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The Foundations of Arabic Linguistics II

*Kitāb Sibawayhi:
Interpretation and Transmission*

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What Happened to the Grammar of Numerals after Sībawayhi?

Jean N. Druel

1 Introduction

Reading Sībawayhi's *Kitāb* is a fascinating experience. As described by Carter¹ and Baalbaki,² the inner consistency of the *Kitāb*, as well as its highly speculative nature contribute to this fascination. For my part, the fascination is also due to the impressive gap that exists between Sībawayhi's grammar and that of later grammarians, not to mention contemporary grammarians. To be sure, they describe and analyze the same language variety; what differs is not the language they study, but the theoretical frame in which they study this language.

In my dissertation,³ I focused on the grammar of numerals in three grammatical treatises: Sībawayhi's *Kitāb*, al-Mubarrad's *Muqtaḍab* and Ibn al-Sarrāj's *Uṣūl fi l-naḥw*. In this paper, I shall summarize the three different theoretical frames in which Sībawayhi (d. 177/793?), al-Mubarrad (d. 285/898) and Ibn al-Sarrāj (d. 316/928) present the numerals, in order to qualify the direction in which the grammatical theory of numerals evolved.

The four possible constructions in which numerals and their counted object can surface will be called here: appositional (*al-'awlādu l-ḥamsatu* 'the five boys', *al-'awlādu l-'iṣrūna* 'the twenty boys'), predicative (*al-'awlādu ḥamsatun* 'the boys are five', *al-'awlādu 'iṣrūna* 'the boys are twenty'), annexational (*ḥamsatu 'awlādin* 'five boys', *mī'atu waladin* 'a hundred boys'), and specifying (*ḥamsata 'ašara waladan* 'fifteen boys', *'iṣrūna waladan* 'twenty boys'). All cardinal numerals can potentially be found in these constructions, both in the definite and in the indefinite, except for the annexational and specifying constructions, which are in complementary distribution (because numerals are divided into annexable numerals and non-annexable numerals).

1 See Carter (1968, 1972a, 1972b).

2 See Baalbaki (1979, 2001, 2008).

3 Druel (2012).

2 Sībawayhi's Grammar of Numerals

2.1 *Substantives Resembling the Adjectives Which Resemble the Active Participles*

As Baalbaki (2008:81) puts it, one of Sībawayhi's far-reaching aims is "to demonstrate that linguistic phenomena are not haphazard and that they conceal an underlying harmony which grammatical analysis can disclose". The problematic point at stake in the syntax of numerals is not their slot in the sentence, since they comply with the regular rules for substantives, according to their morphosyntactic limitations. It is not the relationship with their counted object when in appositional, predicative or annexational constructions, either. Just like other substantives, numerals can be found in these constructions. The most problematic issue is thus the specifying construction and its complementary distribution with the annexational construction. For Sībawayhi the problem is twofold: in which frame to interpret *'iṣrūna dirhaman* 'twenty dirhams' and why do not all numerals behave the same? He may therefore have considered the case of *'iṣrūna* 'twenty' first because it is the most difficult one. *'Iṣrūna* cannot be annexed to its counted object (**'iṣrū dirhamin*). Instead, it keeps its compensatory ending *nūn* and the second term (*dirhaman*) is put in the dependent form (*'iṣrūna dirhaman* 'twenty dirhams'), just like a verbal complement, although *'iṣrūna* has no verbal origin.

Sībawayhi chooses the *ṣifa mušabbaha bi-l-fā'il* 'adjective resembling the active participle' as a starting point for his analysis of the expression of the counted object and then proceeds by successive analogies.⁴ Interestingly, the *ṣifa mušabbaha bi-l-fā'il* and its complement can be found in the same four constructions as numerals with their counted object, appositional (*al-wajhu al-ḥasanu* 'the beautiful face'), predicative (*wajhu-hu ḥasanun* 'his face is beautiful'), annexational (*ḥasanu al-wajhi* 'beautiful of face'), and specifying (*al-ḥasanu wajhan* 'the beautiful [in terms of] face'). However, numerals are not considered *ṣifāt mušabbaha*, they only resemble them semantically and syntactically, just like the *ṣifāt mušabbaha* to some extent resemble active participles.⁵

Ṣifāt mušabbaha share 'something' of the twofold strength of active participles (verbal and nominal), which explains why they can be found in similar constructions with their complement. However, not everything that is possible with active participles is possible with *ṣifāt mušabbaha*. Passive-reflexive verbs

4 Sībawayhi, *Kitāb* ch. 41, I, 81–88 (Derenbourg)/ I, 99–108 (Būlāq).

5 Sībawayhi, *Kitāb* ch. 41, I, 86.20–21 (Derenbourg)/ I, 106.7–8 (Būlāq).

like *imtala'a*, in *imtala'tu mā'an* 'I got filled with water',⁶ and expressions like *ḥayrun min*, in *ḥayrun min-ka 'aban* 'better than you [in terms of] father',⁷ share 'something' of the strength of the *ṣifa mušabbaha*, but have less power. At the end of the 'analogical chain' are *'išrūna*, in *'išrūna dirhaman* 'twenty dirhams',⁸ compound numerals *'aḥada 'ašara dirhaman* 'eleven dirhams'⁹ and *ka-dā*, in *ka-dā dirhaman* 'a few dirhams',¹⁰ which seem to have lost all verbal strength of the active participle, except for the 'surface strength' to put their complement in the dependent form. As for annexable numerals, they do not even have this strength but can only be 'annexed' (*muḍāf*) to another noun, which expresses their counted object. This last behaviour is more common among nouns than that of putting their complement in the dependent form.

