

al-Thaqīl wa al-Khafīf: Towards a Unified Theory of ‘Heavy’ and ‘Light’

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Abstract

Linguists of Arabic, from Sībawayh (180/796) on, imbued the concepts of *thaqīl* “heavy” and *khafīf* “light” with immense explanatory power. These concepts were invoked to explain linguistic phenomena at all levels: the phonetic, the phonological, the morphological, as well as at the sentence level. For example, at the phonetic level the vowel *a* is considered “lighter” than *u* because it requires less effort to pronounce. Another type of “heaviness” was abstract and had no phonetic realization. For example, grammarians considered the noun to be “lighter” than the verb. What did grammarians mean when they called a unit of language “lighter” than another? Is phonetic “lightness” related to the abstract type of “lightness”? This article shows that “heaviness” and “lightness” can be defined identically at all levels. “Heaviness” is related to a greater effort or burden. This definition can be applied to all types of heaviness: the phonetically realized as well as the abstract. Examples will show that grammarians considered the concept of “heavy”/“light” to be a single unified idea which could be invoked equally at all linguistic levels and at varying degree of abstractness.

Keywords: *al-Kitāb*, heavy, *thaqīl*, heaviness, *thiqal*, light, *khafīf*, lightness, *khiffa*, phonetics, *tamakkun*, Sībawayh, al-Warrāq

1. Introduction

Linguists of Arabic invoked the notions of “heaviness” (*thiqal*) and “lightness” (*khiffa*) to explain linguistic phenomena at all levels of analysis: the phonetic, the phonological, the morphological, the syntactic, and the semantic. Guillaume, working toward a definition of the terms, suggests that a linguistic element that is “light” requires less effort than one that is “heavy,” but, he adds, such a definition is based more on a subjective impression than on clearly discernable properties (243). I propose here that “heavy” and “light” can be defined rigorously. That is, “heaviness” has a single, unified definition: it refers to the addition of something extra, an added element or component. And the added element creates a greater burden on one of the interlocutors. This definition applies at all levels of language. Chairet discusses some of the differences between Sībawayh and those grammarians who followed him. Sībawayh had a richer system in which heaviness and lightness were gradient features and played a major role, whereas later grammarians reduced his system to a narrower focus

on case endings and neglected heaviness and lightness (216-17, 224). These differences notwithstanding, it should be noted that Arab grammarians of all persuasions and across different time periods were nonetheless quite consistent in their use of these terms as explanatory tools, and in the meanings they assigned to them. Sībawayh and his contemporary al-Farrā' (d. 207/822) invoked them for their analytical power just as later grammarians did. Kūfan grammarians such as Tha'lab (d. 291/904) did not give them different senses than Baṣran grammarians such as al-Mubarrad (286/900). For example, al-Zajjājī (d. 339/950) dedicated a chapter of *al-ʿĪdāh* to explaining why verbs are heavier than nouns (100-101). Sībawayh stated the principle much earlier (1/20-21). Al-Zajjājī does not dispute, or cite anyone who disputes, the additional heaviness of verbs. He accepts it as given, and only offers differing views as to what it is about verbs that causes us to declare them heavy. He cites Kūfan grammarians, who do not disagree that verbs are heavy, but only offer varying analyses regarding the reason for the heaviness.

The article is structured as follows: first, the types of heaviness and lightness that were recognized by the grammarians will be listed. Then, we will see how the concepts were used in their analyses to explain aspects of the nature of language. It will then be shown that “heavy” and “light” can be defined in a unitary way across all levels of linguistic analysis. Finally, we will explore a possible metaphor that the grammarians may have had in mind when using these terms.

2. Types of heaviness and lightness

2.1 Heaviness and lightness in words and sentences

In the most direct application of the definition given above, “heaviness” at the sentence or word level simply refers to the presence of extra material. A longer sentence is “heavier” than a sentence with fewer words, and a word made up of a greater number of segments is “heavier” than a word comprised of fewer. A sentence with more morphemes than another is the heavier.

2.1.1 Deleted morpheme

Sībawayh states that *ʿishrūna dirham-an* “twenty dirhams” is derived from *ʿishrūna min al-darāhim-i* and that the preposition *min* is deleted to make the utterance “lighter” (فاخْتَصَرُوا وَاسْتَخَفُّوا) “They shortened it and made it lighter”) (1/203). Similarly, *ʿawwal-u rajul-in* “the first man” is derived from *ʿawwal-u l-rijāl-i* “the first of the men,” but the definite

article *al-* is deleted to “lighten” the utterance (“It was deleted to render the utterance lighter and shorter” (فَحَذِفَ اسْتِخْفَافًا وَاخْتِصَارًا) (Sībawayh 1/203). Also, *dakhal-tu-hu* “I entered it” should be seen underlyingly as *dakhal-tu fī-hi*, where the preposition *fī* is deleted for the purposes of “lightening” the utterance” (أَلْقِيَ "فِي" اسْتِخْفَافًا) (Sībawayh 4/10).

2.1.2 Deleted vowel

Sībawayh refers to the addition of the short vowel *a* in the plural of the name *Da^cd* (*Da^cadāt*) as making the word heavier (فَتَقَلَّتْ) (3/397). He states that dialects that do not add *u* after the *r* in *ghurfāt* “rooms” (plural of *ghurfa* “a room”) use a light version of the plural (فَخَفَّتْ) (3/581).

2.1.3 Gemination

Al-Khalīl ibn ‘Aḥmad (d. 175/791) began his dictionary with geminated verbs because they are “lighter on the tongue” (لِأَنَّهُ أَخْفُ عَلَى اللِّسَانِ) (1/60). He contrasted verbs containing geminated consonants with their reduplicative counterparts. For the verb *ṣalla* “to jangle,” for example, a speaker may choose to make the *l* heavier (تَثَقَّلَهَا), in which case it is geminated, or may choose to repeat the *ṣ* and *l* sounds, in which case the *l* is made lighter (فَالثِقَلُ مَدٌّ وَالتَّضَاعُفُ) “Heaviness is prolonging the sound, and reduplication is when it is repeated and is lighter”) (1/56). The geminated version of *lākinna* “but” and *inna* “indeed” are said to be the “heavy” versions (ثَقِيلٌ/مُثَقَّلٌ) (Sībawayh 2/145; Tha^clab1/132). Sībawayh states that if we want to use the pronoun *huwa* “he,” or the particles *law* “if,” *aw* “or,” or *kay* “in order that” as proper nouns, we must make them “heavy”: *huww*, *laww*, *’aww*, *kayy*; that is, we must geminate the glide (3/261-3).

2.1.4 Reduced material

Al-Farrā’ states that *’aysh* “what?” is derived from *’ayy-u shay’-in* “which thing?”, of which it is a lightened version (ثَقِيلٌ أَكْبَرُ شَهَادَةً فَقُلْتُ أَيُّ شَيْءٍ أَكْبَرُ شَهَادَةً فَقُلْتُ أَيُّ شَيْءٍ أَكْبَرُ شَهَادَةً) “Then in the Qur’ānic verse 6:19, ‘Say...What thing is greatest as testimony?’, I would have lightened *’ayy-u shay’-in* ‘what thing?’ to *’aysh-in*”) (al-Farrā’ 2/353).¹ Al-Warrāq (d. 381/991) states that the past-tense verb is “lighter” to utter than the present-tense verb (الْمَاضِي أَخْفَ فِي اللَّفْظِ مِنْ) (المُسْتَقْبَلِ) (246). This is to be understood as meaning that it contains less material.

¹ Qur’ān translation is from Nasr (346).

2.2 Phonetic heaviness and lightness: heaviness as a property of sounds

At the phonetic level, certain sounds are considered heavier than others.

