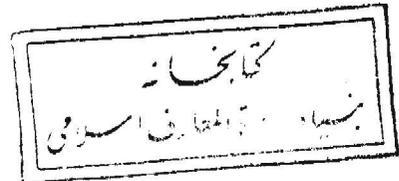
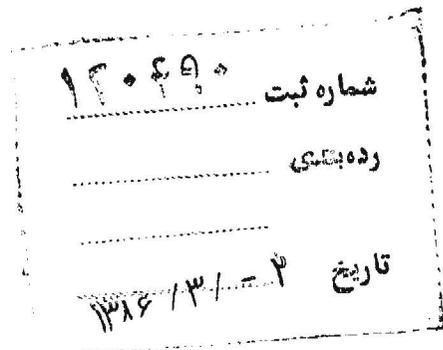


TOWARDS A NEW THEORY OF ARABIC PROSODY

PART I



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PART I

THE METERS

OF ARABIC POETRY

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(3) The works listed in the *Bibliography* are numbered consecutively. Cross-references in the footnotes employ a code which combines one of those numbers with the letter *B* (for *Bibliography*); *B3*, for example, refers to item 3 in the *Bibliography*.

Part I and Part II of this study are structurally independent; each ends in a separate list of footnotes and a separate bibliography. If it appears in Part I, a code such as *B3* refers to item 3 in the first bibliography; if it appears in Part II, the same code refers to item 3 in the second bibliography. Unless otherwise stated, cross-references which appear in Part I are specific to Part I and those which appear in Part II are specific to Part II.

E. PURPOSE OF THIS STUDY

Part I

Although perceived from the very beginning as a formulation of utmost complexity, the theory developed by al-Kḥalīl b. 'Aḥmad al-Farāhīdī (711 - 786 A.D.) has dominated the field of Arabic prosody for eleven centuries. 'Ibrāhīm 'Anīs, one of the most distinguished Arabists of modern times, states the issue in no uncertain terms:⁶

"People continued to study and examine al-Kḥalīl's rules up to our present day. Not one has added a single iota.

"I am aware of no [other] branch of Arabic studies which embodies as many [technical] terms as does [al-Kḥalīl's] prosody, few and distinct as the meters are: al-Kḥalīl's disciples employed a large number of infrequent items, assigning to those items certain technical denotations which—invariably—require definition and explanation. As to the rules of metric variation, they are numerous to the extent that they defy memory and impose a taxing course of study. In learning them, a student faces severe hardship which obscures all connection with an artistic genre — indeed, the most artistic of all — namely, poetry.

"It is in this fashion that [various] authors dealt with the subject under discussion over a period of eleven centuries: none of them attempted to introduce a new approach or to simplify the rules.

"Is it not time for a new, simple presentation which avoids contrivance, displays close affinity to [the art of] poetry, and perhaps renders the science of prosody palatable as well as manageable?"

Part I of this study evaluates al-Kḥalīl's theory, gives a critical review of several alternative theories, and presents a new proposal formulated by the present author.

Part II

Part II of this study addresses the authenticity of *'irāb* — a matter which must be settled if al-Kḥalīl's theory is to be credited with any degree of validity and if alternative theories are to be reasonably free of excessive conjecture.

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PREFACE

A. ROMANIZATION

In their attempt to Romanize the transcription of Standard Arabic, modern-day linguists have created a diversity of writing systems.¹ In addition to inconsistency, the outcome tends to promote a degree of confusion: for example, the Library of Congress uses capitalization in accordance with the rules of English spelling; some publications, on the other hand, use capital letters to represent emphatic consonants.²

Of the Romanization systems in current use, three are by far the most common: the system used in Wehr's *Dictionary*, the system used by the Library of Congress, and the conventional system used in non-technical publications. The transcription used in the present study is one which derives from these three systems and which, at the same time, reflects the pertinent phonological facts.

(1) Other than proper nouns in isolation, headings, and bibliographical items, utterances are transcribed according to a largely phonemic system which uses the following symbols:

(a) Consonant symbols (in the order of the Arabic alphabet): ' *b t tḥ j ḥ kḥ d dḥ r z s sḥ ṣ ḍ ṭ ḍḥ gḥ f q k l m n h w y*. If it never occurs medially in the macrosegment, a word-initial glottal stop is not represented in the transcription; thus a vowel symbol in macrosegment-initial position implies a preceding glottal stop.

(b) Short vowel symbols: *i a u*

(c) Long vowel symbols: *ī ā ū*

Being indeterminate with respect to 'irāb, a word in isolation is written in pausal form; e.g., *kitāb* 'a book'. A phrase is written in pausal form if, without exception, the constituent words are indeterminate with respect to 'irāb; e.g., *watad majmū* 'iambic peg'. The use of pausal forms is optional when the phrase is partly determinate and partly indeterminate with respect to 'irāb; e.g., *maktabu l-mudīri* or *maktab al-mudīr* 'the director's office', and *sā'atu l-mudarrisi* or *sā'at al-mudarris* 'the teacher's watch'. The transcription of pausal forms assigns to the definite article a *morphophonemic* representation which indicates neither assimilation nor lack of anaptyxis; furthermore, when a construct phrase is rendered in pausal form its first member does not exchange *-at* for *-a*.

In general, the transcription represents the *non*-pausal form whenever the word is determined in regard to case or mood. This rule holds true even in utterance-final position: since Part II of this study is devoted to 'irāb, it is desirable to maximize the opportunity for highlighting inflectional markers. The transcription of non-pausal forms is strictly phonemic.

(2) Proper nouns in isolation, headings, and bibliographical items are written as follows:

(a) The conventional English spelling is employed in glosses.

(b) The symbols listed in item 1 above are employed elsewhere. Generally indeterminate with respect to 'irāb, the utterances under discussion are rendered in the pausal form; thus the sequence *-at* is not replaced by *-a* in the first member of a construct phrase, and the graphic representation of the definite article is morphophonemic.

(3) On the level of pronunciation, the symbols *ū* and *ī* represent long vowels; each of these vowels, however, is the realization of a glide which occurs on a more abstract level of analysis: /*ū*/ is the realization of *uw*, and /*ī*/ is the realization of *iy*.³ Thus *ūw* is used to represent /*uww*/ (e.g., 'adūw 'enemy', qūwa 'strength').

Similarly, *īy* is used to represent /iyy/ in word-medial position (e.g., *ghāniya* 'rich woman'). At the end of pausal forms, /iyy/ is usually replaced by /ī/ in the pronunciation of contemporary Arabs; for this reason, *ī* is used rather than *īy* in word-final position (e.g., *ghāni* 'rich man', *sanawī* 'annual').

(4) Certain items are subject to all the rules which govern capitalization in English; the items in question are proper nouns, headings, and bibliographical items. The following two conventions are followed in the present study:

(a) The letters ' and ' are not capitalized; thus, for the purposes of capitalization, the second letter is considered initial in a word which begins with ' or

(b) In some headings, all letters are capitalized. Such headings constitute the only context where the first letter of the definite article is capitalized; elsewhere, the first letter to follow the definite article constitutes the domain of capitalization.

(5) The Arabic writing system is used in the *Bibliography* to cite Arabic references.

Notes

(1) The digraphs of item 1 above betray an attempt to reconcile the conventional English spelling of Arabic words, the Library of Congress transcription, and Wehr's transcription.

(a) The broken underscore in the symbol *ḥ* indicates that a digraph is being used to represent a single consonant. Thus *dakhḥal* 'he entered' contains a single medial consonant, while *nakha* 'aroma' contains a medial consonant cluster.

(b) The symbols representing the three interdental fricatives of Standard Arabic are traceable to conventional English spelling. Dialectic variation provides additional justification for those symbols since the fricatives in question correspond to dental stops in sedentary colloquial Arabic: while the fricative is represented by the digraph as a whole, the corresponding stop is indicated by the first member of the digraph.

(c) The symbols *shḥ*, *khḥ*, and *ghḥ* are traceable to conventional English spelling. Respectively, they represent the voiceless alveopalatal fricative, the voiceless velar fricative, and the voiced velar fricative of Standard Arabic. Use of the symbol *shḥ* derives partial justification from dialectic variation: in certain words, the alveopalatal fricative of Standard Arabic corresponds to /s/ in the speech of some uneducated sedentary Arabs; thus *shajara* 'tree' corresponds to *sajara*, and *shams* 'sun' corresponds to *sams*.

(d) In all but one instance (namely *shḥ*), *ḥ* indicates that a stop (represented by the preceding member of the digraph) is fricativized.

(e) The following table compares our digraphs with the corresponding symbols of the other three systems:

<i>This Study</i>	<i>Conventional Spelling</i>	<i>Library of Congress</i>	<i>Wehr</i>
<i>thḥ</i>	<i>th</i>	<i>th</i>	<i>ṯ</i>
<i>khḥ</i>	<i>kh</i>	<i>kh</i>	<i>ḵ</i>
<i>dhḥ</i>	<i>dh</i>	<i>dh</i>	<i>ḏ</i>
<i>shḥ</i>	<i>sh</i>	<i>sh</i>	<i>š</i>
<i>ḏḥ</i>	<i>dh</i>	<i>z</i>	<i>z</i>
<i>ghḥ</i>	<i>gh</i>	<i>gh</i>	<i>ḡ</i>

(2) Wehr's *Dictionary* and the Library of Congress system use the symbol *ḥ* to represent the voiceless pharyngeal fricative of Standard Arabic; in this study, the same phoneme is represented by *ḥ* in order to restrict the subscript dot to the representation of emphasis.

(3) Vowel length can be represented by a macron, by doubling the short vowel symbol, or by a colon.

As can be seen from the following table, the second option favors uniformity rather than diversity:

<i>This Study</i>	<i>Conventional Spelling</i>	<i>Library of Congress</i>	<i>Wehr</i>
ī	i	ī	ī
ā	a	ā	ā
ū	u	ū	ū

B. THE GRAPHIC REPRESENTATION OF EMPHASIS

The domain of emphasis in Standard Arabic is the syllable; however, it is usually the occurrence of certain consonants that causes syllables to be emphatic.

The rules stated below describe emphasis in simple words. For the purpose of this discussion, a "simple word" is defined as a minimum free form — a free form which contains no shorter free form; according to this definition, elements such as the suffixes of *'irāb* and pronominal objects belong to the "expanded", not to the "simple", word. Admittedly, the analysis is somewhat oversimplified, but it does show that the contrasts which define emphasis as an *emic feature* are restricted to five pairs of consonant phonemes.

It must be emphasized that the rules stated below apply to *Modern* Standard Arabic. The rules which specify allophonic emphasis in Classical Arabic do not accurately represent the pronunciation of modern Arabs.⁴

In regard to emphasis, syllables may be divided into two types:

- (1) *Emphatic* syllables are those which contain an emphatic consonant phoneme.
- (2) *Plain* syllables are those which consist entirely of plain consonant phonemes.

Syllables of the first type embody phonemic emphasis; depending on the environment, syllables of the second type may embody allophonic emphasis.

Standard Arabic has five emphatic consonant phonemes: /ṣ/, /ḍ/, /ṭ/, /ḍḥ/, and /q/; the rest of the consonants will be called "plain". The plain counterparts of emphatic consonant phonemes (/s/, /d/, /t/, /dḥ/, and /k/) have no emphatic allophones; the rest of the plain consonants have emphatic allophones (a) when they occur in an emphatic syllable, and (b) when they occur in a plain syllable whose adjacent syllable embodies phonemic or allophonic emphasis. Thus /l/ and /m/ are pronounced with allophonic emphasis in *ḍḥulm* 'injustice' and *ḍḥalam* 'to deal unjustly with (someone)'; again, /r/ is pronounced with allophonic emphasis in *ṭard* 'expulsion' and *ṭarad* 'to expel'.

One more rule is necessary to specify additional environments for the emphatic allophone of /r/: with a few exceptions, the allophone in question occurs in plain syllables which contain a low vowel and which derive emphasis from no adjacent syllable. To qualify as an exception, a syllable must meet three requirements:

(1) It must be non-final (a non-final syllable is defined as one which occurs initially in the simple word, medially in the simple word, or independently as the entire simple word; a final syllable is defined as one which occurs at the end of the simple word).

(2) It must be closed or else precede a closed syllable.

(3) It must end in, or precede, the plain counterpart of an emphatic consonant phoneme.

The additional rule explains the fact that the emphatic allophone of /r/ occurs in 'awrām 'tumors', 'afrān 'ovens', 'awkār 'nests', 'irāk 'fighting', 'ajrās 'bells', 'arād 'to desire', al-Furāt 'The Euphrates', rām 'to wander about', rāj 'to sell well', dār 'house', nār 'fire', jār 'neighbor', rābi' 'fourth', rāfi' 'lifting', rāhil' 'departing', khūrāfa 'myth', 'irāda 'will', hīrāsa 'protection', shārāsa 'viciousness', karrāka 'dredging machine', mibrad 'file', 'axras 'mute', jaras 'bell', 'adrak 'to realize', raf' 'lifting', sharr 'evil', harr 'hot weather', far' 'branch', yarḡhab 'he desires', raḡma 'mercy', imra'a 'woman', but not in radam 'to fill up with earth', rakib 'to ride', rākib 'rider', rāki' 'kneeling', murāsil 'correspondent', murādif 'synonym', yarda' 'he prevents', yarka' 'he kneels', murakkab 'compound', 'ardā 'to kill (someone)', marsā 'anchorage', rakwa 'coffee pot', 'arka 'fight', fard 'individual', wark 'thigh', and dars 'lesson'.

In rare instances, the plain and the emphatic allophones of /r/ are conditioned by a *purely* grammatical criterion; compare, for example, the pair ḡarb-ī 'my war' and ḡarb-ī 'military' (of which the first word contains the emphatic allophone of /r/ and the second word contains the plain allophone). Again, in rare instances, the plain and the emphatic allophones of /l/ are conditioned by a *purely* lexical criterion; the lexical items involved are almost restricted to 'allāh 'God' (when not preceded by a high front vowel) and (in the pronunciation of some speakers) 'almāniyā 'Germany'.