At a syntactic level, Sībawayhi aims to prove that the annexational and specifying constructions are structurally equivalent.¹¹ This enables him to harmonize the numerals' behavior, which is clearly his aim, along with the mere explanation of the linguistic phenomena.¹²

At the semantic level, it is not clear what remains from the *sabab* relationship between *al-ṣifāt al-mušabbaha* and their complement.¹³ There must be 'something' of the *sabab* in the semantic link between numerals and their counted object, but Sībawayhi does not mention it explicitly. Is it possible to go beyond this without forcing his thought?

Sībawayhi describes the process of comparison where 'something' gets lost *en route* and attributes this phenomenon to native speakers themselves: "They may compare something to something else even if it is not the same in everything; you will see this a lot in their language" (*wa-qad yušabbihūna l-šay' bi-l-šay' wa-laysa miṭluhu fī jamī' 'aḥwālihi wa-sa-tarā dālika fī kalāmihim kaṭīran*).¹⁴

Sībawayhi does not use the grammatical category of *tamyīz* 'specifier', a construction involving a singular indefinite noun in the dependent form used to 'specify' the meaning of an 'unspecified' term. Such a construction would have been a practical category to analyze *dirhaman* in *'išrūna dirhaman* 'twenty dirhams', although there would still have been a consistency issue: why should

6 Sībawayhi, *Kitāb* ch. 41, I, 85.18 (Derenbourg)/ I, 105.11 (Būlāq).

7 Sībawayhi, *Kitāb* ch. 41, I, 84.16 (Derenbourg)/ I, 104.7 (Būlāq).

8 Sībawayhi, *Kitāb* ch. 41, I, 85.5 (Derenbourg)/ I, 104.16 (Būlāq).

9 Sībawayhi, *Kitāb* ch. 41, I, 86.13 (Derenbourg)/ I, 106.1 (Būlāq).

10 Sībawayhi, *Kitāb* ch. 142, I, 256.9–12 (Derenbourg)/ I, 297.14–16 (Būlāq).

11 Carter (1972b:489).

12 Versteegh (1997:246).

13 For *sabab* see Carter (1985).

14 Sībawayhi, *Kitāb* ch. 39, I, 77.12.13 (Derenbourg)/ I, 93.7–8 (Būlāq).

certain numerals be in an annexational construction with their complements, while others are in need of a specifier?

Sibawayhi's logic may be puzzling because he tries to do two opposite things at the same time. On the one hand, he proceeds through successive analogies, where 'something' of the initial 'syntactic strength' is lost in the process, but on the other hand he aims at a global consistency of grammatical phenomena. These two logics are incompatible because an analogy is not an equality, and since something is lost in the analogy, the resulting grammatical rule does not apply fully and loses part of its consistency. The reader can only deduce from the many examples quoted what is lost and what remains.

An example of the trade-off between analogy and consistency lies in the question of the invariability of both parts of all compound numerals, except 'twelve'. Normally, the addition of the compensatory *nūn* in the dual and the plural does not prevent the noun from receiving declension, which is added before the *nūn*, as in *muslim-ū-na* and *muslim-ī-na* 'Muslims'. Analogically, this works perfectly with 'twelve', interpreted in the compensatory *nūn*-like frame. Compare *itn-ā* 'ašara 'twelve' (independent form) and *itn-ay* 'ašara 'twelve' (dependent and oblique form). But regarding other compound numerals, this analogy does not work anymore because the first part of the compound always carries a *fatha*, as in *ḥamsat-a* 'ašara 'fifteen'. Here, consistency is lost, and al-Ḥalīl (d. 170/786 or 175/791) has a point when he claims that 'twelve' does not behave like other compound numerals.¹⁵ However, Sibawayhi does his best to interpret all compound numerals in the same frame,¹⁶ rather than following al-Ḥalīl, who chooses two different frames.¹⁷ In the end, both solutions are interesting, but neither is completely consistent.

To sum the whole process up, 'ašara in the compound numerals is 'like' the (ending) *nūn* in the dual and the plural (*nūn al-itnayni wa-l-jamī*'), but not everything that applies to *nūn al-itnayni wa-l-jamī*' applies to 'ašara, and *nūn al-itnayni wa-l-jamī*' itself is 'like' the *tanwīn*, but not everything that applies to the *tanwīn* applies to it. What is lost at each step can only be deduced by the reader. One should remember that Sibawayhi is not aiming at a system where each element has a fixed status, but, as Ayoub puts it,¹⁸ he explores the relative position words occupy in relation with one another.

15 Sibawayhi, *Kitāb* ch. 314, II, 51.4–6 (Derenbourg)/ II, 55.14–56.1 (Būlāq).

16 Sibawayhi, *Kitāb* ch. 412, II, 177.13–18 (Derenbourg)/ II, 172.2–6 (Būlāq).

17 Sibawayhi, *Kitāb* ch. 336, II, 84.14–15 (Derenbourg)/ II, 87.15–16 (Būlāq).

18 Ayoub (1990:6).

2.2 *Unresolved Issues in the Kitāb*

Sībawayhi often mentions the 'unspecified nouns' (*al-'asmā' al-mubhama*) in his interpretation, yet he does not link them all into a wider theory of semantically deficient substantives, in need of a semantic complement. All substantives should refer to something precise, a principle derived from Sībawayhi's classification of the different parts of speech:¹⁹ verbs (*'af'āl*), nouns (*'asmā'*) and prepositions (*hurūf*). The problem is that numerals hardly fit this classification and, just like many other 'nouns', they refer to something 'unspecified', as pointed out by him only once.²⁰

