāmahumā [tamām al-ism wa-l-kalām] sababun lintišāb al-tamyīz tašbīhan la-hu bi-l-mafʿūl allaḏī yajaʿu baʿda tamām al-kalām bi-l-fāʿil).

Šahr al-Kāfiya I, 99.1–3

As for the oblique form tamyīz, its ʿāmil is the meaning intended by annexation as mentioned above (Šahr al-Kāfiya I, 61.12–14).

3.4 The Category of tamyīz
Al-Kāfiya fi l-nahw and its commentary are organized according to the parts of speech (the noun, parts i–iv; the verb, part v; the particle, part vi). The part dealing with nouns consists of two sections. The first one is devoted to declension (declension, diptotes, independent form nouns, dependent form nouns, oblique form nouns, al-tawābiʿ and indeclinable nouns), and the second

11 Although this looks like the theory of tarāfuʿ (“mutual assignment of the independent case”), which is traditionally linked to Kufan grammarians, things are probably more subtle for al-ʿAstarābādī, who explicitly says elsewhere that the theory of tarāfuʿ is ‘weak’ (daʾīf; Šahr al-Kāfiya v, 166.19–20). In the passage we are quoting here, al-ʿAstarābādī does not mention tarāfuʿ. More research should be done on the difference between al-ʿAstarābādī’s view and that of the Kufan grammarians. On tarāfuʿ, see Tawfiq (1978:199) and Bohas, Guillaume, and Kouloughli (1990:68–72).
part is devoted to specific issues in syntax and morphology (definiteness and indefiniteness, numerals, masculine and feminine, dual, plural, al-maṣdar, ism al-fā'īl, ism al-maf'ūl, al-ṣifa' al-mušabbaha bi-sm al-fā'īl, ism al-tajdīl).

Tamīż is mainly dealt with in two places in the commentary, in the section devoted to dependent form complements (Šarh al-Kāfiya II, 96–118) and in the section devoted to numerals (Šarh al-Kāfiya IV, 252–266). Although tamīż is primarily introduced as a dependent form complement (Šarh al-Kāfiya II, 96–98; 100.10), it can also surface in the same meaning, but in the oblique form, if it is lighter (Šarh al-Kāfiya II, 97.2–5). Its meaning is to lift the ambiguity of a word or a phrase that would otherwise be vague (mubham), i.e. “applicable to all categories” (ṣalih li-kull naw; Šarh al-Kāfiya II, 97.12), just like all numerals, which are ‘intrinsically vague’ (mubham mustaqqir; Šarh al-Kāfiya II, 97.11–13). As Peled (2003:62) puts it, the word tamīż “cannot really be described as technical term[s] in the modern scientific sense, given [its] close affinity to underlying homonymous extralinguistic concepts”, namely the extralinguistic concept tamīż ‘discrimination, specification’.

As mentioned above, the two different shapes that numerical tamīż can take imply very different syntactic categories, faḍla (the dependent form) vs mudāf ‘layh (the oblique form). Al-‘Astarābāḏī draws the consequences of this marked difference in terms of ‘amal and in terms of surface form. This enables him to maintain consistency within his grammatical frame. He calls tamīż the numerical complement in both forms, because they have the same meaning, but he does not avoid the syntactic differences between them and their implications.

3.5 Comparison with Sibawayhi, al-Mubarrad and Ibn al-Sarrāj
The most obvious difference between al-‘Astarābāḏī’s grammar of numerals and that of his predecessors is that the autonomy of this chapter is pushed a step further in his commentary. Just like in Ibn al-Sarrāj’s treatise, numerals appear first in the section devoted to dependent form complements, but only to present their dependent form tamīż. All other issues linked to numerals are dealt with in great detail outside the frame of any particular case ending, along with other transversal issues (such as definiteness and indefiniteness, masculine and feminine, dual, plural). Ibn al-Sarrāj also dealt with a few issues related to numerals, but he inserted them in the same chapter devoted to dependent form complements (‘Ưṣūl I, 321–328). Separating the chapter on numerals from all particular case endings enables al-‘Astarābāḏī to deal with many more issues than Ibn al-Sarrāj without giving the impression that he is bound by the mere outline of his commentary, which is also organized according to case endings.
Al-‘Astarábādī’s commentary thus constitutes a compromise between al-Mubarrad’s thematic organization and Ibn al-Sarrāj’s declensional subdivided system. In the section devoted to nouns, al-‘Astarábādī first presents the different endings, including the invariable nouns, and then adds lengthy sections on transversal issues, which are thus not connected to any particular form, as was the case in Ibn al-Sarrāj’s treatise. The best example for this is the treatment of definiteness. It is almost impossible to fathom from the Kitāb all the possible behaviors of numerals in terms of definiteness. In the Muqtadab it is made easier by the multiplication of examples and in the ‘Usul fi l-naḥw this issue is partially dealt with in the ‘issues’ (masā’il) related to definiteness, but it is far from being as systematic as in al-‘Astarábādī’s Šarh, where one finds a specific chapter devoted to the behavior of numerals in terms of definiteness.