In syllables which embody phonemic or allophonic emphasis, the norm (not always observed in actual pronunciation) is to retain the plain quality of the consonants /s/, /d/, /t/, /dħ/, and /k/; in addition, the presence of these consonants is associated with relatively weak vocalic emphasis. The following syllables illustrate this observation: satl 'bucket', qaṣd 'purpose', qatt 'to misrepresent', qazz 'silk', ṣakk 'legal document', sār 'to walk', 'adār 'to turn (something)'.

In this study, the subscript dot represents phonemic emphasis.

Notes

(1) In a subsequent cycle, the rules stated above can determine emphasis in the affixes which produce expanded words, provided the following restriction is incorporated: suffixed elements cannot acquire allophonic emphasis if they occur in an "external syllable" (i.e., a syllable which falls *completely* outside the simple word). Thus the suffix acquires allophonic emphasis in nahr-ān 'two rivers' but neither in 'aṣā-hā 'he disobeyed her' nor in yarā-nā 'he sees us'.

(2) Syllables which embody allophonic emphasis, especially those which contain the short vowel /a/, are sometimes rendered with a plain quality; this transformation, associated with "feminine" pronunciation in some communities and with affected refinement in other communities, rarely applies to phonemic emphasis. In some instances, the same transformation serves the purpose of highlighting the difference between the two members of a minimal pair; for example, darb 'path' may be stripped of allophonic emphasis to highlight the contrast with ḡarb 'beating'.

C. STRESS

Standard Arabic syllables fall into three types: short (CV), medium (CṠ, CVC), and long (CṠC, CVCC, CṠCC). Although governed by different rules in different speech communities, the placement of primary stress in Standard Arabic words is completely predictable from syllabic structure.

The following rules pertain to the pronunciation of contemporary Cairene Egyptians.⁵ The "eligible" syllables (i.e., those which can receive primary stress) are identified as *r*, *a*, *p*, and *u* (*u* being the ultimate, *p* being the penultimate, *a* being the ante-penultimate, and *r* being the pre-antepenultimate).

(1) If long, *u* receives primary stress; e.g., *kitābān* 'two books', *istaqalt* 'I resigned', *musta'idd* 'prepared'.

(2) If *u* is not long, the placement of primary stress is determined in the manner stated below:

(a) If two short syllables occur as *p* and *a* but no short syllable occurs as *r*, primary stress falls on *a* (i.e., on the first of the two short syllables); e.g., *waladun* 'boy', *nazala* 'to descend', *kḥālafanā* 'he disagreed with us', *ishṭaraka* 'to participate'.

(b) If three short syllables occur as *p*, *a*, and *r*, primary stress falls on *r* (i.e., on the first of the three short syllables); e.g., *'arabatun* 'cart', *shārikatun* 'company', *samakātun* 'fish'.

(c) Otherwise, primary stress falls on *p*; e.g., *kitābāni* 'two books', *kitābī* 'my book', *katabtuhu* 'I wrote it', *'āmāni* 'two years', *yaktubu* 'he writes', *sā'ada* 'to help'.

Since it constitutes an allophonic feature, stress is not represented in the transcription.

D. ADDITIONAL SYMBOLS

(1) In addition to those of Section A, the following symbols are used:

*	asterisk, identifying non-lingual utterances
→	arrow, indicating a structural transformation
' '	single quotes, enclosing English glosses
=	equal sign, indicating equivalence
[]	brackets, enclosing features
/ /	slanting lines, enclosing phonemes
{ }	braces, enclosing a set of alternative strings
+	plus sign, indicating presence of the feature named immediately after it; e.g., [+ Remote]
<i>S</i>	standing for a sentence
<i>C</i>	standing for a consonant
<i>V</i>	standing for a vowel
<i>N</i>	standing for a noun
<i>VN</i>	standing for a verbal noun
<i>D.O.</i>	standing for a direct object
<i>I.O.</i>	standing for an indirect object
<i>Prep</i>	standing for a preposition
<i>Conj</i>	standing for a conjunction
∅	standing for zero

(2) In a string which states the abstract structure of an utterance, the symbol + is used to separate consecutive constituents; e.g., *N + Verb + N*. Some strings employ + as well as —, the former indicating relatively close association; e.g., *Verb — D.O. — li+I.O.*

Some scholars have questioned the validity of *'irāb*, asserting that the phenomenon in question is either a misinterpretation or a fabrication superimposed on Classical Arabic by the ancient Arab grammarians. Qutrūb (who died in 206 A.H.) espoused the theory that *'irāb* is a misinterpretation of anaptyxis.⁷ Modern-day scholars who view *'irāb* with suspicion include such prominent figures as Karl Vollers, Paul Kahle, 'Ibrāhīm 'Anīs, and Fu'ād Hannā Tarazī;⁸ of these, 'Anīs is the best known in the Arab World, and his position is examined in Chapter XI of Part II.

In no small measure, the ancient Arab grammarians are responsible for the doubts which occasionally cast their shadow on the authenticity of *'irāb*: the theory of *'irāb* developed by those grammarians is less than perfect in regard to adequacy; in regard to generality and simplicity, the theory is woefully defective. It is hardly typical of human communication to employ a device so unique, so complex, and so inconsistent that mastery eludes the vast majority of users notwithstanding their best efforts.⁹

Without *'irāb*, al-Kḥalīl's theory of Arabic meters would collapse; the first hemistich of the following line, for example, could not be assigned to *al-kāmil* (as defined by al-Kḥalīl) if the words are stripped of *'irāb*:¹⁰

wa-ka'anna fārata tājirin bi-qasīmatin
sabaqat 'awāriḍahā 'ilayka mina l-fami

Clearly, then, no discussion of Arabic prosody can be complete without an attempt to show that *'irāb* is a simpler, more natural phenomenon than the ancient Arab grammarians depicted. Such an attempt is undertaken in Part II of this study.

CHAPTER I

AL-KḤALĪL'S THEORY

It is generally believed that al-KḤalīl b. 'Aḥmad al-Farāhīdī¹ was the first² to develop an elaborate theory defining the meters of ancient Arabic poetry.³ His theory (as interpreted by the present writer) is summarized below.⁴

(1) A meter is defined as a set of phonological components which occur in a certain arrangement. In this context, a phonological component is either a *mutaḥarrik* (plural: *mutaḥarrikāt*), or a *sākin* (plural: *sawākin*); the former is defined as a consonant plus a following short vowel, while the latter is defined as (a) a consonant which is not followed by a vowel or (b) vowel length. Thus the sequence CV consists of a *mutaḥarrik*, while each of the sequences CVC and CṪ consists of a *mutaḥarrik* and a following *sākin*. In the following example (from 'Antara b. Shaddād's *mu'allaqa*), each *mutaḥarrik* is represented by a dash, and each *sākin* is represented by a dot:

wa'idḥā ṣaḥawtu famā 'uqaṣṣiru 'an nadan

- - - • - - - • - - - - - • - - - • - - - - - • - - - • - - - •

wakamā 'alimti ṣhamā'ilī watakarrumī

- - - • - - - • - - - - - • - - - • - - - - - • - - - • - - - •

The *mutaḥarrikāt* and the *sawākin* of a given meter cluster into perceptually distinct units called *tafā'il* (singular: *taf'ila*); accordingly, the dots and dashes of the above sequence are grouped as follows:

- - - • - - - • - - - - - • - - - • - - - - - • - - - • - - - •
- - - • - - - • - - - - - • - - - • - - - - - • - - - • - - - •

Each *taf'ila* is represented by a morphological-measure⁵ of the same phonological composition; the above meter, for example, is represented as follows:

mutafā'ilun mutafā'ilun mutafā'ilun

mutafā'ilun mutafā'ilun mutafā'ilun

Unless otherwise indicated, the term *foot* and the term *taf'ila* will be used synonymously in the present study.

al-KḤalīl postulated an intermediate level on which the *mutaḥarrikāt* and the *sawākin* are grouped into blocks which, in turn, are mapped out into feet; the blocks in question are of four types:⁶

- (a) *sabab kḥafīf* (— •)
- (b) *sabab ṥaqqīl* (— —)
- (c) *watad majmū'* (— — •)
- (d) *watad mafrūq* (— • —)

Thus a foot is analyzable successively into immediate constituents, mediate constituents, and ultimate constituents (henceforth designated by the abbreviations *IC*'s, *MC*'s, and *UC*'s respectively): an *IC* is either a *sabab* or a *watad*; a *MC* is either a *mutaḥarrrik* or a *sākin*; and an *UC* is a consonant, a short vowel, or the feature of vowel length.⁷

In a foot, an *IC* boundary follows each crucial distance; the expression "crucial distance" is coined by the present writer, for lack of a better term, to designate the *shortest* sequence which is identifiable as an *IC* (i.e., a *sabab* or a *watad*) and which allows the following string to begin with (or consist of) an *IC*. Thus an *IC* boundary cannot precede a *sākin*, nor can an *IC* boundary precede a final segment consisting of a single *MC*. In the following examples, the *IC* boundaries are indicated by slanting lines:⁸

fa'ūlun = — — • / — •
 fā'ilun = — • / — — •
 fā'ilātun = — • / — — • / — •
 mustaf'ilun = — • / — • / — — •
 maf'ūlātu = — • / — • / — • —

A foot must contain a single *watad*; in addition, it must contain at least one *sabab* (but no more than two).⁹

(2) al-Kḥalīl postulated ten basic feet: *fa'ūlun*, *fā'ilun*, *mufā'īlun*, *mustaf'ilun*, *fā'ilātun*, *mufā'alatun*, *mutafā'ilun*, *fā'i-lātun*, *muf'ūlātu*, and *mustaf'i-lun*.¹⁰ al-Kḥalīl also postulated fifteen meters each consisting of two identical hemistichs. Some of those meters consist of four feet per hemistich, while others consist of three feet per hemistich. Some of the fifteen meters must be clipped, others may be clipped, and still others may not be clipped.¹¹ Thus the shortest of al-Kḥalīl's hemistichs consists of two feet, while the longest consists of four feet.

al-'Akhfash (who died forty years after al-Kḥalīl's death) added a meter to the fifteen mentioned above; the additional meter (which may be clipped) is known as *al-mutadārak*.¹²

(3) Arabic meters fall into two groups: the standard, and the derived; the former are the sixteen meters described above, and the latter are variants which result from applying to the feet of standard meters certain rules called *al-zihāfāt wa-al-'ilal*. A standard meter is given below, followed by two variants:

- (a) mufā'alatun mufā'alatun fa'ūlun mufā'alatun mufā'alatun fa'ūlun
- (b) mufā'altun mufā'alatun fa'ūlun mufā'alatun mufā'altun fa'ūlun
- (c) mufā'altun mufā'alatun fa'ūlun mufā'altun mufā'alatun fa'ūlun

For centuries, al-Kḥalīl's theory remained unchallenged; during the nineteenth and the twentieth centuries, however, dissatisfied scholars attempted to introduce refinements ranging from abbreviation of al-Kḥalīl's system to total reformulation. In the following passages, al-Kḥalīl's theory is evaluated to point out the deficiencies which underly the present writer's dissatisfaction.

A theory is evaluated by (1) the degree of its descriptive adequacy, (2) the degree of its generality, and (3) the degree of its simplicity.¹³

(1) *Descriptive adequacy* (henceforth abbreviated to *adequacy*): The theory must account for the data being studied.

(2) *Generality*: The specific corpus being studied should be related to the genus it typifies, and the theory defining the specific corpus should be constructed in accordance with a general theory which defines the genus. For example, a theory which attempts to define the meters of Arabic poetry must be constructed in accordance with a theory which defines such concepts as "meter" and "rhythm" independently of any particular poetry. When based on a general theory, the rules of a specific theory become "natural", "plausible", and "reasonable": In other words, such rules acquire "explanatory power" in addition to adequacy; not only do they specify what occurs, but they also provide reasons for such occurrence.

Of several equally adequate theories, the most general is to be preferred.

(3) *Simplicity*: Although intuitively valid, the concept of simplicity is not easy to define. Some of the factors to be considered in measuring the simplicity of a theory are the following:

- (a) The number of rules and the amount of effort required to apply each rule.
- (b) The number of technical terms and the degree of complexity involved in defining each term.
- (c) The extent to which the rules are dissimilar.
- (d) The degree of predictability facilitated by the rules and the degree of arbitrariness which persists in spite of the rules.

al-Kḥalīl's theory satisfies the requirement of adequacy but fails to satisfy the requirements of generality and simplicity:

(1) al-Kḥalīl's IC's and MC's are unique entities: one can hardly expect them to be useful tools in the description of non-Arabic poetry.

(2) The extreme complexity of al-Kḥalīl's system was evident from the very beginning. It is related that a man asked al-Kḥalīl to teach him the rules of Arabic meters. Frustrated by the fruitless effort he had wasted over a long period of time, al-Kḥalīl one day instructed his student to scan a line of poetry whose translation follows:

If you fail to accomplish a certain task, abandon it
And turn your attention to whatever you can accomplish.

The student perceived the disguised message and gave up the study of Arabic meters. Today, few indeed are those who have mastered al-Kḥalīl's theory.¹⁴

The complexity of al-Kḥalīl's theory is attributable, at least in part, to the following facts:

(a) The rules — especially those defining metric variation — are extremely numerous, extremely detailed, and extremely dissimilar. Besides, for no obvious reason, a transformation may apply to one foot but not to another, and a foot may qualify for a certain transformation in one meter but not in another (see Appendix III¹⁵). It is no exaggeration to say that al-Kḥalīl's rules of variation are hardly better than memorizing, as separate items, the various forms which every foot can assume in every meter where it occurs. Not surprisingly, even the most accomplished of Arab prosodists must constantly refer to charts, lists, and handbooks. This rather chaotic situation stems from four main reasons:

(i) al-Kḥalīl fails to make sufficient distinction between the change and the domain; thus deleting the "second *sākin*" is one transformation, and deleting the "second *mutaḥarrik*" is another transformation.