2.2.1 Vowels

The Arab grammarians seem to accept as axiomatic the idea that the *u* is the heaviest of vowels, then *i*, with *a* being the lightest. Sībawayh, for example, states that the short vowel *i* is lighter than *u*, and he adduces frequency of occurrence as proof. Verbs with a medial *i* sound are more frequent than verbs with a medial *u* (أَلَا تَرَى أَنَّ فَعَلَ أَكْثَرَ فِي الْكَلَامِ مِنْ فَعَلٍ) “Don’t you see that verbs on the pattern *fa^cila* occur more frequently than verbs on the pattern *fa^cula*?”). Similarly, the greater frequency of nouns with medial *a* is evidence that *a* is the lightest vowel, as is the fact that many speakers delete the medial *u* and *i* from words like *‘aḍud* “upper arm” and *kabid* “liver,” but not the medial *a* from words like *jamal* “camel” (وَلَيْسَ شَيْءٌ أَكْثَرَ فِي كَلَامِهِمْ مِنْ فَعَلٍ أَلَا تَرَى أَنَّ الَّذِي يُخَفِّفُ عَضُدًا وَكَبِدًا لَا يُخَفِّفُ جَمَلًا) “There is no pattern more frequent in their speech than *fa^cal*. Do you not see that the person who lightens the words *‘aḍud* ‘upper arm’ and *kabid* ‘liver’ does not lighten *jamal* ‘camel’?”) (Sībawayh 4/37).

2.2.2 Why are some vowels considered lighter than others?

Bohas, citing Ladefoged, proposes that there is a correspondence between the relative sonority of the vowels, and the perceived “heaviness” of each. The greater the sonority of the sound, the lighter the vowel (207-8). Phoneticians and phonologists frequently invoke the concept of “sonority,” especially in discussions of the syllable. But it, like the “syllable” itself, has no commonly agreed upon definition which definitively accounts for all of its properties. It correlates roughly to the loudness of a sound: the louder the sound in relation to other sounds, the more sonorous (Ladefoged 239). But this definition does not tell the whole story. Parker mentions the “inability of researchers to offer a phonetic definition of sonority which covers the exact range of phonological distinctions that need to be made” (43-48). He lists nearly 100 different acoustic and articulatory properties of sound that have, at various times, been linked to sonority.

A more exact phonetic correlation with “heaviness” and “lightness” of vowels might be found in the articulatory properties of the vowels. Bohas and Guillaume note that the lightest vowel *a* is a low vowel. The next in terms of heaviness is *i*, a high vowel, and the heaviest *u* is a high vowel which also adds the feature of lip rounding (1984: 36-7). Each

increase in the heaviness scale is accompanied by an additional phonetic feature, and each additional feature represents greater articulatory effort. Heaviness at the phonetic level, then, correlates with additional muscular effort expended in the pronunciation of the vowel. In a sense, this definition does correspond with that of sonority, as Parker mentions “articulatory effort” and “jaw height” among the many articulatory properties which correlate negatively with sonority (47-8).

Sībawayh and al-Farrā’ agree with this reasoning. For Sībawayh, *a* is lighter because it does not take the same effort to produce as *u* or *i*. Specifically, no action is required of the lips or tongue, so that *a* is characterized by nothing more than exhalation of air

إِنَّمَا خَفَّتِ الْأَلْفُ هَذِهِ الْخِفَّةَ لِأَنَّهُ لَيْسَ مِنْهَا عِلَاجٌ عَلَى اللِّسَانِ وَالشَّفَةِ وَلَا تُحْرَكُ أَبَدًا فَإِنَّمَا هِيَ بِمَنْزِلَةِ النَّفْسِ فَمِنْ
ثُمَّ لَمْ تَنْتَقِلْ ثِقَلُ الْوَاوِ عَلَيْهِمْ وَلَا الْبَاءِ

“This lightness of the long *ā* sound is because it does not represent any exertion of the tongue or the lips, and a short vowel is never placed after it. It is equivalent to a breath, and in that regard is not as heavy for them as *ū* or *ī*” (Sībawayh 4/335-36).

Al-Farrā’ similarly proposes that *u* and *i* involve more effort—the movement of the corners of the mouth for *i*, and rounding for *u*—whereas *a* requires no effort

يُسْتَنْقَلُ الضَّمُّ وَالْكَسْرُ لِأَنَّ لِمَخْرَجِيهِمَا مَوْنَةً عَلَى اللِّسَانِ وَالشَّفَتَيْنِ تَنْضَمُ الرَّفْعَةُ بِهِمَا فَيَثْقُلُ الضَّمُّ وَيُمَالُ أَحَدُ
السِّدْقَيْنِ إِلَى الْكَسْرِ فَتَرَى ذَلِكَ تَفْيِلاً وَالْفَتْحَةَ تَخْرُجُ مِنْ خَرَقِ الْقَمِّ بِلَا كُلْفَةٍ

“The *u* and *i* sounds are considered heavy because pronouncing them involves effort for the tongue. The two lips are brought together when *u* is pronounced. For that reason, *u* is heavy. One of the corners of the mouth must be extended out to pronounce *i*, which is also considered heavy. The *a* sound, on the other hand, issues from the opening in the mouth with no additional effort required” (2/13).

“Heaviness,” then, at the phonetic level, correlates with additional articulatory effort.

2.2.3 Voicing

Sībawayh states that unvoiced sounds (*mahmūsa*) are lighter than voiced (*majhūra*) (4/450). His *majhūra/mahmūsa* scheme does not correspond exactly to the voiced/unvoiced dichotomy, as *q* and *t* are included in the *majhūra* category. Carter suggests that the categories *majhūra/mahmūsa* may have referred to Sībawayh’s perception of “the degree of effort required in producing the sound.” It could also be that *q* and *t* were voiced in Sībawayh’s time (Carter 126). In either case, the heaviness of the *majhūra* category should

be understood as the presence of something which requires greater effort on the part of the speaker in producing the sound.

2.3 Heaviness with no phonetic realization: “abstract” heaviness

Heaviness can exist on a more abstract level as well. Words with additional semantic components are heavier than words with fewer semantic components. According to Sībawayh, for example, definite nouns are heavier than indefinite, and the feminine is heavier than the masculine (1/22). Verbs are also heavier than nouns (1/20). Grammarians also considered the plural to be heavier than the singular (al-Warrāq 167; Ibn al-Sarrāj 3/1055).

2.3.1 Definite vs. indefinite

For Sībawayh, the indefinite noun is lighter than the definite, because definiteness is an element that is added to a noun. Its purpose is to narrowly specify the identity of the referent (التَّكْرَةُ أَوْلُ ثُمَّ يَدْخُلُ عَلَيْهَا مَا تُعْرَفُ بِهِ) “The indefinite comes first, then that by which it becomes definite is added to it”) (Sībawayh 1/22).

Al-Sīrāfi (d. 368/979) similarly defines definiteness as a *ḥādith*, an added element. An indefinite noun is not specific and could refer to any member of a class of things. Additional information narrows the reference to a specific member of the class. For example, *rajul* “a man” can refer to any member in the class of men. Then, with the addition of the definite article (*al-rajul* “the man”), the listener finds out that a specific man is intended

والتعريف حادث لأن الاسم تَكْرَةُ فِي أَوَّلِ أَمْرِهِ مُبْهَمٌ فِي جِنْسِهِ ثُمَّ يَدْخُلُ عَلَيْهِ مَا يُفَرِّدُهُ بِالتَّعْرِيفِ حَتَّى يَكُونَ اللَّفْظُ لَهُ دُونَ سَائِرِ جِنْسِهِ كَقَوْلِكَ رَجُلٌ فَيَكُونُ هَذَا اللَّفْظُ لِكُلِّ وَاحِدٍ مِنَ الْجِنْسِ ثُمَّ يَحْدُثُ عَهْدُ الْمُخَاطَبِ لَوَاحِدٍ مِنَ الْجِنْسِ بَعَيْنِهِ فَتَقُولُ الرَّجُلُ

“Definiteness is an added element because a noun is at first indefinite; it is not known which member of its category it refers to. Then something is added to it which distinguishes it by making it definite. Then, the noun refers to that one member of its category and no other. For example, you might say *rajul* ‘a man.’ This expression denotes every member of the category ‘man.’ Then, something is added which causes the listener to know that the reference is to one specific member of the category: you say *al-rajul* ‘the man’” (al-Sīrāfi 2/35).²

² A similar argument is made in al-Warrāq (457).