Another great difference between al-‘Astarábādī’s theory and that of his predecessors lies in his ‘amal theory. According to Baalbaki (2008:59), post-Sibawayhi grammarians have a more theoretical approach to grammar, which might give the impression that grammatical causes (‘ilal) tend to have an autonomous life, less and less connected with grammatical phenomena. A great deal of Sibawayhi’s grammar is devoted to the comparison of the ‘strength’ (quwwa) that words have in interaction with one another. In al-Mubarrad’s Muqtadab and even more in Ibn al-Sarrāj’s ‘Usul the concept of quwwa loses its relevance in the grammatical analysis of declension at the profit of the concept of ‘slot’ (mahall) that words occupy. In al-‘Astarábādī’s commentary, this trend is taken a step further: the ‘agent’ (‘āmil) of declension is neither a strength that words would have, nor the slot as such that they occupy in the sentence, but the speaker who utters the sentence. The speaker puts words in particular slots, but the agent of declension is ultimately the intended meaning. By doing this, al-‘Astarábādī avoids all questions linking syntactic strength to morphology in numerals. Numerals have very different morphological patterns (such as fā‘il, compounds, plural-like ending -īna) and they occupy different slots. Previous grammarians had trouble describing them in one single frame, but al-‘Astarábādī avoids the issue as such by considering that the syntactic agent is neither linked to the actual words (their inner strength, stemming from their pattern or from their status as a part of speech), nor to their slot in the sentence but to the utterance as a whole and, ultimately, to the intention of the speaker. However, the comparison I am drawing here is clearly rooted in categories that are not used by al-‘Astarábādī. Rather, his commentary pulls Ibn al-Ḥājib’s text towards an analysis of ‘performative utterances’ (‘inšā; Larcher 2013:204–207), rather than towards the search of syntactic causes. It is in this sense that Larcher labels his commentary a rhetoric integrated into syntax, “a balāgha integrated into naḥw” (Larcher 2013:204).
A third difference between the four theories can be detected in the way these grammarians compare numerals with adjectives. Sibawayhi links his grammar of numerals to *al-sifat al-mušabbaha bi-l-fā'il* (because of the residual verbal strength they have), but he is not followed by al-Mubarrad and Ibn al-Sarrāj, who bring in the category of *tamyiz* that numerals would need because of their ‘vagueness’ (a concept not absent from Sibawayhi’s *Kitāb*, but not exploited any further). Ibn al-Sarrāj even explicitly says that numerals cannot be compared to *ṣifat mušabbaha*. His point is to definitively break with the issue of a syntactic strength in numerals. The category of *tamyiz* is only governed by morphological and semantic rules, not by a syntactic agent that would be in numerals. The way al-ʿAstarābādi reintroduces the issue of the agent enables him to cut it loose from the morphology of numerals, without losing its efficiency at the syntactic level.

As far as numerals are concerned, al-ʿAstarābādi’s commentary may be regarded as a synthesis of Sibawayhi’s search for consistency at a wider level, al-Mubarrad’s endeavor to describe as many issues as possible, and Ibn al-Sarrāj’s systematic subdivisions. These three characteristics are indeed found in his grammar of numerals, organized in the new frame of his pragmatic theory of *ṭinšā*.

4 Conclusion

In Sibawayhi’s grammar, the main assumption is clearly that language is thoroughly consistent and that the grammarian can reveal this consistency. As we have mentioned, another assumption is that words have strength in themselves and that this strength interacts between words. In al-Mubarrad’s grammar, the main assumption is that the grammarian can be exhaustive in describing the language. Another assumption is that to merely describe grammatical phenomena is to explain them. And in Ibn al-Sarrāj’s grammar, the main assumption is that language is a completely logical phenomenon that can be entirely described through Porphyrian subdivisions. In each theory, these assumptions function as blind spots: they are not discussed by the grammarians, but they hold each theory together as a whole.

In al-ʿAstarābādi’s grammar we can probably infer, although more research is obviously needed, that the main assumption, or the main undiscovered blind spot, is that syntactic slots are efficient *per se* and that the grammarian only has to understand what these slots are, or, in other words, what the intention of the speaker is. This is ultimately linked to the speaker’s ability to build meaningful utterances, which can also be seen as a major blind spot in his theory, because it
poses again the question of the definition of who is a native speaker of Arabic, a question which has triggered much research, especially in the earlier stages of Arabic grammar. More research should be done about how al-‘Astarābādī and later grammarians would define a ‘native speaker’, if they do, or whether the speaker as the agent of declension and source of meaningful utterances is only a useful fiction.

Bibliographical References

A Primary Sources


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13 See Versteegh (1996:591; 1997:41f.) on the ‘fiction’ that resides in the fact that although grammarians say they are describing and explaining the language of the Bedouin, they actually describe and explain the language of the Qur’ān and poetry.