(ii) al-Kḥalīl fails to make sufficient distinction between the change and the environment; thus deleting the "second *sākin*" is one transformation, and deleting the "fourth *sākin*" is another transformation.

(iii) al-Kḥalīl assigns a separate label to each combination of simple transformations, thus assigning independent status to each combination.

(iv) al-Kḥalīl fails to state the environment in sufficiently general terms.

(b) Technical terms are abundant and their definitions are quite complicated (see Appendix III).

(c) The degree of arbitrariness condoned by the theory is frustrating; for example, stringing into a sequence (with no restrictions on order) any two, three, or four of the ten feet would yield a large number of standard meters; the admissibility of only sixteen (including *al-mutadārak*) seems altogether arbitrary.

The above comments imply that simplicity is directly proportional to adequacy and generality:

(1) It is clear that al-Kḥalīl's rules are *unnecessarily* numerous because they are not sufficiently *abstract*; being for the most part empirical, they are more concerned with *stating and classifying* the observed data than with *generating* such data. In other words, al-Kḥalīl's theory meets the requirement of observational adequacy but fails to meet the higher-level requirement of descriptive adequacy, *and partly for that reason* it ranks low on the scale of simplicity.

(2) As pointed out earlier, rules seem natural, plausible, and reasonable when derived from a general theory. It follows that arbitrariness betrays want of generality.

(1) The MC's constituting one hemistich of a primary meter are arranged on the circumference of a circle. The sequence begins from a given point (the primary onset) and proceeds in a counter-clockwise direction.

(2) The onsets of affiliates are marked successively on the circle, the movement being in a counter-clockwise direction. Marking the affiliate onsets proceeds in accordance with the following guidelines:

(a) Each affiliate onset is separated from the preceding onset by a crucial distance. Thus an onset cannot precede a *sākin*, nor can the final affiliate onset be placed one MC before the primary onset.

(b) The final affiliate onset is that which precedes the point of repetition (i.e., the point where the primary meter starts for the second time). In *dā'irat al-mujtalab*, the point of repetition is one *sabab* after the third onset.

(3) A meter (or, more accurately, one hemistich of a meter) is generated by starting at a given onset, and stringing together the successive MC's (moving in a counter-clockwise direction); the final MC of the string is that which immediately precedes the point of departure.

(4) Grouping the MC's into feet is guided by three observations:

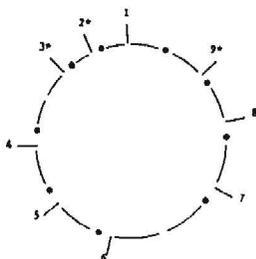
(a) That a foot contains a single *watad*.

(b) That a foot contains (in addition to the *watad*) at least one *sabab* but no more than two.

(c) That in most hemistichs there is repetition of at least one foot.

One of al-Kḥalīl's circles (*dā'irat al-mujtalab*) has already been presented; the rest are given below. Asterisks identify the onsets of "neglected meters" — i.e., meters which did not occur in al-Kḥalīl's corpus. If it is not the primary onset, the point of repetition is identified by a double bar. Remember that for each meter only one hemistich is generated (the two hemistichs are identical).

Dā'irat al-Muḥṭabih



(1) *al-sarī'* (primary): mustaf'ilun mustaf'ilun maf'ūlātu

(4) *al-munsariḥ*: mustaf'ilun maf'ūlātu mustaf'ilun

(5) *al-kḥafīf*: fā'ilātun mustaf'i-lun fā'ilātun

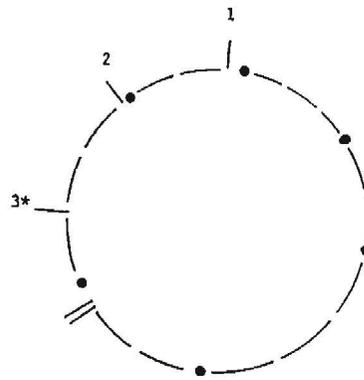
(6) *al-muḍārī'*: mafā'ilun fā'i-lātun mafā'ilun

(7) *al-muqtaḍab*: maf'ūlātu mustaf'ilun mustaf'ilun

(8) *al-mujtathṭh*: mustaf'i-lun fā'ilātun fā'ilātun

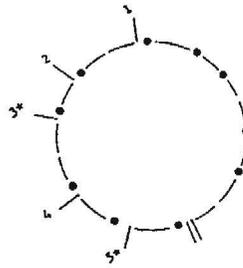
Notice that a tenth onset could not occur after the *sabab* (— •) which follows the ninth onset: were this to happen, the tenth onset would be separated from the primary onset by a single MC.

Dā'irat al-Mu'talif



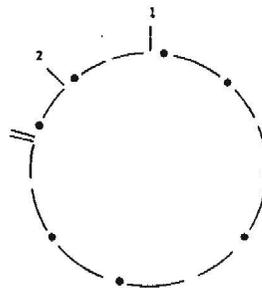
- (1) *al-wāfir* (primary): mufā'alatun mufā'alatun mufā'alatun
- (2) *al-kāmil*: mutafā'ilun mutafā'ilun mutafā'ilun

Dā'irat al-Mukhtalif



- (1) *al-ṭawīl* (primary): fa'ūlun mafā'ilun fa'ūlun mafā'ilun
- (2) *al-madīd*: fā'ilātun fā'ilun fā'ilātun fā'ilun
- (4) *al-basīṭ*: mustaf'ilun fā'ilun mustaf'ilun fā'ilun

Dā'irat al-Muttafiq



- (1) *al-mutaqārib* (primary): fa'ūlun fa'ūlun fa'ūlun fa'ūlun
- (2) *al-mutadārak*: fā'ilun fā'ilun fā'ilun fā'ilun

The onset of *al-mutadārak* is specified on *dā'irat al-muttafiq*, but it must be remembered that — according to certain authorities — *al-mutadārak* was not identified by the inventor of the circles.

The possibility of deriving one meter from another in the manner depicted by the circles results from three criteria which will be discussed in Chapter III: the syllabic structure of "standard feet", the placement of short syllables in "standard meters", and the patterning of feet in "standard meters".

Arab prosodists usually arrange the circles in the following order: *dā'irat al-mukḥṭalif*, *dā'irat al-mu'talif*, *dā'irat al-mujtalab*, *dā'irat al-muḥṭabih*, *dā'irat al-muttafiq*; this order was altered in the above discussion to accommodate our own sequencing of the principles involved.

At first glance, the circles seem to provide considerable simplification: one has to remember only five primary meters; once he has represented the primary meters by circles, one begins at specifiable points and generates the rest of the meters. However, a closer examination of the circles reveals *at least* the following shortcomings:

- (1) The five primary meters continue to be a set of seemingly arbitrary sequences.
- (2) Occasionally a circle may lead to incorrect grouping of MC's; for example, *dā'irat al-mukḥṭalif* may lead to the assumption that the sequence constituting each hemistich of *al-madīd* is fā'ilun mustaf'ilun fā'ilun mustaf'ilun; actually the sequence in question is fā'ilātun fā'ilun fā'ilātun fā'ilun.
- (3) Certain sequences have to be recognized as "neglected" meters.
- (4) The circles neither simplify the rules of metric variation nor do they reduce the large number of technical terms.

The inevitable conclusion, therefore, is that the circles do not sufficiently simplify al-Kḥalīl's theory; nevertheless, the ingenuity which devised them is far from wasted, for they facilitate two important conclusions (although al-Kḥalīl failed to point out the second): that certain meters contain identical strings, and that in giving rise to rhythm the *patterning* of elements plays a more basic role than the elements themselves.

Several modern scholars have attempted to simplify al-Kḥalīl's system by reducing the number of meters, reducing the number of feet, and reformulating the rules of metric variation. Among those scholars are Jamīl Ṣidqī al-Zahāwī and 'Ibrāhīm 'Anīs.

2.1.2. al-Zahāwī's proposal for simplification

In a short but well-written article,³ al-Zahāwī shows that *al-mutadārak* and *al-mutaqārib* can yield all of the other fourteen meters:

(1) Each hemistich of *al-mutadārak* consists of the string fā'ilun fā'ilun fā'ilun fā'ilun; each hemistich of *al-mutaqārib* consists of the string fa'ūlun fa'ūlun fa'ūlun fa'ūlun. al-Zahāwī shows that the two feet *fā'ilun* and *fa'ūlun* are composed of the same constituents: 'ilun and a *sanad*; he also shows that the two feet differ in the position of the *sanad* relative to 'ilun (a *sanad* is defined as a sequence consisting of a *mutaḥarrik* and a following *sākin*).

(2) Ten meters can be formed from *al-mutadārak* and four from *al-mutaqārib* by altering as many feet as necessary; an alteration consists of "repeating a *sanad* or a *sabab*, deleting either, or changing one to the other" (a *sabab* is defined as a *mutaḥarrik*).⁴ For example, *al-basīṭ* is formed from *al-mutadārak* since:

- (a) Each hemistich of *al-basīṭ* consists of the string mustaf'ilun fā'ilun mustaf'ilun fā'ilun.
- (b) Each hemistich of *al-mutadārak* consists of the sequence fā'ilun fā'ilun fā'ilun fā'ilun.
- (c) The foot *mustaf'ilun* can be represented as *fāfā'ilun*.

One may therefore conclude that Classical Arabic poetry has two basic feet (with *'ilun* as the basic foot constituent).

al-Zahāwī fails to explicate an important transformation: namely, reduction of the number of feet in the process of generating one meter from another. While the hemistichs of *al-mutadārak* and *al-mutaqārib* consist of four feet each, the hemistichs of some other meters consist of less than four feet each; thus, in order for the two basic meters to yield the other fourteen, a foot per hemistich must be deleted in some cases, and two feet per hemistich must be deleted in other cases. al-Zahāwī also fails to address the question of predictability: it is one thing to say that modifying two meters *in accordance with a set of general rules* generates fourteen other meters, but quite a different matter to say (as al-Zahāwī does) that the output must be known *in each case* before the necessary transformation can be determined.

2.1.3. 'Anīs' proposal for simplification

Some twenty-five years after al-Zahāwī's article was published, 'Ibrāhīm 'Anīs presented a proposal for simplifying the description of Arabic meters.⁵ Fundamental to that proposal is the definition of feet in terms of *syllables* rather than al-Khalīl's IC's. Before discussing the proposal itself, it is therefore necessary to define the various types of Arabic syllables, and to show the relevance of the syllable (as a phonological entity) to the study of Arabic meters.

There are three types of syllables in Classical Arabic: short, medium, and long. Those types are defined below (C stands for any consonant, V stands for any short vowel, and \bar{V} stands for any long vowel):

- (1) Short: CV
- (2) Medium: C \bar{V} , CVC
- (3) Long: C \bar{V} C, CVCC, C \bar{V} CC

Notice that a medium syllable differs from a short one in having a single additional element — the additional element being vowel length or a final consonant. Also notice that a long syllable differs from a short one in having two or three additional elements — the additional elements in each case being (1) vowel length and a final consonant, (2) two final consonants, or (3) vowel length and two final consonants. The distribution of long syllables is extremely restricted in Classical Arabic; in ancient Arabic poetry (where they occur only occasionally in hemistich-final position⁶) their distribution is even more restricted. Thus for the purpose of scansion, the syllables of ancient Arabic poetry may be conveniently divided into two types: short (CV) and long (all syllables other than CV).⁷ In the following example, — stands for a long syllable and U stands for a short syllable (a space separates each pair of consecutive feet):

wa'idhā ṣaḥawtu famā 'uqaṣṣiru 'an nadan wakamā 'alimti ṣḥamā'ilī watakarrumī
 UU—U— UU—U— UU—U— UU—U— UU—U— UU—U—

The simplification proposed by 'Ibrāhīm 'Anīs consists of:

- (1) Excluding *al-muḍāri'* and *al-muqtaḍab* from the inventory of meters due to their extreme scarcity.
- (2) Using six "new" feet (*tafā'il*) in defining ten of the remaining meters.

The "new" feet fall into two groups: the primary (*fa'ūlun, fā'ilun, mustaf'ilun*), and the derived (*fa'ūlātun, fā'ilātun, mustaf'ilātun*). Notice that the derived feet result from adding a final long syllable to each of the primary feet. Various combinations of the "new" feet constitute the meters *al-tawīl, al-mutaqārib, al-basīṭ, al-rajaz, al-sarī', al-munsariḥ, al-kḥafīf, al-mujtathḥ, al-ramal, and al-madīd*.⁸

It is obvious from the above discussion that 'Anīs achieves less simplification than al-Zhāwī achieved twenty-five years earlier: 'Anīs proposes more primary feet, accounts for less meters, reveals less relationships among the various meters, and condones more arbitrariness. 'Anīs does, however, achieve considerable success in formulating relatively simple rules for metric variation; with the hemistich as the domain of their application, his rules are the following:⁹

(1) A hemistich-initial long syllable may be replaced by a short syllable.

(2) Of two consecutive long syllables which introduce the hemistich, either the first or the second may be replaced by a short syllable.

(3) Of two consecutive long syllables which do not introduce the hemistich, the second may be replaced by a short syllable.

(4) Of three consecutive long syllables, either the second or the third may be replaced by a short syllable.

(5) Of four consecutive long syllables, the third may be replaced by a short syllable.

(6) Two consecutive short syllables may be replaced by a long syllable provided that such replacement does not result in a sequence of more than four long syllables. The provision, however, applies neither to *al-kāmil* nor to *al-wāfir*.

It is thus clear that replacing al-Kḥalīl's *'asbāb* and *'awtād* by syllables can lead to impressive simplification of the rules for metric variation.

In passing, it should be mentioned that Arabic syllables can be represented adequately by al-Kḥalīl's symbols: al-Kḥalīl's *mutaḥarrik* corresponds to what we now call the short syllable, and his *sākin* corresponds to the "additional element" used above in defining medium and long syllables. It is unfortunate that al-Kḥalīl, when studying his dashes and dots, failed to recognize the prosodic contrast between two basic entities whose patterned recurrence gives rise to meter: the first entity consists of a dash (i.e., the short syllable type of Arabic poetry) while the second consists of a dash and a following dot (i.e., the long syllable type of Arabic poetry¹⁰); it is tempting to blame this failure on pre-occupation with the patterned recurrence of *sequences* (each sequence consisting of two or more MC's).