For al-Zajjājī, the element added to the definite is the extra thought required on the part of a listener. When a definite noun is uttered, the listener must think about which specific member of a class is being referred to (وإذا دُكِرَ الاسم المَعْرُوف فلا بدّ من الفِكر في تَحْصِيلِهِ دُونَ) “When a definite noun is uttered, one must think to figure out which particular individual it refers to out of all the others which share its name” (al-Zajjājī 100).

2.3.2 Feminine vs. masculine

Sībawayh mentions that the feminine is heavier than the masculine (1/22). Al-Sīrāfī explains the reason: all things can be called *shay'* “thing,” a masculine noun. Therefore, even things that are referred to with feminine nouns may also be considered masculine. On the other hand, there are some things that cannot be referred to using feminine nouns. The masculine, then, is the default, the most basic form, and the feminine should be considered an added component. He cites as proof the fact that the feminine is marked by the presence of an additional morpheme, the *-a* suffix (al-Sīrāfī 2/36-7). Note that it is not this added morpheme which renders a word feminine. Feminineness is rather an abstract semantic component and the feminine suffix merely a marker. Al-Sīrāfī cites the added suffix to point out that feminineness is always something added to the masculine, but he does not claim that it is that suffix itself which makes a word feminine. Al-Warrāq, in fact, states that feminineness is an additional element, one that is added to the masculine, even when it is not phonetically realized (وأما التأنِيث فحُكْمُهُ زَائِدٌ عَلَى حُكْمِ الْمُذَكَّرِ وَإِنْ لَمْ يَكُنْ لَفْظُ التَّأْنِيثِ مَوْجُودًا فِيهِ) (459-60).

2.3.3 Verbs and nouns

Sībawayh declared that verbs are heavier than nouns because a verb must be accompanied by a noun, but a noun need not be accompanied by a verb. You can form a sentence without a verb, but no sentence can be formed without a noun (1/20-21). Ibn Yaʿīsh (d. 643/1245) elaborates: every verb must be accompanied by a noun which serves as its subject, but a noun does not need a verb to form a sentence. Nouns, then, are more frequent than verbs, and frequency leads to lightness. For example, for non-Arabs, Arabic is heavier than it is for Arabs, more difficult to speak, because non-Arabs do not use it frequently. The same is the case when Arabs try to speak a foreign language (Ibn Yaʿīsh 1/57). He also suggests another approach: since verbs are accompanied by subjects and objects, they are similar to compound nouns in that they consist of multiple parts, and single words are lighter than compound words (1/57). Al-Zajjājī, citing al-Kisāʿī (d. 189/805) and al-Farrāʿ, offers a similar analysis,

stating that a noun refers to a single thing, but when a verb is uttered, the listener must think about who the agent of that verb is (والفعل إذا ذُكِرَ لم يكن بدّ من الفكر في فاعله) “When a verb is uttered, it is necessary to think about who its agent is”) (al-Zajjājī 100; see also al-^oUkbarī 116.). The interpretation of a verb, then, requires more effort on the part of the listener than that of a noun. As Guillaume points out, this extra processing only occurs in the abstract sense: in a real-world utterance, a subject is always provided along with a verb (254-55).

Al-^oUkbarī (d. 616/1219) attributes the lightness of the noun to the fact that it refers only to itself, and does not need another word to complete its meaning. The verb, on the other hand, must always be accompanied by additional elements: subject, object, conjugational suffixes, etc. Furthermore, the verb’s meaning consists of more than one component. It refers to both an action and a time. These elements are all abstract in that, with the exception of the inflectional endings, they have no visible manifestation on the verb itself (al-^oUkbarī 116).

2.3.4 A thing derived from another thing

A word that is derived from another also involves an additional element because it is a *far^c* “a branch” as opposed to an *’aṣl* “a root.” A *far^c* is based on a more basic, original form. According to al-Sīrāfī, something is added to a noun to change it from its original form to its new form (al-Sīrāfī 2/36).

2.3.5 Loan words vs. Arabic words

Words borrowed from other languages also involve something extra, as they, too, are *far^c*: they are based on a more basic, original form. This is because they are added to the original language. Arabs spoke Arabic first, then added foreign elements to it (al-Sīrāfī 2/36).

2.3.6 Compound words

Compound words are *far^c* as they are based on individual isolated words brought together to form a single word (al-Sīrāfī 2/36). Examples of such words include the proper noun *Ma^cdī-kariba*, and the numbers from 11-19, for example, *khamsata ‘ashara* “fifteen” (al-Sīrāfī 2/36).

2.3.6 Summary of abstract heaviness

The type of heaviness described here is not phonetic. It does not involve increased muscular effort. Rather, it is abstract as it entails the addition of some unseen element with no phonetic

manifestation on the word itself. Al-ʿUkbarī describes this heaviness as not detectable at the phonetic level. It is connected rather with the meaning of the word (الخِفَّةُ والتَّثْقِيلُ يُعْرَفَانِ مِنْ طَرِيقِ) “Lightness and heaviness are known by considering the meaning of an utterance, not by its outward phonetic form”) and (الْفَرْقُ بَيْنَهُمَا غَيْرُ مَعْلُومٍ مِنْ لَفْظِهِمَا) “The difference between them is not known by means of their phonetic form”) (al-ʿUkbarī 116). Al-ʿUkbarī defines a lighter word or sentence as one which has less material accompanying it, and whose meaning is composed of fewer components; that which is heavy has more (الخَفِيفُ مَا قَلَّتْ مَدْلُولَاتُهُ وَلِوَازِمُهُ وَالتَّثْقِيلُ مَا كَثُرَ ذَلِكَ فِيهِ) “The light is that which has fewer referents, and fewer things that accompany it. The heavy is that which has many of those”) (al-ʿUkbarī 116).

Heaviness, then, does not always entail more muscular effort, but it seems to have been understood that it required more effort of some kind. Sībawayh states that the masculine and the indefinite are lighter “for them” (أَخَفَتْ عَلَيْهِمْ) (1/22). That is, they are less of a burden on them. Ibn Yaʿīsh uses the same expression, stating about the indefinite: النِّكْرَةُ أَخَفَتْ عَلَيْهِمْ “The indefinite is lighter upon them” (1/57). The use of عَلَيْهِمْ *alayhim* “on/for them” indicates that he believed a lighter thing to be less burdensome, a thing that requires less effort. Is the female name *Samar* more burdensome and difficult to pronounce than the male name *Tahsīn*? In terms of muscular effort, certainly not, as *Samar* consists of fewer segments. But the grammarians felt that feminineness was an additional element that required some form of extra effort to process.

3. The Use of “heavy” and “light” in analysis

For Arab grammarians, the concepts of “heavy” and “light” played a powerful role in explaining why language is bound by particular rules and not others. Ibn Jinnī (d. 392/1002) saw the eternal quest for ease of articulation as a general principle, at least in Arabic. He explains that Arabs like lightness. If you doubt this, he states, look at the Qurʾān or at any sample of eloquent Arabic. It contains much deletion and the use of less to mean more

أَلَا تَرَى إِلَى مَا فِي الْقُرْآنِ وَقَصِيحِ الْكَلَامِ مِنْ كَثْرَةِ الْخُذُوفِ كَحَذْفِ الْمُضَافِ وَحَذْفِ الْمُوصُوفِ وَالِاِكْتِفَاءِ بِالْقَلِيلِ
مِنَ الْكَثِيرِ كَالْوَاجِدِ مِنَ الْجَمَاعَةِ وَكَالتَّلْوِيحِ مِنَ النَّصْرِيحِ

“Do you not see how the Qurʾān and other eloquent speech contains much deletion, for example the deletion of the first noun in a construct relationship, and the deletion of modified nouns? There is also the use of a little to express a lot, as when a singular

is used to refer to a greater number, and when things are alluded to instead of mentioned outright” (Ibn Jinnī 1/86).