Among other 'unspecified nouns' are *'awwalu* 'first', *kam* 'how many', *'ayyun* 'which', *ba'da* 'after', *ba'du* 'some', *bayna* 'between', *tijāha* 'towards', *jamī'* 'all', *'inda* 'at', *kull* 'all', *ladun* 'at', *ladā* 'at', *mitla* 'like', *ma'a* 'with', *naḥwa* 'towards', and many more, which are grammatically substantives but behave like 'prepositions' in many aspects. Their meaning as nouns is far from clear, hence their specific problems. All these nouns are in need of a specifier, be it a *muḍāf' ilayhi*, a *tamyīz*, or the preposition *min* 'of' followed by a noun in the oblique case.

The issue at stake here is that within the category of nouns almost everything is defined in terms of 'strength'. Some have only a little less strength than verbs, such as the 'proper names of the verb', i.e. the interjections (*'asmā' al-fi'l*)²¹ or the active participles (*asmā' al-fā'il*), whereas other 'nouns' have barely more strength than prepositions, such as *'inda* 'at' and *ma'a* 'with'.

The solution proposed by Sībawayhi for the expression of the counted object, which is to consider it a semantic complement analogous to the *sabab* complement of the *ṣifa mušabbaha*, is another example of a negotiation between consistency and analogy. It is the definition of what a noun is that causes later inconsistencies, because some nouns are analogically treated as if they belong to this category without sharing all the characteristics of the category, namely, the fact that their meaning as substantives is not clear.

Most of the problems are found in the syntactic and semantic relations between two nouns, especially if one wants to maintain some global consistency to the system. Ultimately, the issue here is that of nominal government: can nouns operate on other nouns directly or should an elided preposition be supposed at an underlying level? Numerals and their counted object are found in the three constructions that involve a possible operation of a noun on another noun: predicative (*al-'awlādu ḥamsatun* 'the boys are five'), annexa-

19 See Mosel (1975:11).

20 Sībawayhi, *Kitāb* ch. 314, II, 47.10–11 (Derenbourg)/ II, 50.16–18 (Bülāq).

21 See Levin (1991).

tional (*ḥamsatu 'aklubin* 'three dogs'), and specifying (*'iṣrūna dirhaman* 'twenty dirhams'). The first case is not explicitly dealt with by Sibawayhi. For the two other constructions, the underlying structure is *ḥamsatun min al-kilābi*²² and *'iṣrūna min al-darāhimi*.²³

However, Sibawayhi does not make clear whether he is considering the possibility that numerals 'operate' on their counted objects. His presentation of numerals as a subcase of *ṣifa muṣabbaha* gives the impression that he is following this track and, in terms of syntactic 'strength', numerals are somewhere between *al-ṣifāt al-muṣabbaha bi-l-fā'il* and *ka-dā* 'a few'. But it is not possible to go beyond this without forcing his views.

3 Al-Mubarrad's Grammar of Numerals

3.1 *Substantives Behaving Differently according to the Series They Belong To*

Throughout the chapters that deal with numerals al-Mubarrad draws a clear line between 'basic numerals' (*al-'aṣl*) from 'one' to 'ten', and 'subsidiary numerals' (*al-far'*), above 'ten', which he says are all 'derived' (*muṣtaqqa*) from basic numerals, either in 'surface' (*lafz*) or in 'meaning' (*ma'nā*).²⁴

Numerals between 'twenty-one' and 'ninety-nine' are simply conjoined by an appositional *wāw* (*wāw 'atf*)²⁵ and they behave differently according to their respective rules, so that one might say that they neither belong to lesser nor to greater numerals but that the unit behaves like basic numerals and the decade behaves like subsidiary numerals.

Above 'two', number and species have to be expressed separately. Al-Mubarrad says that this is the origin (*'aṣl*), hence 'one' and 'two' must be regarded as a subcategory of the other lesser numerals. Incidentally, this is also why the dual is considered by al-Mubarrad to be a subcategory of the plural.²⁶

Among the possible different ways to express the counted object, al-Mubarrad focuses on the annexational and specifying constructions. The first one characterizes 'basic' numerals²⁷ and the second one characterizes 'subsidiary'

22 Sibawayhi, *Kitāb* ch. 416, II, 182.16 (Derenbourg)/ II, 176.15 (Būlāq).

23 Sibawayhi, *Kitāb* ch. 41, I, 85.5–6 (Derenbourg)/ I, 104.16 (Būlāq).

24 *Muqtaḍab* II, 165.13–14.

25 *Muqtaḍab* II, 166.16–17.

26 *Muqtaḍab* II, 156.2.

27 *Muqtaḍab* II, 164.4–5.

numerals. For al-Mubarrad, a distinctive feature of subsidiary numerals is that their counted object is in the singular in the annexational and specifying constructions because it expresses a whole species.²⁸ With this definition, what seemed to be a problem in SĪbwayhi's theory simply disappears as an issue. Basic numerals are not in need of a 'species' complement, whereas subsidiary numerals are.

Subsidiary numerals all have in common that they are 'unspecified' (*mubhama*) and as such in need of a complement that expresses their species (*naw'*), as in *ḥamsata 'ašara ṭawban* 'fifteen garments'²⁹ and *'iṣrūna dirhaman* 'twenty dirhams'.³⁰

What is somewhat puzzling is that al-Mubarrad calls the counted object after hundreds and thousands, 'specifier' (*tamyīz*), although it surfaces as a *muḍāf 'ilayhi*. He is probably compelled to do so in order not to falsify his own theory that all 'subsidiary' numerals are in need of a *tamyīz*.