2.2. Proposals Aimed at Increasing Adequacy

Published in December of 1974, 'Abū Dīb's is one of the most recent attempts to develop a theory which surpasses al-Kḥalīl's in adequacy. 'Abū Dīb claims that the principles underlying Arabic poetry can produce a vast number of meters, and that recent innovations in modern Arabic poetry constitute possibilities which — by some accident — did not previously materialize. Thus 'Abū Dīb seeks to account for more data than al-Kḥalīl's theory encompasses.

The following paragraphs summarize 'Abū Dīb's theory.

A hemistich consists of "rhythmic units" (feet). Two basic rhythmic units (BRU's) are proposed: *fā'ilun/fa'ilun*, and *'ilun-fā'ilun-fa* (the slanting line means 'or'). The "rhythmic nuclei" constituting the units are *'ilun* and *fā/fa*; *'ilun* is the "basic nucleus" to which *fā/fa* is "added", and thus each hyphen within the rhythmic units sets off an "addition".

al-Kḥalīl's meters are formed in two manners:

(1) By deleting rhythmic nuclei from theoretical meters. In this context, a theoretical meter consists of two identical hemistichs and each hemistich consists of six identical BRU's. In each instance, the nucleus deleted may be *'ilun* or *fā/fa*; there are no instances where *'ilun* is deleted at some point and *fā/fa* is deleted at some other point in the same theoretical meter. The deletion in question may apply to any BRU, or any set of BRU's, in the first hemistich; the changes which occur in the first hemistich are duplicated in the second hemistich.

(2) By adding rhythmic nuclei to theoretical meters. Here a theoretical meter consists of two identical hemistichs and each hemistich may consist of two, three, or four identical BRU's. The nucleus added in each instance is *fā* or *fa*: it is placed at least once before the BRU, after the BRU, or on both sides of the BRU. Apparently the addition may apply to any BRU, or any set of BRU's, in the first hemistich; the changes which occur in the first hemistich are duplicated in the second hemistich. Of the vast number of meters which this mechanism can generate, only a few are selected by Arabic poetry.

As a part of his attempt to account for metric variation, 'Abū Dīb assigns numerical values to the *mutaharrikāt* and the *sawākin* (notice that 'Abū Dīb chooses to retain al-Kḥalīl's MC's): the numerical value for a *mutaharrik* is 1; for a *sākin*, zero. 'Abū Dīb then asserts that metric variation is governed by two rules:

(1) Equivalent (i.e., commutable) rhythmic units must be identical in total numerical value.

(2) The basic nucleus must occupy the same position in equivalent rhythmic units. This rule, however, is less binding than the first: because they are identical in total numerical value, some rhythmic units are commutable even though they differ in regard to the position of the basic nucleus.

The above rules explain why *fā-fa-'ilun* is frequently replaced by *fā-fā-'ilun* but not by *fā-'ilun-fā* even though the three units are identical in total numerical value; the rules also explain why *fā-'ilun*, *'ilun-fa*, and *fa-'ilu* are considered equivalent in modern Arabic poetry.¹¹

In Chapter II, 'Abū Dīb modifies his position in regard to variation: he explicitly rejects the assumption that some rhythmic units are derived from others, and asserts that commutable rhythmic units are equally "basic" entities which allow the stress pattern of the meter to remain intact. Thus, to be commutable, rhythmic units must be similar in stress pattern. To support his assertion, 'Abū Dīb argues¹² that the poet composes his lines without being conscious of "basic" forms, variants, or rules governing variation.¹³

'Abū Dīb's theory is similar in some respects to al-Zahāwī's: the "basic rhythmic units" of the former are similar to the basic feet of the latter; furthermore, both theories employ addition or deletion to produce a set of meters from a common source. The main difference between the two theories is that the latter does not attempt to account for more data than al-Kḥalīl's corpus. In regard to the role played by stress patterns, 'Abū Dīb reaches a conclusion which is somewhat similar to Guyard's.¹⁴

Does 'Abū Dīb's theory introduce an additional measure of adequacy? The present writer believes that it does since adequacy includes the capacity for revealing latent possibilities and predicting new trends. It is to 'Abū Dīb's credit that some of the latent possibilities he points out are already finding their way into modern Arabic poetry (e.g., the use of *fā-'ilun*, *'ilun-fa*, and *fa-'ilu* as equivalent feet). Unfortunately, 'Abū Dīb's theory suffers from some procedural contradictions which reduce adequacy; the most obvious of those contradictions concern the role of stress in determining metric variants:

(1) On the one hand, 'Abū Dīb rejects a descriptive device (the assertion that basic feet yield variants) because it does not account for the *performance* of Arab poets; on the other hand, he substitutes for that device a feature which cannot account for performance: stress is largely allophonic in Arabic,¹⁵ and for that reason Arabs are generally unaware of stress patterns — let alone being controlled by such patterns in composing poetry.¹⁶

(2) With no allusion to stress patterning, 'Abū Dīb defines standard meters as patterned sequences of MC's; this procedure justifies the conclusion that 'Abū Dīb looks upon the patterning of MC's as the determinant of standard meters and upon stress as a phonologically-conditioned, and therefore non-significant, feature. When describing metric variation, however, 'Abū Dīb states that feet are commutable — no matter how their MC's are structured — if they do not alter the stress pattern of the standard meter; thus the non-significant feature (stress) has become the determinant, while the determinant (patterning of MC's) has become incidental.

In regard to generality (explanatory power) and simplicity, the theory being discussed has some rather serious drawbacks. It would have been tempting to generously ignore those drawbacks were further adequacy 'Abū dīb's only pursuit; but the fact is that 'Abū Dīb considers his proposal a complete, self-contained theory which differs radically from, and can totally replace, al-Kḥalīl's theory.¹⁷ We therefore feel compelled to make the following comments:

(1) The first manner of forming meters is characterized by at least two flaws:

(a) Since either *'ilun* or *fāifa* may be deleted from the theoretical strings, the resultant meters are of two groups: those generated by dropping *'ilun*, and those generated by dropping *fāifa*. One would expect the two groups to be equal in number, but al-Kḥalīl's meters (as represented by 'Abū Dīb) are a disappointment to this expectation.

(b) One set of al-Kḥalīl's meters is generated by deleting *periodic* nuclei from the theoretical strings; another set seems to be generated by random deletion of nuclei. Both sets are smaller than one would expect.

To say that some possibilities are not utilized hardly constitutes a satisfactory explanation for the discrepancies observed here: it is logical to assume that the meters which gain popularity are the ones which conform most strictly to certain fundamental rules, and that the possibilities which remain dormant are the ones which deviate from those rules. 'Abū Dīb expounds neither conformity nor deviation; instead, he leaves the reader with the impression that the first manner of forming meters is subject to no small measure of pure accident.

(2) The second manner of forming meters is even more arbitrary than the first: the possibilities are extremely numerous, the popular meters are few, and no attempt is made to explain the discrepancy.

(3) The status of *fa* as a rhythmic nucleus is extremely precarious: it is not a conditioned form and therefore cannot be considered a systematic variant of *fā*; on the other hand, to consider *fa* an independent nucleus would double the number of meters, thus multiplying the number of latent possibilities.

Of *antispastic* meters there is only one, the *hazég* (الجزع) *the trilling*, which consists in a single repetition of U — — U (antispast), varied by U — — — . It may be either catalectic or acatalectic.

Acatalectic √---○ | √---○ || √---○ | √---
 Catalectic √---○ | √---○ || √---○ | √---

Rather than al-Kḥalīl's IC's and MC's, the system under discussion employs a more general entity: namely, the syllable. Moreover, this system (unlike al-Kḥalīl's) can be used to describe an impressively large assortment of non-Semitic meters.

Notwithstanding its success in achieving further generality, this theory leaves much to be desired:²²

(1) A sequence which al-Kḥalīl regards as a variant is sometimes considered the standard form of the meter (such is the price of segmenting Arabic meters into alien feet); for example, al-Kḥalīl considers the following sequence a variant of *al-mutaqārib*, but the theory being discussed regards the same sequence as the standard form:

U—U U—U U— — U—U U—U U—U U— — U— —

This reversal of al-Kḥalīl's stratification would be justifiable were it to simplify the rules of metric variation; the fact is that such reversal *complicates* those rules. It is true that the proposed system is not intended primarily to simplify al-Kḥalīl's theory, but neither should it result in further complication.

(2) The theory under discussion attempts to retain the boundaries of al-Kḥalīl's feet, and (with an occasional exception) it manages to do so. Unfortunately, the success of this endeavor is not without blemish: in some meters (e.g., *al-rajaz* and *al-sarī'*), the proposed feet had to be doubled in order to keep the boundaries of al-Kḥalīl's feet intact. Since it is motivated neither by the proposed theory nor by a universal theory, this occasional doubling introduces an element of arbitrariness.

(3) Because they resemble words in shape, al-Kḥalīl's *tafā'īl* are an intuitive (as well as an auditory) reality; therefore, the occasional alteration of their boundaries (e.g., in *al-muqāri'*) reduces explanatory power. Besides, as will be seen in Chapter III of Part I, the foot boundary is part of the environment which conditions variation.

(4) The number of feet constituting a given hemistich appears to be quite arbitrary.

2.3.2. Guyard's proposal for increasing generality

In 1877, Stanislas Guyard published a study in which he discussed Arabic meters within the framework of music. His theory is summarized in the following paragraphs.²³

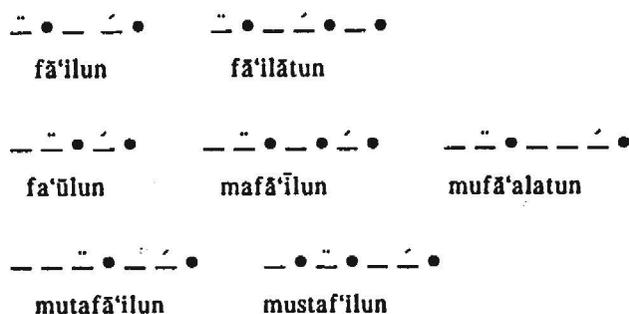
The MC's of any meter have durational values determined by the following rules:

- (1) A stressed *mutaḥarrik* = 1 beat
- (2) An unstressed *mutaḥarrik* = 1/2 a beat
- (3) A *sākin* which follows a major stress = 1/2 a beat
- (4) A *sākin* which does not follow a major stress = 1/4 of a beat

Notice that while a *mutaḥarrik* may occur stressed, a *sākin* never does. A stressed *mutaḥarrik* is defined as one which has a major stress (i.e., a primary or a secondary stress); an unstressed *mutaḥarrik* is one which has a weak stress.

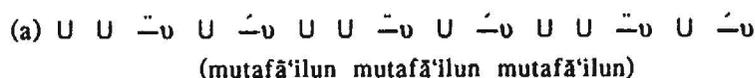
Clearly, stress plays an important role in Guyard's system; it is therefore necessary to specify the placement of stress in al-Kḥalīl's *tafā'īl*. In the following list, the symbol " is used to indicate primary stress, and

the symbol ' is used to indicate secondary stress (*maf'ūlātu*, which Guyard considers unauthentic, does not appear in the list):



Notice that each *taf'īla* contains two stressed *mutaḥarrik*'s and at least one *mutaḥarrik* which is not stressed.

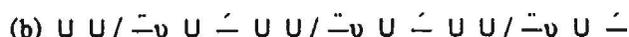
In accordance with the above discussion, a hemistich of *al-kāmil* (standard form) may be represented by sequence (a) below:²⁴



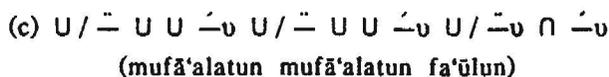
Guyard divides sequences such as the above into musical measures each of which consists of four beats; this division necessitates the addition of three rules:

- (5) Each musical measure begins with a primary stress.
- (6) Each major stress is separated from the next major stress by one beat.
- (7) The constituents of a hemistich are considered a closed circle: the last major stress in the hemistich is followed by the first, with one beat separating the two.

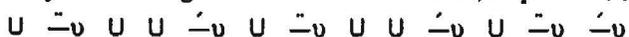
Thus the hemistich under discussion consists of the musical measures shown in sequence (b) below (slanting lines separate successive musical measures):



What precedes the first primary stress is considered a termination of the last musical measure; each hemistich of *al-kāmil*, then, consists of three musical measures. As can be seen from comparing sequence (b) with sequence (a), rules (6) and (7) may have to be satisfied by altering certain durational values.²⁵ In some instances, the two rules may have to be satisfied by adding a rest; the following is an appropriate illustration (∩ stands for a rest equal to half a beat²⁶):



But for the necessity of dividing it into musical measures, sequence (c) would be as follows:



Metric variation results from changes which occur in the *tafā'il* and which generate one *taf'ila* from another; for example, a variant of *al-basīṭ* would result if we delete the second MC of *fā'ilun* (— • — •), thus causing *fā'ilun* to become *fa'ilun*. Those changes are subject to the following rules:

(1) A *taf'ila* cannot undergo a change which would alter the pattern of major stress. Thus *mufā'alatun* (— • — — •) may become *mafā'ilun* (— • — • — •) since both have primary stress on the second MC and secondary stress on the penultimate MC; however, *fā'ilun* (— • — •) cannot become *fa'ulun* (— • — •), part of the reason being the fact that the former has primary stress on the first MC while the latter has primary stress on the second MC.

(2) Only unstressed MC's can be changed: a *sākin* may be deleted (remember that the *sawākin* are never stressed), and an unstressed *mutaḥarrik* may be reduced to a *sākin* if it follows another *mutaḥarrik*. For example, changing *fā'ilun* (— • — •) to *fa'ilun* (— — •) involves deletion of a *sākin*; on the other hand, changing *mufā'alatun* (— • — — •) to *mafā'ilun* (— • — • — •) involves reduction of a *mutaḥarrik*.