To illustrate the Arab’s love for lightness, Ibn Jinnī relates an anecdote. ‘Abū Ḥātim al-Sijistānī (d. 255/869), he states, was teaching a Bedouin the Qur’ān, when they came to the word *tūbā* “blessedness” in al-Raʿd 13:29: *tūbā lahum wa-ḥusn-u ma’āb-in* “theirs is blessedness and a beautiful return.”³ The Bedouin, when it came time to repeat the word, said *tībā*. His teacher asked him to repeat several times and each time he said *tībā* instead of *tūbā*. Then the teacher asked him to repeat the nonsense word *tūṭū*. The Bedouin responded, “*tītī*.” As mentioned above, *i* is a heavier vowel than *u*, and it is the Arabs’ love of lightness that inspired the Bedouin to replace the heavier *u* with *i* each time (Ibn Jinnī 1/75-6).

3.1 Ease of articulation vs. fear of ambiguity

Ambiguity plays an important role in those analyses which invoke heaviness and lightness. Things can be lightened to ease the burden on the speaker, but only if such lightening does not lead to possible confusion between two different meanings. It is a general principle that in the forging of sound systems, “perceptual and articulatory factors conflict, maximizing perceptual distinctiveness comes at the price of greater articulatory difficulty, while minimizing articulatory effort reduces perceptual distinctiveness” (de Lacy 62). The Arab grammarians recognized this important constraint. For example, Sībawayh states that some pronounce the present tense of verbs on the pattern *faʿila* as *yifʿal* instead of *yafʿal*, where *y* is followed by *i* instead of *a*. This creates a distinction between verbs whose past tense form is on the pattern *faʿila* and those on the pattern *faʿala*, as the *y* in the present tense of the latter is followed by *a* and not *i*. Verbs whose past-tense form is *faʿula*, however, are never pronounced *yufʿul* in the present tense (with *u* after *y* instead of the standard *a*) because two consecutive *u* sounds are heavier than *i-a* and there is no ambiguity that might be avoided by using the heavier sounds (ولم يخافوا التباس معنيين) “They were not afraid that two meanings would be conflated”) (Sībawayh 4/113). The implication is that if the use of a heavier element may be necessary to avoid ambiguity, then Arabic speakers might choose the heavier form. But if there is no danger of ambiguity with the use of a lighter form, then they prefer the lighter.

Sībawayh also states that the reason the medial *ā* is deleted in *lam yakhaf* “he didn’t fear” is because if we were to keep the long *ā*, we would need to place a vowel after it, and

³ Translation from Nasr (623).

the *ā* would then need to turn into *y* or *w*, resulting in *yakhwaf*. Arabic speakers prefer to stay away from such a heavy sequence, as there is no need for it since there is no ambiguity that is avoided when it is used (حيث لم يخافوا التباساً) “as they did not fear ambiguity”) (Sībawayh 4/156). He also states that when the noun *qāḍī* “judge” is genitive it does not take a final *i* ending as genitives normally do since the absence of the case ending is lighter and leaving it off poses no danger of ambiguity (2/223).

Al-Warrāq tells us that the present-tense form (*al-muḍāriʿ*) should be used in conditional expressions since the action described is to occur in the future. But the past-tense form is used instead because it is lighter and there is no danger of ambiguity (وأمنوا اللبس) “because the past tense is lighter than the present... and they are secure from ambiguity”) (al-Warrāq 439). Al-Mubarrad similarly states that *yā bnat-a ʿamm-ī* “Oh my cousin” in a line of poetry he cites may alternatively be read as *yā bnat-a ʿamm-ā* where a long *ā* replaces the attached first person possessive pronoun *ī*. This replacement occurs because *ī* is heavy and replacing it here does not lead to any ambiguity (لأنّ الياء والكسرة مُستقلتان وليس هذا موضع لبس) “because *ī* and *i* are found to be heavy, and this is not a place where ambiguity occurs”) (al-Mubarrad 4/252).

3.2 Lightness is preferred

The ambiguity factor notwithstanding, Arab grammarians believed that the tendency to lighten things, to expend the least effort in the formation of speech, was a general principle that explained many facts about language. Kirchner states that the design of phonological systems is under a constraint which he calls “LAZY,” the principle of effort minimization which is in ongoing conflict with “faithfulness to auditory features” (xiii). It is this phonological constant that Ibn Jinnī referred to as the Arabic speaker’s love of lightness. Some of the phonological processes that grammarians explained as a result of the tendency towards reduction of articulatory effort include substitution (*badal*), deletion (*ḥadhf*), metathesis (*qalb*), transfer (*naql*), gemination (*ʿidghām*), and epenthesis, the insertion of a helping vowel (Bohas and Guillaume 2006: 80-92).

Sībawayh, for example, explains that *kam jidhʿ-in* in the expression *ʿalā kam jidhʿ-in bayt-u-ka mabniyy-un* “How many wooden beams is your house built on?” is derived from *kam min al-judhūʿ-i* but *min* was deleted to make the expression “lighter on the tongue” *takhfif-an ʿala l-lisān* (2/160). Also, *ʿamsi* “yesterday” in *laqītu-hu ʿamsi* “I met him yesterday” is derived from *bi-l-ʿamsi* but *bi-* is deleted for the same reason: *takhfif-an ʿala l-*

lisān (2/163). He also states that when a final *-iyy* is suffixed to names such as *'usayyid* and *ḥumayyir* to form adjectives, the second medial *y* drops along with the short vowel *i* which follows it. Both *y* sounds followed by the *-iyy* suffix would be too heavy (استنقلوه). It must be the second *y* that is deleted, the one followed by *i*, because if the first *y* were deleted, leaving the *i*, the result would be several consecutive occurrences of the consonant-vowel sequence, as well as two consecutive *i* sounds (*'usayidiyy/ ḥumayiriyy*). Such a sequence would be no less heavy than *'usayyid-in*, and the Arabs would not derive one heavy sequence from another, especially if the derived one occurs less frequently than the original form. Removing the second *y* as well as the short vowel *i* that accompanies it lightens the word for them (وكان) “Deleting the short vowels is what lightens the utterance for them”) (3/370-71).

Al-Warrāq states that the phenomenon whereby two identical consonants are blended into a single geminated one is a result of the search for lightness. A thing that is already light does not need to change (حَمَلَهُمْ عَلَى الإِدْغَامِ طَلَبَ الخِفَّةَ لِأَنَّ الشَّيْءَ إِذَا كَانَ خَفِيفًا بَقِيَ عَلَى أَصْلِهِ) “What caused them to use gemination is the quest for lightness. If a thing is light, it remains in its original form”) (al-Warrāq 555). Leaving the two vowels separated would be too heavy, because the speaker must raise the tongue, then lower it, then immediately raise it again. When the two consonants are combined into a single geminated one, the speaker must only raise the tongue to the required position once

وإِنَّمَا وَجِبَ الإِدْغَامُ لِئَلَّا تَعُودَ مِنْ حَرْفٍ نَطَقْتَ بِهِ إِلَى مِثْلِهِ مِنْ وَسَطِهِ وَإِذَا أَدْغَمْتَ رَفَعْتَ لِسَانَكَ عَنِ الحَرْفِ
الْمُدْغَمِ فِي الأَخْرِ رَفْعَةً وَاحِدَةً

“Gemination is necessary so that you do not finish pronouncing a sound then go back to pronouncing the same sound again after pronouncing the sound that is between them. When you geminate, you raise your tongue only once to pronounce the two geminated sounds” (al-Warrāq 555).

Note that gemination here is a form of lightening because it prevents the speaker from expending additional effort. Gemination of the type discussed earlier, where *huwa* becomes *huww* makes the word heavier because it involves adding a sound when there previously was none.