'One hundred' and 'one thousand' are not 'carrying a *nūn*' (*munawwana*), so that their *tamyīz* can surface as a *muḍāf 'ilayhi* in the indefinite, as in *mi'atu dirhamin* 'a hundred dirhams', *ṭalātu mi'ati dirhamin* 'three hundred dirhams', *'alfu dirhamin* 'a thousand dirhams', *ṭalātu 'ālāfi dirhamin* 'three thousand dirhams', or in the definite, as in *mi'atu al-dirhami* 'the hundred dirhams', *ṭalātu mi'ati al-dirhami* 'the three hundred dirhams', *'alfu al-dirhami* 'the thousand dirhams', *ṭalātu 'ālāfi al-dirhami* 'the three thousand dirhams'.³¹ In all these expressions, the semantic link between numerals and their counted object is a specifying relationship, although it surfaces syntactically as an annexational construction. The only limitation compared to regular *'idāfa* rules is that the *tamyīz* has to be in the singular, and this because the quantity is already expressed by the numeral.

Contrary to SĪbwayhi, al-Mubarrad explicitly says that *iṭnā 'ašara* 'twelve' is not a compound (a word that has been made 'one word') and that *'ašara* has the status of a compensatory *nūn*.³² Other compound cardinals have been made 'one word' and he draws a parallel between their second part and the *tā'* *marbūta* in the male proper names *Ḥamda* and *Ṭalḥa*.³³ Unlike SĪbwayhi, he seems to follow al-Ḥalīl on this point (see above).

28 *Muqtaḍab* II, 164.5–6.

29 *Muqtaḍab* II, 164.5–6.

30 *Muqtaḍab* II, 144.7, 165.2, 13; III, 32.6–7.

31 *Muqtaḍab* II, 167.10–12; III, 38.3–5.

32 *Muqtaḍab* II, 162.5–8.

33 *Muqtaḍab* IV, 29.4–5.

Al-Mubarrad explains that decades resemble the verb “because of the surface level” (*li-l-lafz*), inasmuch as their complement is put in the dependent form.³⁴ However, he makes it clear that decades have no verbal value, so that for example it is not possible to front the *tamyiz* and say **dirhaman 'isrūna*, whereas this is possible in *šahman tafaqqa'tu* ‘I exploded [in terms of] grease’, because the ‘operator’ (*āmil*) of the *tamyiz* is a verb.³⁵ In the same way, *'isrūna* cannot be separated from its *tamyiz* as in **'isrūna la-ka dirhaman* ‘you have twenty dirhams’.³⁶

Finally, according to al-Mubarrad, the only common point between all numerals is that the underlying structure of their relationship with their counted object is the partitive *min* ‘of’, at least in the annexational and specifying constructions.

3.2 *Unresolved Issues in the Muqtaḍab*

It seems that for al-Mubarrad the only ‘true’ numerals are the ‘masculine’ numerals between ‘three’ and ‘ten’, i.e., the forms carrying a *tā' marbūṭa*: *talāṭatun* ‘three’, *'arba'atun* ‘four’, until *'ašaratun* ‘ten’. All other numerals are explained by comparison to these basic numerals.

The category of the *tamyiz*, which originates in a syntactic (specifying) construction, enables al-Mubarrad to describe very easily the counted object after compound numerals and decades. They are in the position of *tamyiz* and they express the ‘species’ of ‘unspecified’ numerals. As for ‘one hundred’ and ‘one thousand’, al-Mubarrad expands the syntactic category of *tamyiz* and says that in *mi'atu tawbin* ‘a hundred garments’ and *'alfu tawbin* ‘a thousand garments’, the counted object also expresses the ‘species’ of the numerals. However this *tamyiz* surfaces as a *muḍāf 'ilayhi*. Thus, what remains of the characteristics of the syntactic *tamyiz* is its meaning (*min* ‘of’) and its singular.

As for the expression *mi'atu al-tawbi* ‘the hundred garments’, it is not clear whether al-Mubarrad would call it a *tamyiz* since he dislikes the expression of the *tamyiz* with a definite noun.³⁷

In the end, the *tamyiz* is practically reduced to a semantic category that can be expressed by two different constructions, annexational and specifying.

What is unclear as well is the nature of the *'iḍāfah* relationship between basic numerals and their counted object. Al-Mubarrad says that it also expresses the

34 *Muqtaḍab* III, 33.2–4.

35 *Muqtaḍab* III, 36.1–2.

36 *Muqtaḍab* III, 55.8.

37 *Muqtaḍab* III, 32.9–10.

'species' (*naw'*) of the basic numerals although he does not say that they are 'unspecified' numerals nor that their complement is a *tamyīz*.

In a nutshell, basic numerals are neither unspecified (*mubhama*) nor do they carry a *nūn* (*munawwana*), so that they do not need a *tamyīz* but a complement that has the same meaning (the *naw'*, i.e., partitive *min*); compound numerals and decades are both *mubhama* and *munawwana*, so that they need a *tamyīz* in the dependent form; 'one hundred' and 'one thousand' are not *munawwana* and are in need of a *tamyīz* in the oblique form, which most probably makes them *mubhama* in the eyes of al-Mubarrad.