(3) It is common to compensate for reduction by (a) increasing the durational value of a neighboring MC, or by (b) adding a rest.

Guyard's theory relates Arabic meters to a general theory (music); this provides plausible explanations for compensatory length, rests, etc. In regard to metric variation, generality leads to simplification and provides a reason for the fact that certain changes occur while others do not.

In *Mūsīqā al-Shi'r al-'Arabi*,²⁷ 'Ayyād observes that reaction to the meter may be independent of reaction to the lexical meaning: for example, certain meters are soft and soothing while others inspire excitement and enthusiasm. Guyard's theory can explain reactions of this sort: a rest before a certain word may emphasize that word; again, a feeling of psychological unrest may result when word stresses do not coincide with *taf'ila* stresses.

'Ayyād is probably correct when he observes²⁸ that recent developments in musical concepts invalidate some portions of Guyard's theory. It is no longer true, for example, that each musical measure must consist of four beats; and it is no longer true that each musical measure must begin with a stressed note. Thus it may not be necessary to add rests merely to guarantee for each musical measure the durational value of four beats (Guyard sometimes has more rests in a meter than the native's intuition would supply²⁹); furthermore, the fact that a hemistich-initial segment lacks primary stress may not constitute sufficient reason for assigning that segment to the last musical measure. The present writer would like to add that the theory suffers from several other defects:

(1) The number of musical measures in any given meter seems to be arbitrary.

(2) The theory seems to regard as a possible hemistich any combination of al-Kḥalīl's *tafā'il*. No explanation is offered for the occurrence of only a few combinations. Even an appeal to latency would not remove the necessity of explaining why poets favor certain possibilities and reject others.

(3) The theory emphasizes certain types of features which are often shared by a set of musical measures or a set of *tafā'il* (e.g., the patterning of stress). There are other types of shared features which deserve to be considered (e.g., those discussed by al-Zahāwī) but which are concealed by Guyard's theory.

(4) Guyard considers stress a determinant of meters on all levels, thus escaping the contradiction which entrapped 'Abū Dīb. The question which remains unanswered is whether a largely allophonic feature (stress) must dominate a theory of Arabic meters.

2.4. The Contribution of Transformational Grammar

Under the title "The Theory of Classical Arabic Metrics", Joan Mathilde Maling presents a lengthy, detailed study of al-Kḥalīl's meters.³⁰ Her study is representative of the manner in which modern transformationalists have treated the subject: not only does she employ their methods, but she also draws upon their works.

Given below is the list of rules proposed by Maling; the symbols used are defined before the rules (notice that Maling's *trochaic peg* corresponds to al-Kḥalīl's *watad mafrūq*, her *iambic peg* corresponds to his *watad majmū'*, and her *cord* corresponds to his *sabab khafīf*).

Symbols

- | | | |
|---|-------------------------|-------------------------|
| <i>H</i> = hemistich | <i>F</i> = foot | <i>P</i> = iambic peg |
| <i>Q</i> = trochaic peg | <i>K</i> = cord | — = long syllable |
| <i>U</i> = short syllable | # = foot boundary | ## = hemistich boundary |
| () = optional | { } = either ... or ... | → = is rewritten as ... |
| * = unmetrical | | |
| <i>l</i> = in the following environment | | |
| = the slot (relative to a stated environment) where the change occurs | | |

Rules

- $H \rightarrow F + F + (F) + (F)$
 $F \rightarrow PKK$
- (6) T_1 : Cyclical Permutation
 $T_2: K \rightarrow \emptyset / \dots\dots\dots KX$ (circle V)
- (15) $T_3: K \rightarrow \emptyset / \left\{ \begin{array}{l} \#\# XP \dots\dots\dots \\ \dots\dots\dots PX \#\# \end{array} \right.$ (circle I)
- (25) $T_4: Pi \rightarrow Q$ (circle IV)
 $T_5: *QZ$
- (26) $T_6: F \underline{XQ(K)}$ (obligatory)
 1 2 → 1 2 1
- (55) $T_7: H \rightarrow H + H$ (H-copying)
 $T_8: K \rightarrow \emptyset / \dots\dots\dots (P)_a \#\#$ (K-deletion)
- (53) $\left\{ \begin{array}{l} P \\ Q \end{array} \right\} \rightarrow - / \dots\dots\dots (K) \#\#$ (Peg shortening)
- (54) Level of abstract identity
 $P \rightarrow - / \#\# \dots\dots\dots$
- (41) $K \rightarrow U / \left\{ \begin{array}{l} P \\ Q \end{array} \right\} (K) (\#) \dots\dots\dots$
- (42) $K \rightarrow U / K \dots\dots\dots \left\{ \begin{array}{l} P \\ Q \end{array} \right\}$ (K-shortening: 41, 42, 43)
- (43) $K \rightarrow U / \#\# \dots\dots\dots$
- (39) $K \rightarrow UU / \dots\dots\dots K$ (only in circle III)
- (44) $K \rightarrow -$
- (45) $P \rightarrow U -$
- (46) $Q \rightarrow - U$
- (47) $*UUUU$ (surface constraint)
- (40) $\emptyset \rightarrow - / UU \dots\dots\dots U$ (only in *kāmil*; obligatory)

In the following paragraphs, Maling's study is evaluated under three headings: (1) *Adequacy*, (2) *Generality and Explanatory Power*, and (3) *Simplicity*.

Adequacy

(1) The form UU — U — is considered a variant of — — U — ; similarly, the form U — UU — is considered a variant of U — — — . The *ziḥāf* involved is stated as rule 39 and is restricted to circle III. This analysis is hardly adequate. Arabic odes include a multitude where circle III meters do not undergo rule 39 *even once* — a peculiar situation since a *ziḥāf* occurs rather freely in odes where the conditioning environment is present (K-shortening is a case in point). Little wonder, then, that UU — U — and U — UU — are classified as standard feet (rather than variants) in al-Kḥalīl's theory. Little wonder, too, that the system takes great pains to differentiate the following pairs (see B10, Vol. II, pp. 362, 363):

(a) The two meters *al-rajaz* (whose standard form is — — U — — — U — — — U —) and *al-kāmil* (whose standard form is UU — U — UU — U — UU — U —). Almost invariably, a hemistich-final foot or some other foot of *al-rajaz* is replaced by U — U — ; in *al-kāmil*, on the other hand, the hemistich-final feet are never replaced by U — U — and the other feet rarely undergo such replacement. The meters *majzū' al-rajaz* and *majzū' al-kāmil* are differentiated in the same manner. In effect, Maling claims that U — U — is equally common and similarly distributed in *al-kāmil*, *majzū' al-kāmil*, *al-rajaz* and *majzū' al-rajaz*; the facts contradict this claim.

(b) The two meters *al-hazaj* (whose standard form is U — — — U — — —) and *majzū' al-wāfir* (whose standard form is U — UU — U — UU —). In the former, all feet but the line-final are commonly replaced by U — — U ; in the latter, the hemistich-final feet never undergo such replacement, and the other feet rarely do. In effect, Maling claims that U — — U is equally common and similarly distributed in *majzū' al-wāfir* and *al-hazaj*; the facts contradict this claim.

(2) On page 72, the author claims that rule 41 satisfies *mu'āqaba* (an injunction against changes which would produce a broken sequence of more than two short syllables or a continuous sequence of more than three short syllables); actually it does not. Consider the following two strings:

- | | | | |
|---------|-----|-----|---------------------|
| (a) KPU | KPK | KPK | (<i>al-ramal</i>) |
| (b) PKK | PKK | | (<i>al-hazaj</i>) |

In (a), rule 41 will prevent shortening the initial cord of the second foot, just as *mu'āqaba* requires. In (b), however, rule 41 does *not* prevent the shortening of both cords in the first foot — a clear violation of *mu'āqaba* .

Furthermore, there are instances where rule 43 violates *mu'āqaba*: al-Rādī (B18, p. 76) cites the following example where *mu'āqaba* prevents shortening the initial syllable in the second hemistich:

— U — — — U — — U — U — — U — — — U — — U — — — (*al-madīd*)

(3) The theory represents no small measure of indulgence in the practice of alienating competence from performance: one cannot seriously claim that the poet starts out with an "abstract" meter which results from the repetition of PKK, then *permutes* the immediate constituents of each foot in a uniform manner to produce a concrete realization. What possible motivation could there be for such a procedure?

Again, one cannot seriously claim that interrupted repetition, supplemented repetition, and alternation are all perceived as mere repetition on some level. (Interrupted repetition, supplemented repetition, and alternation are illustrated by BAB, BBA, and BABA respectively, where A and B are different feet. Mere repetition is illustrated by BB, BBB, AAA, and AAAA). Furthermore, one cannot claim that — — — U is somehow perceived in *al-sarī*' although it is empirically non-existent, that — — U — is perceived as KQK in *al-kḥafīf*, *majzū' al-kḥafīf*, and *al-mujtathḥ* but as KKP elsewhere, and that — U — — is perceived as QKK in *al-mudāri*' but as KPK elsewhere.

To be sure, linguists have yet to develop precise descriptive models of performance. This fact may render the process of selection difficult when one is faced with several descriptions of competence all of which seem plausible on the level of performance; it may even provide a convenient excuse when (given the present state of psycholinguistics) the analyst cannot incorporate performance into a model of competence without invalidating or complicating the entire descriptive process. Hopefully, our knowledge will advance to the point where, by accounting simultaneously for competence and performance, a description promotes adequacy and simplicity; yet even today, there is no excuse for the excesses observed in Maling's analysis when more reasonable treatments *are* possible: as early as the tenth century A.D., al-Jawharī proposed one such treatment.³¹

(4) The "grammar" does not account for the addition of extra syllables at the end of certain lines. On page 77, the author dismisses addition as a minor transformation unworthy of rule formulation. One would not be unreasonable to assume that, since it does occur in Arabic poetry, addition (though restricted) must have a legitimate function. Failure to include addition in the grammar and to explore its function reduces adequacy.

Furthermore, the grammar does not include rules to account for:

- (a) The infrequency of certain feet and certain meters.
- (b) The necessary application of certain transformations to certain meters, with the result that the meters in question never (or rarely) occur in their standard form.
- (c) The compensation which tends to preserve the durational value of the standard hemistich.
- (d) The absence of certain sequences of long syllables and the scarcity of others. As this study will show in Chapter III of Part I, the restriction involved plays a major role in determining the form of hemistich-final feet.

(5) The correspondence between *'arūd* and *ḍarb* is reduced to no meaningful generalization. Consequently, the maze of "sub-meters" has not been eliminated.

Generality and Explanatory Power

(1) The theory postulates (p. 40) a level on which all the feet of a given meter are identical (PKK), with the result that prosodic patterning on that level is restricted to mere repetition. Interrupted repetition, supplemented repetition, and alternation occur on a lower level, but only as the *incidental* (presumably unconscious) by-product of certain transformations rather than the *cause* of those transformations. Consequently, the transformations in question seem completely arbitrary: for example, from the abstract meter KPK KPK KPK KPK (which belongs to circle I), rule 15 is capable of generating KP KPK KPK KPK, KPK KPK KPK PK, and KP KPK KPK PK; yet no such outputs materialize, and Maling's theory offers no explanation.

Patterning (represented in Arabic poetry by mere repetition, interrupted repetition, supplemented repetition, and alternation) is a universal prosodic principle; it should therefore figure in the grammar as the determinant of rules rather than the incidental, unconscious result of arbitrary transformations. Clearly, then, Maling's theory fails the "strong requirement" of generality: that the rules should be related to a universal theory of prosody.

(2) Maling's theory also fails the "weak requirement" of generality; that the rules should not be restricted to certain meters within the specific system of Arabic prosody. For example, five of her rules are restricted to specific circles (rules 6, 15, T₄, 55, and 39), and one (rule 40) is restricted to a single meter; no *general* principles motivate such restriction.

(3) Why do standard feet have variants? Is there a *general* formal relationship which holds between all variants and their source feet? Is there a *general* prosodic principle attested by that formal relationship? If so, what is the *general* relationship, and what is the *general* principle? Since it provides no answers to questions of this sort, Maling's theory must be considered weak in explanatory power.

Simplicity

(1) The rules are simple only in the sense that they are fewer than al-Kḥalīl's, but not in the sense that they are related to a general theory: many have little if any explanatory power. We have already raised some questions in this regard; here are some more: Why does the hemistich consist of no less than two and no more than four feet? Why does a foot consist of one peg and at least one, but no more than two, cords? Why is K replaceable by U in certain environments? Why are peg shortening (rule 53) and K-deletion (rule 55) restricted to hemistich-final feet? Why is the occurrence of Q unmetrical in hemistich-initial position (rule 25)? Why does the occurrence of Q non-initially in the second foot trigger duplication of the first foot in hemistich-final position (rule 26)? Must a person memorize these rules as an arbitrary list, with no "natural" logic to promote memory?

(2) Formulated in terms of mathematical symbols, the rules may be easy for a computer to use; for a human being, however, they are not easy to understand, apply, or remember. One of the many complications which can be cited in this context is the necessity of remembering which feet contain Q; failure in this respect will result in misapplication of certain rules.