Sībawayh also tells us that *mīzān* is derived from *miwzān*, in which the *w* assimilates to the *i*, resulting in a long *ī*, because *i* followed by *w* is too heavy (أَبْدَلُوا الياءَ لِاسْتِثْقَالِهِمْ هَذِهِ الوَاوُ) “They substituted with *ī* because they found *w* following *i* to be too heavy”) (Sībawayh 3/458). In the diminutive form, this difficulty goes away so the *w* remains

unchanged: *muwayzīn* (Sībawayh 3/457-58). Similarly, the plural of *qaws* “bow” is *ʿaqwās* and not *ʿaqwus* because the sequence *w* followed by *u* is too heavy (كراهية الضمّة في الواو فلما نُقِلَ) “because they hate *w* followed by *u*. Since that sequence was too heavy, they gave it the *ʿafʿāl* pattern”) (Sībawayh 3/586).

By the same token, why is it that the initial *w* in *waʿada* “he promised” is deleted when the verb is placed in the present tense (*yaʿid-u*), whereas when *yaʿisa* “he despaired” is placed in the present, the *y* remains (*yayʿas-u*)? To explain the phenomenon, Sībawayh again invokes heaviness and lightness. Recall, *u* is the heaviest of the vowels, so the corresponding glide *w* is heavier than *y*. Therefore, *y* followed by *w* is heavier than *y* followed by *y* and Arabic speakers are more likely to avoid the former sequence than the latter

ذلك أنّ الباء أخفّ عليهم ولأثّهم قد يفرّون من استئقال الواو مع الباء إلى الباء في غير هذا الموضع ولا يفرّون من الباء إلى الواو فيه وهي أخفّ . . . فلما كان أخفّ عليهم سلّموه

“That is because *y* is lighter for them. In other contexts, they may avoid the heaviness of *w* and *y* together by changing *w* to *y*, but they would never avoid *y* by changing it to *w*. The *y* sound is lighter... Since it is lighter, they keep it intact” (Sībawayh 4/54).

The tendency, then, is towards the lighter; that is, the least effort. As mentioned above, if reducing an element results in confusion of any kind, it must be avoided. There are times, however, when the heavier sound may be chosen instead of the lighter in order to avoid an even heavier sequence.⁴ Other miscellaneous factors unrelated to ambiguity may also override the tendency towards ease of articulation. For example, the negative particle *lam* negates the past tense, yet is followed by a present-tense verb. Why? Because if it were permissible to use *lam* with a past-tense verb, no one would ever use it with a present-tense verb since the past-tense form is lighter. However, *lam* is one of those particles which place verbs in the jussive mood. If it were only followed by past-tense verbs, it would never have an opportunity to perform its basic function: placing verbs in the jussive mood

وقد أوجبت العلة إسقاط الأصل واستعمال النقيض أعني المضارع فلم يُجز أن يُرجع إليه لأثّهم لو استعملوا الأصل الذي هو الخفيف وقّع الجازم على غير ما بُني له

“For the reasons mentioned, the basic form is abandoned and the heavier form—the present-tense form—is used. We cannot return to the basic form because if that lighter form were used, a particle which assigns mood would occur before a verb which it cannot assign mood to” (al-Warrāq 200).

⁴ For a list of such instances, see Bakhīt (24-5).

In addition, the noun pattern *fu^eul* is more common than the pattern *fu^eal*, though the opposite would be expected since *a* is lighter than *u*, and *fu^eal* contains *a* where *fu^eul* has *u*. Ibn Jinnī's explanation for the greater frequency of *fu^eul* is that the pattern *fu^eal* is reserved mostly for words which are derived from other words. It is not an independent pattern that stands alone as *fu^eul* is, so is used less frequently (Ibn Jinnī 3/180-81).

In some cases, a sound that is stronger may be chosen over one that is weaker, even though the stronger sound is heavier. Though the long *ā*, for example, is lighter than the glottal stop, it is also not as strong, as it cannot be followed by short vowels. There are times when the glottal stop may be used instead of long *ā* for that reason (Ibn Jinnī 1/69).

3.3 Lightening of the glottal stop (*hamza*)

Heaviness and lightness are also invoked to explain the deletion of the glottal stop or its replacement with a glide in words such as *ju'an*, the plural of *ju'na*, a “basket covered with leather” (al-Zubaydī: j-'-n). The glottal stop may be replaced with *w* so that it is pronounced *juwan* (Sībawayh 3/543). According to Sībawayh, it takes greater effort to produce the glottal stop. Its point of articulation is the farthest away. It comes out of the chest and is difficult to pronounce and its production resembles vomiting

لأنه بَعْدَ مَخْرَجِهَا ولأنها نَبْرَةٌ فِي الصَّدْرِ تُخْرَجُ بِاجْتِهَادٍ وَهِيَ أَبْعَدُ الحُرُوفِ مَخْرَجًا فَتَقُلُّ عَلَيْهِمْ ذَلِكَ لِأَنَّهُ كَالنَّهْوِ ع

“Its point of articulation is far away. It is a sound that issues from the chest and is only uttered with great effort. Its point of articulation is the farthest away. That makes it heavy for them because it is similar to vomiting” (Sībawayh 3/548).

3.4 Frequency of use

Frequency of use often motivates lightening or reduction. “Repetition leads to reduction of form”; for example, English speakers say “gonna” for “going to” (Bybee 9). Repetition of forms leads to the automation of production such that it becomes more efficient with greater repetition. Sībawayh recognized and invoked this principle to explain the vocative structure. An expression such as *yā 'Abd-a llāh-i* “Hey, 'Abd Allāh!” is underlyingly *'urīd-u 'Abd-a llāh-i* “I want 'Abd Allāh,” but the verb is deleted due to frequency of use, and the particle *yā* stands in for it (Sībawayh 1/291). For Sībawayh, the vocative structure is a common location where deletion occurs, because it is frequently used. Unless the addressee happens to be

approaching you, every utterance begins with a vocative. This high frequency results in much reduction (2/208).

As noted above, Sībawayh believes that *'amsi* “yesterday” in *laqītu-hu 'amsi* “I met him yesterday” is an abbreviated form of *bi-l- 'amsi*. He adds that prepositions are not always deleted as *bi-* is here, since they usually form an inseparable unit with their object. Such deletion only occurs in frequently used expressions. Lightening, or reduction of material, is more urgent in frequently-used expressions

ولكنهم قد يُضمرونه ويحذفونه فيما كُتِرَ في كلامهم لأنهم إلى تخفيف ما أكثروا استعماله أحوَج

“But they might delete prepositions, or render them phonetically null in frequently used expressions. They require lightening more for those expressions which are frequently used” (Sībawayh 2/163).

Similarly, the verb of praise *ni^cma* “How excellent . . . is!” is never used in the plural: **ni^cmū*. The plural suffix *ū* is deleted because the expression is a frequently-used one (فَعَلُوا هذا بهذه الأشياء لكثرة استعمالهم هذا في كلامهم) “They do this [deletion] with these things due to the frequency with which they use them in their speech”) (Sībawayh 2/179).

Frequency of use also explains the deletion of *n* after particles which end in a geminated sound, *lākin-nī* instead of *lākinna-nī* “but I” (فَحَذَفُوا هذه النون كما يحذفون ما يكثر استعمالهم) (So they deleted this *n* just as they delete anything which they use frequently”) (Sībawayh 2/369). Also permitted for the same reasons is the deletion of the oath particle *wa-* so that *wa-llāh-i la- 'af^calanna* “by God I will do (such-and-such)” is sometimes rendered *'allāh-i la- 'af^calanna* (جاز حيث كُتِرَ في كلامهم وحذفوه تخفيفا) “This is permissible since the expression in question occurs frequently in their speech, so they delete it (*wa-*) in order to lighten the utterance”) (3/498). The expression *lam yakun* “he was not” is often rendered *lam yaku*, where the final *n* is deleted. According to Sībawayh, this, like many similar deletions, is also due to frequency of use (4/399).