Al-Mubarrad does not address the issue of consistency across numerals. Each series of numerals has a different morphological shape and a different syntactic behaviour. There are commonalities between all numerals, but he prefers to focus on the differences between them. It even seems to be part of his theory that each series is bound to behave differently, which is another type of consistency than Sībawayhi's. If one adds to this picture the fact that al-Mubarrad studies many more issues linked to the numerals than Sībawayhi,³⁸ we get an overall impression of an 'atomistic grammar'. A great variety of issues are dealt with and no global consistency is aimed at, except that different behaviors need to be interpreted differently, as is clearly the case with numerals.

4 Ibn al-Sarrāj's Grammar of Numerals

4.1 *An Ad Hoc Category That Solves All the Difficulties*

The grammar of numerals in the *'Uṣūl* is rather simple, partly due to the fact that it does not deal with some very specific issues, unlike the *Kitāb*, and even more so the *Muqtaḍab*, which deals with many more issues linked to numerals than the two other treatises. Ibn al-Sarrāj focuses almost exclusively on the annexational and specifying constructions, rather than on the other possible constructions, to which he only alludes. This is hardly surprising, since he focuses on what is specific to numerals, not on constructions they have in common with other substantives. Numerals found in more common constructions (appositional and predicative) are dealt with in the relevant sections of the *'Uṣūl*.

The specific way Ibn al-Sarrāj deals with the expression of the counted object as a specifier is as follows. All numerals are unspecified (*mubham*) nouns, and

38 Druel (2012:272).

as such, they are in need of a specifier. In this respect, his theory clearly differs from that of al-Mubarrad.³⁹ The specifier can easily be expressed by one of the two meanings of the proper *'idāfa* construction, namely its generic meaning, as opposed to its possessive meaning.⁴⁰ However, due to the difference in morphological shape, not all numerals can be annexed to their counted objects, for instance the compound numerals and decades.⁴¹ For these numerals, the specifier is expressed by a specifying construction. Ibn al-Sarrāj distinguishes three different meanings for the specifying construction depending on the nature of the word to which it applies, its operator (verbal or nominal, and if nominal, measure or numeral).

In the verbal specifying construction, the specifier expresses the agent of the verb in the dependent form, as in *imtala'a l-'inā'u mā'an* 'the container was filled with water'.⁴² The nominal specifying construction either means *miqdār* 'the amount of', if the operator is a measure, as in *raṭṭun zaytan*, i.e. *miqdār raṭṭin zaytan* 'a rotl of oil',⁴³ or, if the operator is a numeral, the counted object specifies (*yumayyizu*, *yubayyinu*, *yufassiru*) the numeral that needs it.⁴⁴ Ibn al-Sarrāj also says that the relationship means *min* (*'iṣrūna dirhaman*, i.e. *'iṣrūna min al-darāhimi* 'twenty dirhams').⁴⁵

As for the *'idāfa* construction, it either expresses possession (*baytu zaydin*, i.e. *baytun li-zaydin* 'Zayd's house'), or specification (*ḥātamun min dahabin*, i.e. *ḥātamun min dahabin* 'a gold ring'). If the *muḍāf* is a numeral, the *muḍāf 'ilayhi* expresses the 'specifier' (*mufassir*) and the construction is a generic (*jins*) *'idāfa* (*ḥamsatu 'atwābin*, i.e. *ḥamsatun min 'atwābin* 'five garments').

The grammatical definition of the numerical specifying construction can be summed up as follows. It has the same syntax as the verbal *tamyīz* construction and the same meaning as the generic *'idāfa*. Remarkably, this definition includes a semantic dimension. Seen from the perspective of the numerical specifier (a semantic category), it is expressed in an annexational construction, if the numeral is annexable, and in a specifying construction otherwise. This way of presenting things is typical of Ibn al-Sarrāj's 'exhaustive divisions' (*taqāsīm*).⁴⁶

39 *Uṣūl* I, 311.2.

40 *Uṣūl* I, 53.7–8; 17.

41 *Uṣūl* I, 312.2–6.

42 *Uṣūl* I, 222.4.

43 *Uṣūl* I, 307.7–10.

44 *Uṣūl* I, 311.2.

45 *Uṣūl* I, 315.11–13.

46 Bohas et al. (2006:10).

This means that although the relevant sections are entitled 'specifying measures' (*tamyīz al-maqādīr*) and 'specifying numerals' (*tamyīz al-'a'dād*), and although they are located in a section devoted to nouns in the dependent form, the oblique form is the base form. It is only when annexation is not possible that the nominal specifier surfaces in the dependent form.⁴⁷ The reason given by Ibn al-Sarrāj for the preference of the annexational construction over the specifying one is that numerals do *not* resemble the active participle,⁴⁸ which is a clear difference with Sībawayhi's theory. Unlike *ḥasanun* 'beautiful', they have no verbal meaning and it is only because they cannot be annexed that they have a complement (specifier) in the dependent form.

Ṭāhā notes that "the verb is central in his [Ibn al-Sarrāj's] analysis of verbal constructions and of the relationship between every verb and the different Noun Phrases that occur with it".⁴⁹ It is true that here both measure and numerical *tamyīz* are explained in a section that is linked with verbal transitivity, although they share very little with it, if anything. The only link these two constructions have with transitivity is that if annexation is impossible, the specifier (*mufassir*) takes the dependent form.