On page 38 of her study, Maling lists the sixteen meters which constitute al-Kḥalīl's five circles and which her rules of "abstract identity" must generate. The sixteen meters are as follows:

I	<i>ṭawīl</i>	PK PPK PK PPK	PK PPK PK PPK
	<i>basīṭ</i>	KKP KP KKP KP	KKP KP KKP KP
	<i>madīd</i>	KPK KP KPK [KP]	KPK KP KPK [KP]
II	<i>wāfir</i>	PKK PPK PPK	PKK PPK PPK
	<i>kāmil</i>	KKP KKP KKP	KKP KKP KKP
III	<i>hazaj</i>	PKK PPK PPK	PKK PPK PPK
	<i>rajaz</i>	KKP KKP KKP	KKP KKP KKP
	<i>ramal</i>	KPK KPK KPK	KPK KPK KPK

IV	<i>sarī'</i>	KKP KKP KKQ	KKP KKP KKQ
	<i>munsariḥ</i>	KKP KKQ KKP	KKP KKQ KKP
	<i>kḥafīf</i>	KPK KQK KPK	KPK KQK KPK
	<i>mudāri'</i>	PKK QKK [PKK]	PKK QKK [PKK]
	<i>muqtaḍab</i>	KKQ KKP [KKP]	KKQ KKP [KKP]
	<i>mujtatḥiḥ</i>	KQK KPK [KPK]	KQK KPK [KPK]
V	<i>mutaqārib</i>	PK PK PK PK	PK PK PK PK
	<i>mutadārik</i> [sic]	KP KP KP KP	KP KP KP KP

In the following paragraphs, we shall demonstrate the use of the rules to generate the meters. The demonstration will show that the list of rules gives a false impression of simplicity. For one thing, the list is not as short as it seems to be: at best, it *implies* other rules, and at worst it *ignores* essential rules. The demonstration will also show that Maling's study leaves much to be desired in regard to explanatory power.

Step 1

H → F + F + F + F
 F → PKK
 T₁ → Cyclical Permutation³²
 T₃, T₂, T₇

The above rules generate the meters of circle I and circle V *if* the following points are taken into consideration:

(a) A rule is needed to stipulate that, before the application of T₃ and T₂, the meters are identical in both circles except that the KPK-meter does not occur in circle V.

(b) T₃ should specify the non-final feet which must undergo cord deletion (the first foot in the PKK-meter but the second foot in the KPK-meter).³³ Alternatively, the conditioning environment of T₃ should be stated as follows: ##P K#, #K P##, #KP## (i.e., K is deletable from the foot if it occurs after a hemistich-initial P, before a hemistich-final P, or in hemistich-final position after P).

(c) A provision should stipulate that in the abstract hemistichs of circle I the first and the third feet must be identical, as must be the second and the fourth; consequently, the change produced by T₃ in one member of the pair must be duplicated in the other member.

(d) A rule is needed to delete the fourth foot of *al-madīd*.

Step 2

H → F + F + F
 F → PKK
 T₁: Cyclical Permutation
 T₇

The above rules generate the meters of circles II and III *if* the grammar includes a stipulation to the effect that the meters are identical in both circles except that the KPK-meter does not occur in circle II. Alternatively, the grammar must eliminate circle II, thus reducing *al-wāfir* and *al-kāmil* to the status of variants generated by rule 39.

Step 3

H → F + F

F → PKK

T₁: Cyclical Permutation

T₄, T₅, T₆, T₇

The above rules generate the meters of circle IV if the following points are taken into consideration:

(a) It must be stipulated that T₄ applies obligatorily, changes *only one* P per application, and generates a circle-IV meter every time it applies.

(b) The inclusion of *al-sarī'* in circle IV is a problem. On pp. 48 - 50, the author rejects al-Kḥalīl's definition of *al-sarī'* as KKP KKP KKQ; in support of her position, she argues that (since it usually ends in — U —, — —, or U U —) *al-sarī'* should be classified as a submeter of *al-rajaz* and should be generated from *al-rajaz* (i.e., from KKP KKP KKP) by rule 55. Maling's position is understandable since the rules of step 3 (which define the meters of circle IV) cannot generate the string KKP KKP KKQ. On the other hand, the proposed assignment of *al-sarī'* to circle III would require two modifications: (i) rule 55 must be explicitly designated as optional, and (ii) rule 55 must be applicable to circle III (it is presently restricted to circle IV; see p. 76 of Maling's study).

The level of abstract identity does not indicate which of the sixteen meters correspond to "clipped meters" (*majzū'āt*); nor does that level indicate how *all* of the clipped meters can be generated without adding new rules, imposing more restrictions, or exceeding al-Kḥalīl's inventory. Consider, for example, the rule H → F + F + (F) + (F) and its expansion H → PKK + PKK + (PKK) + (PKK). Applying the T-rules of step 1 to the string PKK + PKK + PKK generates the two clipped meters of circle V, one of the two clipped meters of circle I, and two non-empirical meters. Moreover, if the T-rules of step 1 are applicable to the string PKK PKK PKK, one must assume (in the absence of a stipulation to the contrary) that the same T-rules are applicable to the string PKK PKK. Unfortunately, the dimeters generated in this manner are non-empirical. To avert these problems would require additional rules; furthermore, it would require a statement which restricts the application of step 1 T-rules, or one which excludes dimeters from circles I and V.

Other defects become obvious when we test the "rules of correspondence" (the so-called *zihāfāt* and *'ilal*) in the same manner.

CHAPTER III

A NEW PROPOSAL

The theory proposed by the present author places equal emphasis on generality (explanatory power), adequacy, and simplicity. Our goal is to account for the meters reported by al-Kḥalīl and al-'Akhḥaḥ; we make little, if any, effort to account for the innovations of later times although it is quite possible that our theory provides a general framework which can easily accommodate those innovations.

We propose three levels of analysis; those levels are discussed below.

3.1. *Level I. Theoretical Meters*

The principle characterizing this level is that patterned recurrence, in the hemistich,¹ of at least one foot gives rise to "meter".²

The major rules which operate on this level are the following (notice that they betray a bent for economy):

(1) Theoretical feet contrast in a single feature: length; and their number is limited to two, the minimum required by the contrast. The short foot (maf'ūlun) will be represented by A, and the long foot (maf'ūlātun) will be represented by B.

(2) Each hemistich is characterized by the patterned recurrence of A, B, or both; the patterns utilized are: (a) mere repetition, (b) interrupted repetition, (c) supplemented repetition, and (d) alternation.

(3) A hemistich consists of two, three, or four feet; this rule results from the fact that mere repetition requires a minimum of two feet, alternation requires a minimum of four feet, and each of the other two types requires a minimum of three feet.

Listed below are the possible meters which result from applying the major rules (only one hemistich is represented; the two hemistichs are identical in each case³):

- (a) Mere repetition
 - (i) AAAA (ii) AAA (iii) AA
 - (iv) BBBB (v) BBB (vi) BB
- (b) Interrupted repetition
 - (i) ABA (ii) BAB
- (c) Supplemented repetition
 - (i) AAB (ii) BBA
- (d) Alternation
 - (i) ABAB (ii) BABA

The meters which actually materialize on this level are the following:

- (a) Mere repetition
 - (i) AAAA (ii) AAA
 - (iii) BBB (iv) BB
- (b) Interrupted repetition: BAB

(c) Supplemented repetition: BBA

(d) Alternation:

(i) ABAB (ii) BABA

Comparing the two lists reveals that the first three types of theoretical meters lack the strings AA, BBBB, ABA, and AAB: in the interest of economy and highlighting contrast, the system disallows doubling; in the interest of economy and consistency, the system requires *two* long feet in each mixed meter.

(1) "Doubling" denotes the process of repeating a given meter to produce another meter; thus BBBB results from doubling BB, and AAAA results from doubling AA. Given the major rules which operate on this level, one would expect mere repetition to produce two tetrameters, two trimeters, and two dimeters; one would also expect the tetrameters to result from doubling the dimeters:

AAAA	BBBB
AAA	BBB
AA	BB

The inventory of theoretical meters can be freed from doubling in any one of the following ways:

- (a) Excluding AAAA and BBBB
- (b) Excluding AA and BB
- (c) Excluding AAAA and BB
- (d) Excluding AA and BBBB

The first option sacrifices a subtype (the tetrameter); likewise, the second option sacrifices a subtype (the dimeter). The remaining two options sacrifice no subtype, but the last option is the one selected because it offers the additional advantage of suppressing extreme length and extreme brevity (BBBB is the longest possible meter since four feet constitute the maximum length for a meter and B is the long foot; AA is the shortest possible meter since two feet constitute the minimum length for a meter and A is the short foot).

(2) A "mixed" meter is one which comprises feet of both types (long and short). Given the major rules which operate on this level, one would expect interrupted repetition, supplemented repetition, and alternation to produce a set of six mixed meters: ABA, BAB, AAB, BBA, ABAB, and BABA. The set derives its identity from two structural features: each meter combines both types of feet, and each meter contains at least one pair of identical feet. Inconsistency is clear from the fact that neither pair of identical feet is shared by the entire set. To remove this inconsistency, one of the following couples must be eliminated:

- (a) AAB and ABA
- (b) BBA and BAB

The first couple, rather than the second, is eliminated for a reason which will become clear on Level II: of two mixed theoretical strings, the one which begins with a long foot yields more standard meters than the one which begins with a short foot. The principle operating here is one which may be called "productive economy" since it seeks to maximize the output while minimizing the source strings.

Thus each of the mixed meters utilized by Arabic prosody contains two long feet.

If *maf'ūlun* is substituted for A and *maf'ūlātun* is substituted for B, the actual meters on this level assume the following forms:

- (a) Mere repetition
 - (i) maf'ūlun maf'ūlun maf'ūlun maf'ūlun
 - (ii) maf'ūlun maf'ūlun maf'ūlun
 - (iii) maf'ūlātun maf'ūlātun maf'ūlātun
 - (iv) maf'ūlātun maf'ūlātun
- (b) Interrupted repetition
 - maf'ūlātun maf'ūlun maf'ūlātun
- (c) Supplemented repetition
 - maf'ūlātun maf'ūlātun maf'ūlun
- (d) Alternation
 - maf'ūlun maf'ūlātun maf'ūlun maf'ūlātun
 - maf'ūlātun maf'ūlun maf'ūlātun maf'ūlun

Economy, then, is the restriction which operates on Level I to reduce the number of possible strings; it is enhanced by two factors and tempered by two more.

The factors which enhance economy are inclination to be consistent and inclination to highlight contrast; while the former pertains to the individual feet and tends to promote similarity between the constituents of various meters, the latter pertains to the overall structure of the string and tends to establish a distinct identity for each meter. The outcome is a more homogeneous and yet more contrastive set of strings.

The factors which temper economy are disinclination to sacrifice types, and disinclination to sacrifice productivity. More precisely, the role played by these two factors may be stated as follows: given two alternatives with equal capacity for reducing a set of strings, the system selects the alternative which excels in regard to sparing metrical types and retaining a productive subset. "Productive economy" in prosody is reminiscent of the principle which underlies stratification in language structure: a relatively small number of units on one level generate a relatively large number of units on the next level.

OUTLINE OF MAJOR POINTS ON LEVEL I

- (1) Feet: Only two (one long and one short).
- (2) Slots for feet (per hemistich): 2 - 4.
- (3) Patterns for constituting hemistichs: Four (mere repetition, interrupted repetition, supplemented repetition, and alternation).
- (4) Restriction: Economy
 - (a) Enhanced by: Consistency and contrast (the first pertains to individual feet, and the second pertains to the overall structure of the string).
 - (b) Tempered by: Disinclination to sacrifice metric types and disinclination to sacrifice productivity.
 - (c) Result: In the retained set of theoretical meters, each mixed string contains two long feet and doubling is non-existent.

3.2. Level II. Standard Meters

The principle which operates on this level is that patterned recurrence of long and short syllables in the hemistich gives rise to "meter";⁴ consequently, theoretical meters are modified on Level II by reduction of certain syllables.

That patterned recurrence is a general principle can be seen from the following passage:⁵

"Meter should be defined as the theoretically regular, although in practice sometimes much varied, recurring pattern of acoustic detail within the line. In modern English verse the pattern consists of a fixed number of stresses and of fixed positions for them in relation to the unstressed, or more lightly stressed, syllables. The mere ordered physical placement of stresses and nonstresses tends to create a determinate acoustic structure—that is, to convey a sense of regularity. . . . —and this structure is enhanced by the ISOCHRONIC principle, the fact that the intervals between primary stresses tend to seem equal. In Old English poetry, only the number of syllables and the end rhymes are the determinants; in Greek and Latin poetry the number of long and short syllables and their positions were the fixed elements; in Chinese poetry the principle is that of variation in pitch together with a fixed count of syllables. Thus, for a definition that will cover all instances, we have to describe METER as the distribution of syllables according to stress, quantity, pitch, or mere number, in some regular pattern either within the line or among successive lines."

The major rules on this level are discussed below; the first four deal with "standard reduction", and the fifth deals with a complex transformation which involves "analysis".

(1) Each foot in a given theoretical meter undergoes syllable reduction. Syllable reduction is either foot-initial or foot-medial (in a quadrisyllabic foot, medial reduction may affect either of the two medial syllables). No foot-final reduction occurs on this level since a short syllable has its clearest rhythmic effect when followed in the same perceptual group by a long syllable (in this context the short syllable lends prominence to the long syllable).

(2) Foot-initial and foot-medial reduction are mutually exclusive: they co-occur neither in the same foot nor in different feet of the same standard meter. Thus reduction is similarly positioned⁶ in all the feet of a given hemistich.

(a) Initial reduction is, by definition, identically placed in all the feet of a given hemistich.

(b) In most instances, medial reduction is identically placed in all the feet of a given hemistich.⁷

In a hemistich where such is not the case, the feet differing in the placement of medial reduction are adjacent; in non-contiguous feet, reduction is identically placed. Thus the sequences under (i) below are possible, but those under (ii) are not⁸.

- (i) — U — — — U — — — U — —
 — — U — — — U — — — U —
 — U — — — — U — — — U — —
 — — U — — U — — —
 — U — — U — — U — — U —
 — — U — — — U — — — U —
 — — U — — U — — — U —

(ii) — U — — — U — — — — U —
 — U — — — — U — — — — U —
 — — U — — U — — U — —

The ultimate degree of consistency is the situation where syllable reduction is identically placed in *all* the feet of a given hemistich; we shall call this degree of consistency "standard congruence".

(3) The system tends to avoid paraphrasing. "Paraphrasing" denotes the process of rearranging the feet which constitute a given meter to produce another meter; the two meters in question are called a "paraphrastic pair".