Al-Farrā' states that the proper name *Yazīd* is inflected like a triptote even though it has properties which should properly place it in the diptote category, specifically, the initial *ya-* which gives it the form of a verb. The reason it behaves like a triptote is that it is a frequently-used name

لأن الحرف إذا كُتِرَ به الكلام خَفَّ كما كُتِرَت التسمية بيزيد فأجزوه وفيه ياء زائدة تمنع من الإجراء

“Because when an expression is frequently used in their speech, it becomes lighter. For example, the proper noun *Yazīd* is inflected like a triptote even though it begins

with the *ya-* prefix, which would normally cause it to be inflected as a diptote” (al-Farrā’ 1/321).

Al-Warrāq explains why subjects of verbs receive an *u* ending, and objects of verbs an *a* ending: there are more objects than subjects. Verbs always have only one subject, but some verbs can receive up to three objects. For example, *’a^llam-tu Zayd-an ‘Amr-an khayr-a l-nās-i* “I caused Zayd to know ‘Amr to be the best of people.” There are also cognate objects and adverbs of time, place, and circumstance. The accusative case occurs more frequently, so it receives the lighter vowel, the *a* (فلما كان الفاعل أقل في الكلام من المفعول جعلت له الحركة الثقيلة) “Since subjects are less frequent in speech than objects, it is the subject which receives the heavy vowel”) (al-Warrāq 269).

Ibn Ya’īsh’s reasoning is the same

والضمة أثقل من الفتحة فأعطوا الفاعل الذي هو قليل الرفع الذي هو ثقيل وأعطوا المفعول الذي هو كثير النصب الذي هو خفيف

“The *u* sound is heavier than *a*, so they gave the subject, which is infrequent, the nominative case, which is heavy, and they gave the object, which is frequent, the accusative which is light” (1/75).

Ibn al-’Anbārī (d. 577/1181), similarly, attributes to the Kūfans the theory that *Allāhumma* “Oh God!” is derived from *Allāh-u ’umma-nā bi-khayr-in* “Oh God, lead us to what is good!” “Then, because they used the expression so frequently, they shortened it to *Allāhumma* as part of their quest for lightness” (لما كثر في كلامهم وجرى على ألسنتهم حذفوا بعض الكلام) (طلبنا للخفة) (Ibn al-’Anbārī 290).

4. Heaviness and lightness as a unified principle which applies at all linguistic levels

To Arab grammarians, heaviness was a phenomenon that was present at all levels of language analysis. It was thought of as a single unified concept regardless of which level is discussed. That this is so is evidenced by the ease with which the concepts of “heavy” and “light” could be invoked across levels. ‘Affī shows how grammarians used the notion of balance when talking about heaviness and lightness. Heaviness in one area is used to compensate for lightness in another (‘Affī 364-66). For example, when a heavy sound is present, a lighter sound may be chosen to be near it to avoid the juxtaposition of too many heavy sounds. Al-Mu’addib, citing Quṭrub (206/821), states that the reason that the plural

verb suffix *-ūna* has a final *a* is to balance out the heavy *ū* (نُصِبَتِ النَّونُ لِأَنَّهَا خَرَجَتْ مَعَ الْوَاوِ الَّتِي هِيَ) “The *n* is followed by *a* because it is used after *ū*. Since *ū* is the heaviest of vowels, they used the lightest of short vowels with it”) (al-Mu’addib 48).

What is notable is that the balance occurs across linguistic levels. Below are several instances where heaviness at the phonetic level compensates for lightness at the abstract level, and vice versa. “Phonetic level” here refers to the level of analysis that deals with the muscular movements required to produce speech sounds. The “abstract level” refers to the level of analysis that deals with those properties of a word, or those components of a word’s meaning, which have no manifestation phonetically. Hence, “abstract heaviness” as used here is defined as heaviness that is not manifested phonetically. Excessive heaviness at one of these levels may be compensated for by lightness at the other.

4.1 Examples

Al-Warrāq explains why verbs may be placed in the jussive mood even though there is no jussive case for nouns. It is because verbs are heavier so they can handle deletion better. A jussive case would entail the deletion of nunation as well as of a final vowel. Nouns are already extremely light, so the deletion of these elements would entail decimating the noun. Verbs, on the other hand, are heavier. There is more to them so they are able to withstand the deletion that the jussive mood brings about

لو دَخَلَ عَلَيْهِ لِأَوْجِبَ حَذْفَ شَيْئَيْنِ وَهُمَا التَّنْوِينُ وَالْحَرَكَةُ وَالْإِسْمُ فِي نِهَائِهِ الْخَفَّةُ فَكَانَ ذَلِكَ يُؤَدِّي إِلَى الْإِجْحَافِ بِهِ
فَسَقَطَ الْجَزْمُ مِنَ الْأَسْمَاءِ وَأُدْخِلَ فِي الْأَفْعَالِ إِذْ كَانَ الْفِعْلُ ثَقِيلًا يَحْتَمِلُ الْحَذْفَ وَالتَّخْفِيفَ

“If jussive were to be applied to nouns, then two things would have to be deleted: nunation and the final vowel. But the noun is already as light as can be, so those two deletions would result in the noun being unrecognizable. For these reasons, the jussive cannot be applied to nouns, and is only used on verbs, since verbs are heavy and are able to withstand some deletion and lightening” (al-Warrāq 145).

This analysis echoes that offered by al-Mu’addib (4th/10th c.) and was also given by al-Zajjājī (al-Mu’addib 58; al-Zajjājī 1/106). The two types of heaviness discussed here are phonetic heaviness, the presence of additional segments, and abstract heaviness, the presence of further semantic components with no phonetic realization. Though they would appear to be of two different types, they interact. If a word has the abstract form of lightness, it cannot also be made light phonetically. A word that has greater abstract heaviness, on the other hand, may tolerate some phonetic lightening.

Al-Warrāq explains the reason the complementizer *'anna* begins with *a* and the particle of emphasis *'inna* begins with *i*: the complementizer *'anna* is combined with what follows it to function as a noun. It must be accompanied by additional material in order for it to have meaning. It, along with what follows it, is interpreted as a single noun. Therefore, *'anna* is heavier than *'inna*, which stands alone as a particle. Because the complementizer is heavier, it receives the lighter vowel, *a*. The lighter vowel goes with the heavier particle, and the heavier vowel *i* goes with the lighter particle. This way things balance out (فَوَجِبَ أَنْ يُفْتَحَ) الأثْقَلُ وَيُكْسَرُ الأَخْفَ لِيَعْتَدِلَا “The heavier thing must be given the *a* sound and the lighter thing the *i* sound so that things balance out”) (al-Warrāq 446). The abstract heaviness that occurs when a particle is accompanied by additional material is offset by phonetic lightness, the assigning of a lighter, easier to pronounce vowel.

Al-Warrāq explains why the feminine plural marker (*-āt*) uses the *a* vowel: the feminine is heavier than the masculine, and the plural is also heavy. To balance out such a great degree of heaviness, the lightest vowel is chosen (والمؤنث ثقيل والجمع أيضا ثقيل فوجب أن يدخل) أخت الحروف “The feminine is heavy, and the plural is also heavy, so the lightest of sounds must be used”) (al-Warrāq 167). The heaviness is abstract but is balanced out by phonetic lightness, the choice of the lightest, easiest to pronounce vowel.

Why is it that *sh* in the masculine *'ashara* “ten” is followed by *a*, whereas *sh* in the feminine *'ashr* is not followed by any vowel? Because the feminine *'ashr* is heavier than the masculine *'ashara*, and it makes more sense to remove material from the heavier of the pair (وخص المؤنث بذلك لأنه أثقل من المذكر فكان تخفيفه أولى) (al-Warrāq 493). Here, a vowel is removed to balance out the heaviness of the feminine. A semantic, abstract heaviness is compensated for with phonetic lightness.