A striking difference between Ibn al-Sarrāj and Sībawayhi or al-Mubarrad is the fact that he explicitly includes a semantic criterion in his grammatical interpretation (the two meanings of the annexational construction, the three meanings of the specifying construction, the five meanings of the appositional construction) and this enables him to solve the tricky problem of the apparent inconsistency between the expression of the counted object in different constructions. Instead of aiming at a one-to-one correspondence between constructions and meanings, he believes that some constructions have the same meaning, namely the generic meaning of the annexational construction and the specific meaning of the specifying construction.

Another innovation of Ibn al-Sarrāj lies in the explanation of the singular of the counted object after 'one hundred' by the fact that 'one hundred' needs to behave partly like 'ten' because it is 'ten tens' and partly like 'ninety' because it comes just after it in the series.⁵⁰ Like 'ten', 'one hundred' is annexed to its specifier, and like 'ninety', its specifier is in the singular. Ibn al-Sarrāj gives exactly the same analysis for 'one thousand', which is 'ten hundreds'.⁵¹ This 'double consistency' is not found in the *Kitāb* or in the *Muqtaḍab*.

47 'Uṣūl I, 306.6–9.

48 'Uṣūl I, 324.7–9.

49 Ṭāhā (1995:163).

50 'Uṣūl I, 312.8–10.

51 'Uṣūl I, 312.11.

Another noticeable difference with Sibawayhi and al-Mubarrad is the distinction Ibn al-Sarrāj makes between *ḥamsatu l-ʿatwābi* 'the five garments' and *ḥamsatu ʿatwābi-ka* 'your five garments': in the latter case, no specifier is expressed, because it refers to something identifiable. Ibn al-Sarrāj says that in *ḥamsatu ʿatwābi-ka* the numeral is 'annexed and defined' (*ʿuḍifa wa-ʿullima*).⁵² The implication of this difference is that, unlike Sibawayhi and al-Mubarrad, Ibn al-Sarrāj has no difficulty with a definite specifier, as long as the whole species is intended.

4.2 *Unresolved Issues in the ʿUṣūl*

Ibn al-Sarrāj solves a difficulty that undermined both Sibawayhi's and al-Mubarrad's theory of numerals by creating an ad hoc category of 'numerical specifier' (*tamyīz al-ʿaʿdād*). Although this category has a manifestly syntactic origin, namely, a construction involving a verb and a substantive in the indefinite dependent form, it evolves towards a semantic relationship that can be expressed by two different syntactic constructions, namely, annexational and specifying. Moreover, the assertion that the annexational construction is the base form widens the gap between the verbal and the numerical *tamyīz*. But it is only at this price that some consistency in the syntax of numerals can be safeguarded.

Ibn al-Sarrāj clearly addresses the grammatical issues from a syntactic perspective, however, the introduction of a semantic dimension enables him to reconcile apparently inconsistent phenomena in the language, such as the problematic series *talātatu ʿawlādin* 'three boys', *ḥamsata ʿašara waladan* 'fifteen boys', *ʿiṣrūna waladan* 'twenty boys', *miʿatu waladin* 'a hundred boys' and *ʿalfu waladin* 'a thousand boys'. In each case, the relationship between the numeral and its counted object is a *tamyīz*, yet, it surfaces in two different shapes because, for morphological reasons, some numerals are not annexable.

In the same manner, Ibn al-Sarrāj is not aiming at a one-to-one correspondence between morphological shape and syntactic behavior. This is clear from the way he deals with compound nouns. In a section devoted to syntax he compares the second part of compound cardinals to a compensatory *nūn*,⁵³ but in a section devoted to compound morphology,⁵⁴ this comparison is completely absent. In other words, nothing prevents a compound noun from behaving syntactically like a word carrying a *nūn* in some cases and like a word carrying

52 *ʿUṣūl* I, 325.14–15.

53 *ʿUṣūl* I, 311.15; 312.1–2.

54 *ʿUṣūl* II, 139–144.

a *tā' marbūṭa* in other cases. And inversely, a noun carrying a compensatory *nūn* may behave differently in different syntactico-semantic constructions, like *'iṣrūna* in a possessive (*'iṣrū zaydin* 'Zayd's twenty') and a generic (**'iṣrū waladin* 'twenty boys') annexation. Unlike Sibawayhi, Ibn al-Sarrāj does not seem to have been concerned about these differences.

Among the questions that kept Sibawayhi and al-Mubarrad occupied but that are not dealt with in the *'Uṣūl*, are the following: the gender of numerals; the (surface) gender disagreement between cardinals and their counted object; the singular of the counted object after compound ordinals and decades; the verbal value of ordinals; and the fact that compound cardinals between 'thirteen' and 'nineteen' are made up of two words of opposite (surface) gender.

Also striking is the little importance Ibn al-Sarrāj assigns to criteria such as 'lightness' (*hiffa*), 'heaviness' (*tiqal*) or 'strength' (*quwwa*), which words and morphemes can have in comparison with one another, as noted by Chairet.⁵⁵ It seems that his classification relieves him of the use of these analytical tools. In other words, his criteria are formal rather than linked with any inner qualities words might possess.

5 The Development of the Grammar of Numerals after Sibawayhi

5.1 *Differentiation as an Interpretative Tool*

A new criterion appears in the *Muqtaḍab*, which was not used by Sibawayhi, and which can be described as a 'differentiation tool'. In many places, al-Mubarrad draws a distinction between series of words and explains their different behavior by the mere fact that they belong to different series. In other words, he contents himself with the fact that words belong to different categories as a justification for their different behavior. Curiously, by doing so, al-Mubarrad succeeds in giving the impression that here lies a certain consistency (it is consistent that different categories behave differently). This method is as far as one can imagine from Sibawayhi's quest for consistency, whose aim it is to find a limited number of reasons that explain different surface phenomena.