The mixed theoretical strings of Arabic poetry are divisible into two paraphrastic pairs:

(a) BAB and BBA

(b) ABAB and BABA

Paraphrasing could have been eliminated on Level I by dropping one member of each pair; such a solution, however, would have sacrificed a type of Level I patterning (either interrupted repetition or supplemented repetition). Instead, the system avoids generating paraphrastic pairs of standard meters by allowing each of the theoretical strings to undergo one type of reduction, and allowing none to undergo both types.

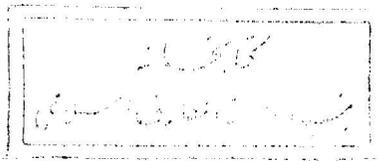
Of the two theoretical strings ABAB and BABA, the first undergoes initial but rejects medial reduction (thus resulting in a standard meter whose initial foot is short and begins with a short syllable), and the second undergoes medial but rejects initial reduction (thus resulting in a standard meter whose initial foot is long and begins with a long syllable). Had it not been for this restriction, we would encounter a situation where the feet of a standard meter by occurring in a different order constitute another standard meter.

Because the theoretical strings BAB and BBA differ only in the arrangement of units, we can anticipate situations where the feet of a standard meter by occurring in a different order constitute another standard meter. Initial reduction is rejected by the two theoretical strings, and the number of such situations is thus reduced. Notice that BAB and BBA are alike in regard to the onset foot, and they are therefore alike in regard to the type of reduction they reject. Also notice that analogy determines the type of reduction to be rejected: since BABA (which begins with a long foot) rejects initial reduction, BAB and BBA (both of which begin with a long foot) reject initial reduction as well.

(4) Analogy may be responsible for the fact that initial reduction is rejected by the theoretical string BBB: initial reduction is rejected by BAB, the only other theoretical trimeter with a long foot at the beginning and a long foot at the end; initial reduction is also rejected by BBA, the only other theoretical trimeter with a long foot at the beginning and a long foot in the middle.

(5) Theoretical meters with adjacent long feet undergo a complex transformation which combines two processes: reduction and analysis; while reduction applies to every foot, analysis applies only to the long feet. Analysis is the replacement of a long syllable by ω (i.e., by two short syllables which pattern as a single constituent); such replacement may occur initially or medially in the foot, but never in immediate contiguity to reduction. Thus the theoretical meter BB yields the two standard meters U— ω — U— ω — and ω —U— ω —U—, the theoretical meter BBB yields the standard meter ω —U— ω —U— ω —U—, and the theoretical meter BBA yields the standard meter U— ω — U— ω — U— .

The above discussion implies that theoretical meters with adjacent long feet undergo two separate transformations: the first is simple, consisting of mere reduction; the second is complex, combining reduction and



analysis. Analysis applies to *all* of the adjacent long feet (it is *never* restricted to a single foot); in this sense, analysis operates with the hemistich (rather than the individual foot) as domain.

The replacement of a long syllable by ω is not reduction: ω is equal in duration to a long syllable; besides, as will be seen on Level III, ω patterns as a long syllable. Thus analysis, although it co-occurs with reduction in the same foot, does not violate the statement that initial and medial reduction are mutually exclusive.

An explanation is required for the fact that only four of the expected six meters are generated by the complex transformation. Given the theoretical meters BB, BBB, and BBA as inputs, the following six strings are expected as outputs:

U — ω — U — ω —
 ω — U — ω — U —
 U — ω — U — ω — U — ω —
 ω — U — ω — U — ω — U —
 U — ω — U — ω — U — —
 ω — U — ω — U — — U —

A study of the six strings reveals the following facts:

(a) There are three slots where constituent feet occur.

(b) In the first and in the second slots, a comparison of any two feet shows that *both* reduction and analysis serve the same cause: in some instances they both enhance contrast (compare, for example, the hemistich-initial feet of the first two strings), and in other instances they both enhance similarity (compare, for example, the hemistich-initial feet of the second and the fourth strings). In the third slot, the situation is somewhat different: reduction and analysis serve independent causes in two instances (one instance involves the hemistich-final feet of the third and the sixth strings, while the other instance involves the hemistich-final feet of the fourth and the sixth strings); in the rest of the instances, reduction and analysis serve the same cause (compare the hemistich-final feet of the third, the fourth, and the fifth strings).

To avoid the anomaly described in (b), a stipulation to reject one type of reduction must be dictated by the third foot, and this expectation is confirmed empirically by the data: when the theoretical string consists of only two feet, no rejection is stipulated; when the third foot is short, the stipulation is to reject medial reduction; and when the third foot is long, the stipulation is to reject initial reduction. Consequently, two of the possible outputs do not materialize:

U — ω — U — ω — U — ω —
 ω — U — ω — U — — U —

At this point, a word must be said concerning the "affinity" which binds one standard meter to another and one standard foot to another. No affinity exists in the absence of a common (theoretical) source; "close affinity" exists when, in addition to sharing a source string, the pair in question imply similar instructions with respect to the domain of reduction; "normal affinity" exists when the pair share a source string but result from different instructions with respect to the domain of reduction.

Only three pairs of standard meters and two pairs of standard feet are characterized by close affinity:

(iii)	<i>al-rajaz</i>	-- U -- -- U -- -- U -- (mustaf'ilun mustaf'ilun mustaf'ilun)
	<i>al-kāmil</i>	ω -- U -- ω -- U -- ω -- U -- (mutafā'ilun mutafā'ilun mutafā'ilun)
	<i>al-kḥafīf</i>	-- U -- -- U -- -- U -- (fā'ilātun mustaf'ilun fā'ilātun)
	<i>*latent</i>	-- U -- -- U -- -- U -- (mustaf'ilun fā'ilātun mustaf'ilun)
	<i>**additional</i>	-- U -- -- U -- -- U -- (fā'ilātun fā'ilātun fā'ilātun)
(iv)	<i>al-hazaj</i>	U --- U --- (mafā'ilun mafā'ilun)
	<i>majzū' al-wāfir</i>	U -- ω -- U -- ω -- (mufā'alatun mufā'alatun)
	<i>majzū' al-rajaz</i>	-- U -- -- U -- (mustaf'ilun mustaf'ilun)
	<i>majzū' al-kāmil</i>	ω -- U -- ω -- U -- (mutafā'ilun mutafā'ilun)
	<i>al-mujtatḥitḥ</i>	-- U -- -- U -- (mustaf'ilun fā'ilātun)
	<i>majzū' al-kḥafīf</i>	-- U -- -- U -- (fā'ilātun mustaf'ilun)
	<i>majzū' al-ramal</i>	-- U -- -- U -- (fā'ilātun fā'ilātun)

(b)	<i>al-madīd</i>	— U — — — U — — U — — (fā'ilātun fā'ilun fā'ilātun)
	<i>majzū' al-basīṭ</i>	— — U — — U — — — U — (mustaf'ilun fā'ilun mustaf'ilun)
(c)	<i>al-wāfir</i>	U — ω — U — ω — U — — (mufā'alatun mufā'alatun fa'ūlun)
	<i>al-ramal</i>	— U — — — U — — — U — (fā'ilātun fā'ilātun fā'ilun)
	<i>al-sarī'</i>	— — U — — — U — — U — (mustaf'ilun mustaf'ilun fā'ilun)
	<i>al-munsariḥ</i>	— U — — — — U — — U — (fā'ilātun mustaf'ilun fā'ilun)
	<i>*latent</i>	— — U — — U — — — U — (mustaf'ilun fā'ilātun fā'ilun)
(d)	(i) <i>al-tawīl</i>	U — — U — — — U — — U — — — (fa'ūlun mafā'ilun fa'ūlun mafā'ilun)
	(ii) <i>al-basīṭ</i>	— — U — — U — — — U — — U — (mustaf'ilun fā'ilun mustaf'ilun fā'ilun)
	<i>*latent</i>	— U — — — U — — U — — — U — (fā'ilātun fā'ilun fā'ilātun fā'ilun)

(2) Standard congruence plays a significant role in Arabic poetry. In general, standard meters which lack standard congruence are of relatively uncommon occurrence: this explains the infrequency of *al-mujtathith* (— — U — — U — —), a meter which hardly occurs in ancient Arabic poetry and which occurs in 3% of modern Arabic poetry;¹⁰ it also explains the latency of the following meter in ancient Arabic poetry:

— — U — — U — — — — U —

(3) Level II rules determine the number of identical syllables which may occur consecutively. In standard meters, sequences of short syllables do not occur,¹¹ and no more than four long syllables occur consecutively; the situation could not be otherwise given the type of patterning which exists on Level II and given the theoretical meters which exist on Level I (sequences of short syllables do not occur since standard

reduction affects one syllable per foot, and since reduction is similarly placed in all feet; a sequence of four long syllables may result when medial reduction is not identically placed in two theoretical feet which are long and adjacent).

(4) The fact that a theoretical foot comprises a minimum of three and a maximum of four syllables is the result of three principles operating simultaneously: economy, medial reduction, and productivity. As demonstrated on Level II, the *shortest* possible foot which accommodates medial reduction is tripartite, and the *shortest* possible foot which makes it possible to generate more than one standard meter through medial reduction is quadripartite.

Notes on standard meters

(1) The feet which make up the standard meters of Arabic poetry are seven in number: *fa'ūlun*, *fā'ilun*, *mafā'ilun*, *fā'ilātun*, *mustafilun*, *mufā'alatun*, and *mutafā'ilun*; they display four contrasts: in foot length, in the position of U, in the occurrence of ω, and in the position of ω.¹²

(2) In our inventory, the strings identified by one asterisk are latent meters; the string identified by two asterisks results from a process of differentiation: al-Kḥalīl postulates the existence of one meter (*al-ramal*) which counts for two separate meters in the present study.¹³ The meter identified by two asterisks is called "additional" since it must be added to al-Kḥalīl's list as an independent standard meter.

In view of the available data, the differentiation resulting from this study is hardly surprising. In his *Grammar*,¹⁴ Wright points out that *al-ramal* "is almost invariably catalectic in the first hemistich, and generally so in the second"; he also points out the existence of another less common sequence which is invariably acatalectic in both hemistichs:

Common:	— U — —	— U — —	— U — —	— U — —	— U — —	— U — —
Uncommon:	— U — —	— U — —	— U — —	— U — —	— U — —	— U — —

Were the first sequence a variant of the second, the situation would be the reverse of what Wright describes: the form — U — would be rare at the end of the *first* hemistich, and more common at the end of the second.¹⁵

(3) In ancient Arabic poetry, which is the subject of this study, the meters *al-muḍāri'* (whose standard form is U — — — — U — —) and *al-muqtaḍab* (whose standard form is — — — U — — U —) are almost non-existent;¹⁶ in fact, it is related that al-'Akḥfaṣḥ considered those two meters alien to Arabic poetry.¹⁷ Neither of the two meters is produced by our Level II rules. It is possible that *al-muqtaḍab* is a variant of *al-mujtathḥḥ* (see Remark 4 in section 4.2.23) and that *al-muḍāri'* is a variant of *majzū' al-mutaqārib* (see Remark 5 in section 4.2.21).

al-Kḥalīl defines *al-munsariḥ* as — — U — — — U — — U —; in our inventory the same meter is defined as — U — — — — U — — U —. It will be shown on Level III that the first sequence is an erroneously segmented variant of the second.¹⁸

(4) For the standard meters *al-mujtathḥḥ*, *al-madīd*, *al-wāfir*, and *al-sarī'*, al-Kḥalīl specifies forms other than the ones given above for the same meters. Significantly, those other forms occurred very rarely—if at all—in ancient Arabic poetry, while the forms listed here occurred regularly in the same corpus.¹⁹ In considering the anomalous (or non-existent) forms "basic", al-Kḥalīl was obviously guided by the framework of his theory rather than the frequency of occurrence. It is perfectly legitimate to postulate theoretical strings which can yield

the actual meters, but such postulation should not take place on a level where the strings are clearly actual (rather than theoretical) meters; furthermore, the transformations which generate actual meters from theoretical strings should not be as arbitrary as they are in this context.

(5) In a standard hemistich, foot recurrence is a typical phenomenon. This explains the latency in ancient Arabic poetry of the standard meter *mustaf'ilun fā'ilātun fā'ilun*.

(6) Contrast between two standard meters is weak if all or most of the feet in one, by assuming a different arrangement, constitute the other; consequently, one of the two meters in question is not favored. Of each pair given below, the first member is relatively rare²⁰ on account of this restriction:

<i>al-madīd</i>	— U — —	— U —	— U — —
	(fā'ilātun	fā'ilun	fā'ilātun)
<i>al-ramal</i>	— U — —	— U — —	— U —
	(fā'ilātun	fā'ilātun	fā'ilun)

<i>majzū' al-basīṭ</i>	— — U —	— U —	— — U —
	(mustaf'ilun	fā'ilun	mustaf'ilun)
<i>al-sarī'</i>	— — U —	— — U —	— U —
	(mustaf'ilun	mustaf'ilun	fā'ilun)

Of the following pair, the first member is a latent meter due to the same restriction:

<i>latent</i>	— U — —	— U —	— U — —	— U —
	(fā'ilātun	fā'ilun	fā'ilātun	fā'ilun)
<i>al-ramal</i>	— U — —	— U — —	— U —	
	(fā'ilātun	fā'ilātun	fā'ilun)	

Given any of the above pairs, what determines whether a certain member is likely to be favored? The degree of syllabic symmetry involved seems to be the answer: the member with more syllabic symmetry is favored (as will be seen on Level III, syllabic symmetry is highly desirable in Arabic poetry). The patterns of syllabic symmetry referred to in the following discussion are periodicity and a type of syllabic balance which may be defined thus: Beginning from the two extremities of the string and moving towards the middle, we find that the corresponding syllables are identical in regard to the feature of length (the middle may be zero or a syllable).

(a) Syllabic balance pervades all of string (ii) below but only the portion preceding the slanting line in string (i); besides, there is more periodicity in string (ii) than there is in string (i): the short syllable recurs at regular intervals in string (ii), but such is not the case in string (i). Hence the latency of string (i).