The same mixing of levels occurs in the analysis of the class of nouns which consist of three consonants followed by the feminine marker *-a*; e.g., *tamra* “date.” When such a noun is pluralized, the vowel *a* is placed after the second consonant, which is not followed by a vowel in the singular: *tamra* and its plura *tamarāt*. The vowel is not added, however, when an adjective of that structure is pluralized: *'abla* pl. *'ablāt* “plump.” Tha'lab's explanation for this is that the adjective is heavier because a noun must always accompany it. To balance out the heaviness that such additional material entails, the short vowel is eliminated. The noun is lighter, so it is more appropriate to give it the additional vowel. To add an additional vowel would be to add heaviness to heaviness, which should be avoided

فَحَزَكُوا الأَسْمَاءَ وَسَكَنُوا النُّعُوتَ لِأَنَّ النُّعُوتَ يَكُونُ فِيهَا ذِكْرُ الأَسْمِ فَتَنْتَقِلُ فَلَمْ يَزِيدُوهُ حَرَكََةً فَيَدْخُلُوا ثِقَلًا عَلَى ثِقَلٍ

“They use short vowels on nouns and not on adjectives because adjectives include a mention of the noun, so they are heavier. They do not add a vowel because to do so would add heaviness to heaviness” (Tha^{al}ab 2/527).⁵

Ibn Ya^{al}ish explains the reason for the disparity differently, but he appeals to the same principle: the adjective possesses properties similar to those of a verb, and verbs are heavier than nouns because verbs are necessarily accompanied by additional material: namely, the subject

لأنَّ الصِّفَةَ جارية مَجْرَى الفِعْلِ والفِعْلُ أَثْقَلُ مِنَ الاسمِ لَأَنَّهُ يَقْتَضِي فاعِلاً فَصارَ كالمُرَكَّبِ مِنْهُما فَذلكَ كانَ أَثْقَلَ
من الاسمِ

“Because the adjective is treated like a verb and the verb is heavier than the noun because it requires a subject. In that regard, it is similar to a compound word made up of those two elements. Therefore, it is heavier than the noun” (Ibn Ya^{al}ish 5/28).⁶

The adjective is heavier than the noun, because it is necessarily accompanied by additional material: the noun it modifies. That heaviness is abstract in that it is not manifested on the adjective itself. But it is balanced out by phonetic lightness, the non-addition of a vowel sound.

When the second and third root consonant of a verb are identical, the two merge into one geminated consonant, for example, *radda* “he responded” and *farra* “he escaped. If the second and third root consonant of a noun are identical, they, too, merge into a single consonant when the noun is on the *fi’il* or *fa’ul* pattern. But if the noun is on the *fa’al* pattern, no such merger occurs. This is why there are nouns such as *talal* “ruins” and *darar* “harm.” The reason the consonants do not merge in this case is because nouns are lighter than verbs. As mentioned above, geminating two consonants is lighter than pronouncing them separately, because it takes greater effort to move the tongue to the same position twice than to place it there once. Since nouns are so light, and *a* is the lightest vowel, there is no need to make the word even lighter. The vowels *u* and *i* are heavier, so the merger lightens the word and balances out the heaviness of those vowels (لم يُدْغَمَ لِحَفَّةِ الفَتْحِ وَخَفَّةِ الاسمِ) “The two are not merged due to the lightness of the *a* sound and the lightness of the noun”) (al-Warrāq 555). In this case, abstract heaviness, that of the verb as opposed to the lightness of the noun, is compensated for by phonetic lightness; that is, by ease of pronunciation.

⁵ Al-Warrāq echoes this explanation (525-26).

⁶ Al-Sīrāfi’s explanation of the heaviness of adjectives is similar (2/34-35).

Al-Sīrāfī provides a list of features which turn a noun into a diptote; that is, a noun which cannot take the genitive ending *i* or nunation. These features include feminineness, pluralness, foreignness, and definiteness, including the definiteness that occurs when a noun is used as a proper noun. A noun which possesses any two of these features now has the heaviness of a verb, and therefore does not take the full set of noun inflectional endings (al-Sīrāfī 2/34). However, some speakers treat short proper nouns such as *miṣr* “Egypt” as triptotes. Such a noun should be a diptote since it possesses two of the required features: it is both feminine and a proper noun. It is a triptote, though, because it is very short, and the lightness of its structure makes up for the heaviness of femininity. An equally light non-Arabic feminine proper noun, on the other hand, is always a diptote because it now contains triple heaviness: feminineness, foreignness, and proper noun status

وإنما صَرَفَهُ مِنْ صَرَفِهِ وَهُوَ مَعْرِفَةٌ مُؤَنَّثَةٌ فَقَطْ لِخِفَّتِهِ فِي الْوِزْنِ فِعَادِلٌ بِالْخِفَّةِ أَحَدُ الثَّقَلَيْنِ فَلَمَّا حَدَّثَ ثَقُلَ ثَالِثٌ قَاوِمَ الْخِفَّةِ

“Those who treat these nouns as triptotes when they are only feminine proper nouns do so because of the lightness of their structure. That lightness negates one of the two heavinesses. But when a third heaviness is added, it counteracts the lightness” (Ibn al-Sarrāj 2/538).

The proper noun *Hūd*, for the same reasons, may also be treated as a triptote. But if you use it to refer to the *sūra* in the Qur’ān entitled “*Hūd*,” then it is a diptote since *sūra* is feminine, and it now has two heavinesses in addition to its being a proper noun: its foreignness and feminineness (Ibn al-Sarrāj 2/538).

Al-Mubarrad makes similar arguments regarding short feminine names such as *Hind*

فَأَمَّا مِنْ صَرَفٍ ... فَيَقُولُ خَفَّتْ هَذِهِ الْأَسْمَاءُ لِأَنَّهَا عَلَى أَقَلِّ الْأَصُولِ فَكَانَ مَا فِيهَا مِنْ الْخِفَّةِ مُعَادِلًا يُقَالُ التَّأْنِيثُ

“Those who treat these nouns as diptotes ... say that these nouns are light because they have the shortest possible structure. Their lightness counterbalances the heaviness of their feminineness” (al-Mubarrad 3/350).

Here again, a word is weighed down by an abstract heaviness, feminineness, and definiteness. The phonetic lightness (that is, the shortness of the word and the ease of pronouncing it) balances out the abstract heaviness.

Ibn al-Sarrāj explains why the plural of *’abyaḍ* “white” is *bīḍ*. The plural of color terms is usually formed with *u*, for example, *ḥumr* “red (plural).” So why not *būḍ* instead of *bīḍ*? The reason is that the plural is heavier than the singular, and *u* is the heavier vowel. To

combine the heaviness of plural with the heavier vowel would be two occurrences of heaviness. The lightness of the lighter vowel balances out the heaviness of the plural (لئلا يخرجوا من الأخف إلى الأثقل في الجمع وهو أثقل من الواحد عندهم فيجتمع ثقلان) “So that they do not go from lighter to heavier in the plural, which is, in their conception, heavier than the singular. To do so would bring together two heavinesses”) (Ibn al-Sarrāj 3/1055). The heaviness of the plural is not a phonetic property. Plurals are often shorter than their corresponding singulars. The plural is heavier than the singular because it refers to more items than the singular does, or because, unlike the singular, it does not refer to a specific number, so its meaning is not complete without additional information. That is, a singular refers to one object, but the number of objects referred to with a plural is not known until that number is given along with the plural noun (al-Sīrāfī 2/34). This abstract heaviness is balanced out by the use of an easier to pronounce vowel, a lighter vowel. Such a balance explains why the Kūfans, according to Ibn al-ʿAnbārī, believed that *ʿashyā* “things” is derived from *ʿashyiʿā* from which the medial glottal stop needed to be deleted: because things that are considered too heavy in the plural may not be considered too heavy in a singular (والجمع يُستثقل فيه ما لا يُستثقل في المفرد) (Ibn al-ʿAnbārī 654).

The above examples show that Arab grammarians conceived of heaviness and lightness as a single unified phenomenon which occurred at all levels of linguistic analysis. That which is “heavy” entails more burden in some way and, therefore, may be balanced out by something “light,” less burdensome. This is the case regardless of whether the burden is in terms of muscular effort or is a less tangible sort of burden; for example, the mental effort required by a speaker to interpret an utterance.