As far as numerals are concerned, al-Mubarrad draws a first distinction between lesser and greater numerals. This distinction accounts for the fact that some numerals have a counted object in the plural and others a singular one (which is only true in the annexational and specifying constructions). It also

55 Chairet (2000:218).

accounts for the fact that some numerals have a unique form in the masculine and in the feminine, while others have two different forms (with the exception of compound numerals, which al-Mubarrad treats as lesser numerals because they are made up of two lesser numerals).

Moreover, each series is due to behave differently from the previous series. In this way, al-Mubarrad explains the difference between decades and hundreds, between units and hundreds, between hundreds and thousands and the differences in the issue of the definite article.

A different meaning can also justify a different behavior, as is the case with the number of the *tamyīz*. In the expression *zaydun 'afrahu al-nāsi 'abdan* 'Zayd is the most gifted person [in terms of] slave', a plural *tamyīz* ('*abīdan* 'slaves') conveys a different meaning. Both constructions are possible, whereas after numerals there would be no difference in meaning since plural is already expressed by the numeral. Thus, numerical *tamyīz* cannot surface in the plural.

This differentiated approach, added to the fact that al-Mubarrad deals with a significantly larger number of issues, definitely confirms the impression that al-Mubarrad's grammar is a 'discrete' one, i.e., a grammar that treats issues separately with a minimal theoretical frame. Bohas et al.⁵⁶ have also described this method of al-Mubarrad as being 'heterogeneous'.

5.2 *Local vs. Global Consistency*

Sibawayhi aims at a global consistency throughout his *Kitāb*. Not only does the expression '*išrūna dirhaman* 'twenty dirhams' serve as a prime example for specifying constructions within the chapter on numerals, but also outside this chapter.⁵⁷ Indeed, the fact that *ṣifāt mušabbaha* are found in all four constructions, appositional, predicative, annexational, and specifying, as in *wajhun ḥasanun* 'a beautiful face', *al-wajhu ḥasanun* 'the face is beautiful', *ḥasanu l-wajhi* 'beautiful of face' and *al-ḥasanu wajhan* 'the beautiful [in terms of] face', is probably the main incentive for Sibawayhi to gather the syntax of all numerals under this chapter.

Although not all numerals are found in all four constructions, they are, when considered together: *'awlādun ḥamsatun* 'five boys', *al-'awlādu ḥamsatun* 'the boys are five', *ḥamsatu 'awlādin* 'five boys' and '*išrūna waladan* 'twenty boys'. As is clear from this series, the difficult case is the last one. Sibawayhi considers it first; once the validity of its position as a subcategory of *ṣifāt mušabbaha* is proven, all other numerals are added to the picture, to which they fit easily.

56 Bohas et al (2006:5).

57 Carter (1972b).

This non-intuitive approach aims at a global consistency for all numerals. It does not mean that numerals resemble the active participle, but that they resemble adjectives that resemble active participles. This 'second degree' resemblance justifies the lesser freedom of behavior that numerals show, in comparison to actual *ṣifāt mušabbaha*.

Al-Mubarrad is confronted with the same consistency issue as Sībawayhi, but he solves it in a radical way: the consistency lies in the fact that each series behaves differently.

As for Ibn al-Sarrāj, his methodology of 'exhaustive divisions' (*taqāsīm*) is very clear in the case of the grammar of numerals, as it is in general. He treats the syntax of the counted object in a subsection called *tamyīz al-ʿadad*, which is itself a subsection of complements in the dependent form, namely those that are not operated on by a verb. The annexational construction is presented at the same place in the *ʿUṣūl*, in what at first sight looks like a subcategory of numerical *tamyīz* for annexable numerals. However, Ibn al-Sarrāj's presentation leaves little doubt that it is the other way round: the specifying construction is a subcategory of the annexational one, and it is only when numerals are not annexable that their counted object is expressed by a noun in the indefinite dependent form.

The conclusion we draw from Ibn al-Sarrāj's presentation is that the numerical *tamyīz* is actually considered first for its meaning (to express the species), and that it surfaces in a specifying construction only when annexation is impossible. We see here the limit of Ibn al-Sarrāj's rigid *taqāsīm* based on the four basic forms that substantives can take (independent, dependent, oblique, and indeclinable). Since his outline is organized according to these four forms, he is compelled to choose one of them to insert the numerical *tamyīz* in his treatise. He adopts the dependent form as the entry point for the expression of the counted object, but then widens its definition in order to include the annexational construction (oblique form). By doing this, Ibn al-Sarrāj maintains some consistency in the system, which is ultimately not based on the syntactic forms that the counted object can take, but on the meaning it expresses (specifying the numeral).

There are two other cases where Ibn al-Sarrāj finds new solutions in order to maintain some consistency within his theory. The first case can be labelled a 'double consistency'. It is the case of 'one hundred' that behaves partly like annexable 'ten' ('one hundred' meaning 'ten tens') and partly like 'ninety', which is followed immediately by 'one hundred' and whose counted object is in the singular.

The second case can be labelled a 'local consistency'. In the interpretation of compound numerals, Ibn al-Sarrāj does not try to reconcile two dif-

ferent approaches, syntactic and morphological. Syntactically, the second part of compound numerals occupies the slot of a *tanwīn*, which prevents their annexation. This interpretation is completely absent from the discussion on their morphology. Since Ibn al-Sarrāj clearly separates issues in his treatise, he discusses syntactic issues in syntactic sections and morphological issues in morphological sections. Consequently, unlike Sibawayhi, Ibn al-Sarrāj has no place to discuss transversal issues. Most of the discussions linked with compound substantives in the *Kitāb* simply disappear in the *'Uṣūl* because only a local consistency is aimed at, rather than a global one.

5.3 *Appearance of Formal Semantic Categories*

Owens,⁵⁸ Ṭāhā⁵⁹ and al-Māḍī⁶⁰ mention semantic constraints in the description of syntactic categories in the *Muqtaḍab* and the *'Uṣūl*, which correspond exactly to what we have observed above in the definition of *tamyīz* in the *'Uṣūl*. In this case, a broad syntactic category (complements in the dependent form) is refined and subdivided into categories that apply only to a limited number of cases (*maf'ūl bi-hi*, verbal *tamyīz*, *tamyīz al-maqādīr*, *tamyīz al-'adad*, and so on). Ibn al-Sarrāj's 'exhaustive divisions' (*taqāsīm*) enable him to present subcategories that are exclusive of one another. All substantives in the dependent form are either operated on by a verb or by a noun; those operated on by a noun are either operated on by a measure or a numeral or *kam* 'how many'. Verbal *tamyīz* and nominal *tamyīz* are clearly separated from the beginning in the *'Uṣūl*.

A first semantic criterion is already operating in these divisions, since the only difference between measures and numerals is their meaning. The case of *kam* is different, since it can replace any numeral. A second semantic criterion appears in what constitutes the semantic shift of the whole category of *tamyīz al-'adad*, which was described above: although it is treated as a subsection of substantives in the dependent form, the annexational construction is actually the base form of this *tamyīz*. What is left in the definition of the numerical *tamyīz* is not its dependent form, nor its singular, nor its indefiniteness, but its meaning: it specifies the numeral. This definitely cuts off the numerical *tamyīz* from its verbal counterpart.

Actually, this obvious shift in the *'Uṣūl* is also present in the *Muqtaḍab*. There, it is less striking, because of the differentiated approach of al-Mubarrad,

58 Owens (1990).

59 Ṭāhā (1995).

60 al-Māḍī (2009).

which makes general categories less compelling. Unlike Ibn al-Sarrāj, al-Mubarrad does not separate verbal *tamyīz* and nominal *tamyīz*. According to him, *tamyīz* complements are operated on either by a verb or by a word that behaves like a verb, either because of its meaning (*li-l-ma'nā*), or its behavior (*li-l-ṭaṣarruf*), or its surface level (*li-l-lafẓ*).

This definition is based on formal criteria, namely, the dependent form in which the *tamyīz* surfaces. However, al-Mubarrad quickly shifts to a semantic definition of the *tamyīz* as the expression of the species and he adds that it can surface in the oblique form, as in *kullu rajulin* 'every man', *mi'atu dirhamin* 'a hundred dirhams' and *'anta 'afrahu 'abdin fī l-nāsi* 'you are the most gifted slave among the people'. What is left from the first definition of *tamyīz* is the specification meaning, as well as the singular and the indefiniteness. With this new definition, there is a consistency issue with numerals between 'three' and 'ten', which al-Mubarrad solves by saying that, as base form numerals, they do not need a *tamyīz*. There is another difficulty with 'hundreds' and 'thousands', whose counted object can take the definite article, although al-Mubarrad explicitly says that *tamyīz* should be indefinite. This case is not elucidated by him and we cannot predict whether or not he would call the definite expression *al-dirham* in *mi'atu al-dirhami* 'the hundred dirhams' a *tamyīz*.

Ibn al-Sarrāj solves this difficulty by introducing a distinction between two types of definite nouns: those referring to the whole genus and those referring to one specific item. It is thus possible for the specifier to carry the definite article, since this does not prevent it from referring to the whole genus, as in *mi'atu al-dirhami* 'the hundred dirhams'. This distinction is only semantic, since *al-dirham* could also refer to 'this very dirham that you and I know', depending on what is intended by the speaker.

It is remarkable that neither al-Mubarrad nor Ibn al-Sarrāj is disturbed by the fact that their definition of *tamyīz* changes radically from a clear dependent form analysis to a semantic category, which can surface in two different constructions. The reason why they see no contradiction is probably due to the fact that meaning is primary. Their grammar is subordinated to the meanings expressed. If syntactic constructions were al-Mubarrad's and Ibn al-Sarrāj's primary concern, this shift would not have passed unnoticed. In the case of Ibn al-Sarrāj, it is less evident, since the whole section on substantives is organized according to case endings, but he does not hesitate to subsume the annexational and the specifying constructions under the subsection of *tamyīz al-'adad*.

This is a drastic case. There are more cases in the *'Uṣūl* where Ibn al-Sarrāj simply introduces a semantic constraint in order to distinguish one subcategory from another and explain different syntactic behaviors. In these cases,

there is no syntactic conflict within the category, but semantic subcategories are set up to correspond better to syntactic ones. This is the case of the *ʾidāfa* construction that can express different meanings. The case of the expression *ʾiṣrū zaydin* exemplifies the idea that different meanings can justify different syntactic behaviors. If annexation means possession, it is licit to say *ʾiṣrū zaydin* 'Zayd's twenty', whereas if it expresses the counted object, it is not licit to annex *ʾiṣrūna* (**ʾiṣrū dirhamin* 'twenty dirhams'). Typically, this discussion is found in both the *Muqtaḍab* and the *ʾUṣūl*, but not in the *Kitāb*.

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