5. The metaphor

Modern scholarship has sought correlations between the Arab grammarians’ notions of “heavy” and “light” on one hand, and modern linguistic concepts or real-world situations on the other. Owens points out that the terms “heavy” and “light” are among the terms that are used to describe the marked-unmarked relationship (202). However, not every use of these terms corresponds with markedness, particularly when they are used at the phonetic level. Versteegh proposes that grammarians had in mind a metaphor of mobility and flexibility: definite nouns are heavier than indefinite nouns, meaning they are less flexible, and their reference is thus more restricted. The lack of flexibility is also adduced to explain why nouns can take nunation and verbs cannot (Versteegh 179). Chairet proposes a similar definition:

the lighter a thing is, the more flexible it is (218). Equating “heaviness” and “lightness” with flexibility, however, does not explain why some vowels are considered heavy and others light. As mentioned above, “heavy” and “light” refer to the amount of effort required on the part of an interlocuter to produce or interpret an utterance. For the Arab grammarians, the heaviness/lightness contrast is a unified concept that holds across all levels of linguistic analysis and the definition given here applies at all levels.

Another concept, that of *tamakkun* “ability” or “stability” is cited often by grammarians and is related to heaviness and lightness. It refers to how much noun-like behavior a word exhibits and is most commonly manifested in the ability to take variable grammatical endings. Chairet believes that *mutamakkin* “possessing *tamakkun*” is an abbreviation for *mutamakkin min al-taṣarruf* “possessing the ability to take a full set of declensional endings” or *mutamakkin min ḥarakāt al-ʿirāb* “possessing the ability to take case endings” (217). The notion of *tamakkun* is intimately connected to heaviness and lightness, as the more the *tamakkun*, the lighter the object. The lighter the object, the fuller the set of case endings that it takes. Sībawayh stated that indefinite nouns, singular nouns, and masculine nouns are lighter, because they have greater *tamakkun* than verbs, plural nouns, and feminine nouns, respectively (1/20-22). Guillaume equates *tamakkun* with “stability” and points out the apparent paradox: a thing that is heavier should be expected to be more, not less, stable. The paradox is solved by reference to effort. An utterance that is heavier is less stable because a speaker will seek ways to reduce, or lighten it; that is, to reduce the effort needed to produce it. Hence the reduced set of vowel endings that the heavier forms may receive (Guillaume 243).

5. Loading up

I propose that the metaphor intended by Arab grammarians is a simple and direct one. The heavy/light dichotomy is a metaphor for heaviness and lightness in weight in the real world. The balancing of heavy with light that we have seen above parallels the concern one might have when loading up a conveyance, say, a beast of burden, a ship, or a truck. Imagine a person loading up, say, two such conveyances for travel. Assuming both are of equal capacity, one would want to distribute the weight so that neither conveyance is overloaded. We might balance out an exceptionally heavy package with an especially light package. “Heaviness” and “lightness,” then, are connected with the carrying of loads. The language used by the grammarians sometimes reveals this connection, as their analyses often contain

expressions derived from the root *h-m-l*, which has to do with carrying. Sībawayh, for example, explains that three-consonant nouns, when used to name males, are always triptotes, even when they are non-Arabic proper nouns, and even if they are more commonly used as female names. This is because they are lighter, so they are able to carry the heavier load of nunation. In his discussion, Sībawayh uses two verbs from the root *h-m-l* used to describe the ability to carry, to take on a load: *kāna `aḥmal-a li-l-tanwīn* “it is more able to carry nunation” and *fa-ḥtamala l-tanwīn-a* “it is able withstand the load of nunation”

المُذَكَّرُ أَشَدُّ تَمَكُّنًا فَلِذَلِكَ كَانَ أَحْمَلَ لِلتَّنْوِينِ فَاحْتَمَلَ ذَلِكَ فِيمَا كَانَ عَلَى ثَلَاثَةِ أَحْرُفٍ لِأَنَّهُ لَيْسَ شَيْءٌ مِنَ الْأَبْنِيَةِ أَقْلَ حُرُوفًا مِنْهُ فَاحْتَمَلَ التَّنْوِينِ لِخِفَّتِهِ وَلْتَمَكَّنَهُ فِي الْكَلَامِ

“The masculine is a more fully inflected category and is, therefore, more able to carry nunation. It is more able to be carried by those nouns which consist of three consonants, because there is no structure which has fewer consonants than that. It is, therefore, able to withstand the load of nunation due to its lightness and its tendency to be more fully inflected” (Sībawayh 3/221).

Al-Sīrāfī states that the indefinite noun is lighter than the definite, so it is able to take on, or carry, more than the definite noun is. Namely, it is able to carry nunation, which is heavier than a simple vowel as it contains an additional consonant

النِّكَرَةُ أَخْفَتُ مِنَ الْمَعْرِفَةِ ... لِأَنَّهَا لِخِفَّتِهَا تَحْتَمِلُ مَا لَا تَحْتَمِلُهُ الْمَعْرِفَةُ ... إِنَّهَا تَحْتَمِلُ التَّنْوِينِ

“The indefinite is lighter than the definite... Due to its lightness it is able to carry that which the definite cannot... It can carry nunation” (al-Sīrāfī 2/44).

According to al-Warrāq, the reason that the masculine numbers from 3 to 10 have a feminine marker and feminine numerals do not is because the masculine is lighter. It is therefore more able to carry the load of an additional marker

لَأَنَّ الْمُذَكَّرَ أَخْفَتُ مِنَ الْمُؤَنَّثِ لِأَنَّ التَّنْوِينَ فَرَعَ عَلَى التَّنْكِيرِ فَجُعِلَ الْأَخْفَتُ بِعَلَامَةٍ إِذْ كَانَتْ الْعَلَامَةُ زِيَادَةً عَلَى اللَّفْظِ فَاحْتَمَلَ الزِّيَادَةَ لِخِفَّتِهِ وَجُعِلَ الْمُؤَنَّثُ بِغَيْرِ عِلْمَةٍ لِثِقَلِهِ

“Because the masculine is lighter than the feminine because the feminine is derived from the masculine. So the lighter member receives the marker, because the marker is an additional utterance. It is able to carry the additional sounds because of its lightness. The feminine receives no marker due to its heaviness” (al-Warrāq 492).

Al-ʿUkbarī states that the addition of an extra morpheme, such as nunation, entails making an utterance heavier, but that nouns are able to take on the extra heaviness because

they are light, whereas verbs are heavy so they cannot handle an additional load

والاسم يَحْتَمِل الثَّقَل لآتِه فِي نَفْسِه خَفِيف وَالْفِعْل فِي نَفْسِه ثَقِيل فَلَا يَحْتَمِل التَّنْقِيل

“The noun is able to withstand more heaviness, because it is in and of itself lighter. The verb is in and of itself heavier, so it cannot withstand being made heavier” (al-‘Ukbarī 116-17).

Such a balance works in reverse as well. Ibn al-‘Anbārī discusses the deletion that occurs at the end of the addressee in some vocative expressions (*tarkhīm*). Such deletion may not occur on a three-consonant word. It is already as light as can be and cannot tolerate further lightening (الاسم الثلاثي في غاية الخفة فلا يَحْتَمِل الحذف) “Because the three-consonant noun is already as light as can be, so it cannot withstand deletion”) (Ibn al-‘Anbārī 302).

6. Conclusion

In conclusion, “heaviness” and “lightness” are concepts that apply at all levels of linguistic analysis. Heaviness always entails some degree of extra effort. Just as with a load that is to be carried, an extra heavy load should be lightened, and a light load may tolerate the addition of more items. Al-Zajjājī states just this in his explanation of the reason nouns do not have a jussive case and have a genitive case instead. Speech, he states, must be balanced out. Things which are heavy must be lightened, and things which are light should be given additional weight (إنَّ الأسماء أحمَل للخفض لِحَفَّتْهَا لِيَعْتَدِلَ الكلام بِتَخْفِيفِ الثَّقِيلِ وإلزام بعض الثَّقِيلِ للخفيف) “Nouns are more able to carry the genitive *i* ending due to their lightness, as speech should be balanced out by lightening that which is heavy, and applying some things that are heavy to that which is light”) (al-Zajjājī 106).

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