(i)	— U — —	— U — /	— U — —
(ii)	— U — —	— U — —	— U —

(b) Syllabic balance pervades all of string (i) below, and it pervades all of string (ii) as well; but

there is more periodicity in the latter (the short syllable recurs at regular intervals in the second string, but such is not the case in the first string). Hence the latency of string (i).

(i) — U — — — U — — U — — — U —
(ii) — U — — — U — — — U —

(c) In string (ii) below, symmetry pervades two portions (separated by a slanting line) of almost equal length; in string (i), on the other hand, the two symmetrical portions are considerably different in length. Hence the relative infrequency of string (i).

(i) — — U — — U — — / — U —
(ii) — — U — — / — U — — U —

OUTLINE OF MAJOR POINTS ON LEVEL II

Two rules, each with one restriction, operate on this level:

Rule 1. Syllabic reduction: Either foot-initial or foot medial (the latter usually displays standard congruence).

Restriction: Paraphrasing (in mixed meters) is not favored. Result: A mixed theoretical string whose first foot is long rejects initial reduction (and thus begins with a long syllable); one whose first foot is short rejects medial reduction (and thus begins with a short syllable).

Rule 2. Complex transformation (reduction & analysis): Applies only to theoretical meters with adjacent long feet.

Restriction: Throughout the meter, U and ω must have the same function. Result: Of the theoretical strings which may undergo the complex transformation, a trimeter whose third foot is short rejects medial reduction; one whose third foot is long rejects initial reduction. (Thus in the third slot, a long foot begins with a long syllable and a short foot begins with a short syllable).

3.3. Level III. Variants

3.3.1. Major rules governing variation

There are four major transformational rules which operate optionally on Level III to produce variants of standard (i.e., Level II) feet. The application of those rules is subject to the following stipulations:

(1) In most cases, variants are derived directly from standard feet; the variants derived from other variants are extremely few. Generally speaking, then, the four rules operate with the individual *standard* foot as domain (or input).

(2) A given foot is usually transformed by a single rule; occasionally, however, a foot is transformed by two or more rules operating simultaneously.

The four rules in question are stated and discussed below; facilitating a limited modification of the standard foot and tending at the same time to preserve the sequence U — intact, they specify the variation tolerated by the requirement of type assonance (see item 2 under the next title).

(1) *Synthesis*: The constituent ω may be replaced by a long syllable (as illustrated by the transformations $\omega - U - \rightarrow - - U -$ and $U - \omega - \rightarrow U - - -$). Strictly speaking, synthesis cannot be considered a reversal of analysis since the two transformations differ in regard to domain of application: while the former applies to the individual foot, the latter applies to the hemistich.

(2) *Level III reduction*: Unless preceded in the same foot by a short syllable, any long syllable may be shortened (e.g., $- U - \rightarrow U U -$, $U - - \rightarrow U - U$, $U - - - \rightarrow U - U -$, $U - - - \rightarrow U - - U$, $U - - - \rightarrow U - U U$, $- - U - \rightarrow U - U -$, $- - U - \rightarrow - U U -$, $- - U - \rightarrow U U U -$, $- U - - \rightarrow U U - -$, $- U - - \rightarrow - U - U$, $- U - - \rightarrow U U - U$).

(3) *Deletion*: In a hemistich-final foot, a short syllable may be deleted if it occurs (a) initially in the foot before two long syllables or (b) medially in the foot between two long syllables; a long syllable may be deleted if it occurs finally in the foot after another long syllable. The following are examples:

- (a) $U - - \rightarrow - - -$, $U - - - \rightarrow - - - -$, $U - \omega - \rightarrow - \omega -$
- (b) $- U - \rightarrow - - -$, $- U - - \rightarrow - - - -$, $\omega - U - \rightarrow \omega - -$
- (c) $U - - \rightarrow U -$, $U - - - \rightarrow U - -$, $- U - - \rightarrow - U -$
- (d) $U - - \rightarrow -$
- (e) $- U - - \rightarrow - -$

On Level III, ω patterns as a long syllable; this fact facilitates reduction and deletion in instances such as the following: $U - \omega - \rightarrow U - U -$; $U - \omega - \rightarrow - \omega -$.

(4) *Addition*: The foot (ω) $- U -$ may be expanded (in regard to the number of constituents) by suffixing a long syllable. The transformation occurs (optionally) in the line-final feet of four meters: *majzū' al-mutadā'arak*, *al-sarī'*, *majzū' al-kāmil*, and *al-ramal*; however, addition in the first two meters is attributed to later poets (see B10, Vol. II, pp. 362, 365) and therefore does not fall within the scope of this study. In the line-final feet of *majzū' al-kāmil* and *al-ramal*, addition comprises the following changes respectively:

- $\omega - U - \rightarrow \omega - U - -$, $- - U - -$, $U - U - -$, or $- U U - -$
- $- U - \rightarrow - U - -$ or $U U - -$

A foot may undergo a combination of Level III transformations; the combination may include deletion or addition, but not both. The domain of addition is consistent with this restriction: as will be explained later (Restrictions 2d and 6d), the line-final feet of *majzū' al-kāmil* and *al-ramal* reject deletion.

Thus the ancient poets restricted addition to the only meters where the standard, line-final foot is capable of yielding a perfectly symmetrical output and—in addition—rejects deletion (the symmetrical outputs in question are $\omega - U - -$, $- - U - -$, and $UU - -$).

It is possible that later poets introduced addition in *majzū' al-mutadāarak* and *al-sarī'* under the influence of analogy:

(1) *majzū' al-mutadāarak*, like *majzū' al-kāmil*, is a "clipped" meter formed through mere repetition.

(2) *al-sarī'*, like *al-ramal*, is formed through supplemented repetition.

(3) The line-final feet of the four meters (*majzū' al-mutadāarak*, *majzū' al-kāmil*, *al-sarī'*, and *al-ramal*) are covered by the representation $(\omega) - U -$.

As used by the later poets, the line-final foot of *majzū' al-mutadāarak* is usually $UU -$, a form which rejects deletion and which produces a perfectly symmetrical variant when a long syllable is appended to it; this late development is probably one of the factors which motivated optional addition in *majzū' al-mutadāarak*.

In each of the following examples, two rules operate simultaneously:

- (a) $U - - \rightarrow - U$
- (b) $- U - \rightarrow UU - -$
- (c) $- U - - \rightarrow UU -$

In the following example, three rules operate simultaneously:

$$\omega - U - \rightarrow - UU - -$$

In the following example, an output undergoes further transformation:

$$\omega - U - \rightarrow \omega - - \rightarrow \omega -$$

The present writer believes that the above rules attest the presence of a basic principle which characterizes Level III; the discussion below is intended to shed light on that principle.

It is interesting to notice that Level III transformations can produce syllabic symmetry, including simple periodicity, in the entire hemistich or in a shorter string (such as a foot).²¹

Simple periodicity is achieved when a single syllable of the one type separates each pair of the other type. The following examples show how a string can acquire simple periodicity through Level III transformations:

$$\begin{array}{l} - - U - \quad - - U - \quad - - U - \rightarrow U - U - \quad - - U - \quad - - U - \rightarrow \\ U - U - \quad U - U - \quad - - U - \rightarrow U - U - \quad U - U - \quad U - U - \\ U - - \rightarrow U - U \end{array}$$

U — — — → U — U —

— U — — → — U — U

— — U — → U — U —

— U — — → — U —

Even the most cursory examination confirms the assertion that simple periodicity is not the only form of syllabic symmetry which occurs on Level III: for example, the string U U — — (derived by Level III reduction from the string — U — —) is symmetrical although devoid of simple periodicity; the same is true of the string — — U — — (derived by synthesis and addition from the string ω — U —).

Syllabic symmetry may be durational but not structural: for example, there is no structural symmetry in U U — (as compared with U — U), but there is durational symmetry since the sequence is divisible into two durationally equal halves.

There are, then, four transformational rules which operate on Level III and which can produce syllabic symmetry. It must be emphasized that a given form of syllabic symmetry may be attainable through the application of one rule but not through the application of another, and that symmetrizing a given string may be facilitated by one rule but not by another. Two examples are given below.

(1) Consider the following hemistich (the standard form of *majzū' al-ramal*):

(a) — U — — — U — —

Simple periodicity throughout the hemistich cannot be achieved by deletion alone; it *can* be achieved by changing each foot (through Level III reduction) to — U — U:

— U — U — U — U

On the other hand, the second foot of (a) may be subjected to a deletion transformation which drops the final long syllable; as a result, the hemistich would acquire a form of symmetry which cannot be achieved through Level III reduction alone:

— U — — — U —

(2) Consider the following hemistich (the standard form of *al-rajaz*):

(b) — — U — — — U — — — U —

The hemistich cannot be symmetrized by applying the deletion transformation to the final foot; it *can* be symmetrized by changing each foot in turn (through Level III reduction) to U — U —:

U—U— U—U— U—U—

It is important at this point to discuss six aspects of Level III rules; those aspects are: effect on strings, purpose of application, restrictions on application, necessary application, suspension of the *'illa* status, and domain of application.

Effect on strings

(1) As explained above, Level III transformations can produce syllabic symmetry in the entire hemistich or in a shorter string.

Achieving syllabic symmetry in a given string may require no more than one change or it may require several changes. What must be emphasized is that asymmetrical sequences generated on the path to syllabic symmetry are legitimate strings; thus each output in the following transformation is a legitimate hemistich:

— — U — — — U — — — U — → U — U — — — U — — — U — →
 U — U — U — U — — — U — → U — U — U — U — U — U —

One may therefore conclude that the principle which characterizes Level III is a *tendency* to achieve syllabic symmetry in the entire hemistich or in a portion thereof.

Rather than symmetrizing asymmetrical strings, Level III transformations often substitute one form of symmetry for another; such is the case in the following transformation:

— U — — — U — → — U — U — U —

So strong is the tendency to achieve syllabic symmetry that one occasionally encounters Level III changes which violate general rules but which result in syllabic symmetry.²²

(2) Level III transformations produce type assonance—a relationship which holds between a standard foot and each variant of that foot.

Type assonance exists when, without exception or with a maximum of two exceptions, every constituent of the variant corresponds to an identical constituent in the standard foot.²³ For example, type assonance relates the standard foot U — — — to each of the variants U — — and U — U — : U — — — and U — — — are related to each other by type assonance since every constituent of the latter corresponds to an identical constituent in the former; U — — — and U — U — are related to each other by type assonance since only one constituent of the latter (the medial U) does not correspond to an identical constituent in the former. Type assonance also relates the standard foot — — U — to the variant U U U — since only two constituents (the first and the second) of the latter do not correspond to identical constituents in the former. We shall say that "optimum" type assonance exists when every constituent of the variant corresponds to an identical constituent in the standard foot; that "minimal" type assonance exists when, with two exceptions, every constituent of the variant corresponds to an identical constituent in the standard foot; and that "average" type assonance exists when, with only one exception, every constituent of the variant corresponds to an identical constituent in the standard foot. Accordingly, the variants U — — , U — U U , and U — U — are related to the standard foot U — — — by optimum type assonance, minimal type assonance, and average type assonance respectively.

Where minimal type assonance is displayed, the variant is usually quadripartite.

A sub-variety of type assonance exists when the sequence U — of the standard foot corresponds to U — in the variant; since U — may be considered the foot nucleus, this variety will be called "nuclear type assonance". For example, nuclear type assonance relates the standard foot — U — to each of the four variants U U —, — U —, U U — U, and — U —. The type assonance which relates two feet may include (or even consist entirely of) the nuclear variety, but it may also lack that variety. Compare, for example, the forms of type assonance displayed by the following pairs:

— U —, U U —

— U —, U U — U

— U —, — —

For the purposes of type assonance, ω patterns as a long syllable; thus the variant — — U — is related to the source (standard) foot ω — U — by optimum type assonance.

The function of type assonance is to produce an auditory effect which relates variants to standard feet, thereby helping to identify the standard hemistich from which a given string is derived.

The following examples illustrate the importance of nuclear type assonance in identifying the standard foot from which a given variant is derived; in each example, the variant which precedes the colon is related by type assonance to *both* of the standard feet which follow the colon:

(a) U U U —: — — U —, — U —

(b) — U U —: — — U —, — U —

(c) U U U —: — — U —, U — —

(d) U U —: — U —, U —

Generally speaking, variants are related to the source (standard) feet by nuclear type assonance. In each of the above examples, the variant is related by nuclear type assonance to the first standard foot but not to the second: therefore it is with the first standard foot that the variant must be identified.

If related by nuclear type assonance to a set of standard feet, a variant is usually identifiable with any member of the set (e.g., U — U — is identifiable with U — — —, U — ω —, or ω — U —).

Occasionally a variant is related by type assonance to a set of standard feet, but by nuclear type assonance to no member of the set; here the variant is usually identifiable with a standard foot if it can be shown (even by slightly relaxing the definition of "correspondence") that a perfect match in syllables holds between the pair. The variant — — —, for example, is related by type assonance to each foot in the following set: — U — —, — — U —, ω — U —, U — — —, U — — —, — U —; nevertheless, the variant in question is identifiable only with the first four members of the set. A perfect match holds between — — — and — U — — because the first constituent of each foot is long, the penultimate constituent is long, and the final constituent is long; a perfect match holds between — — — and — — U — as well as between — — — and ω — U — because in each of the three

feet the first constituent is long, the second constituent is long, and the last constituent is long; a perfect match holds between — — — and U — — — when the first constituent of the former is lined up with the *second* constituent of the latter.

When type assonance makes it possible to identify a variant with more than one standard foot, the ambiguity can be resolved by studying the hemistich as a whole or by studying other hemistichs of the same ode (remember that, as a rule, the hemistichs of an ancient Arabic ode are monometric). Consider, for example, the following hemistichs (both of which occur in the same ode):

- (a) U — U — — — U — — — U —
 (b) — — U — U U U — — — U —

The initial foot of (a) must be identified with the standard foot — — U — although it is related by type assonance to the standard foot U — — — as well as the standard foot — — U —: this conclusion is facilitated by the fact that U — — — — — U — — — U — is not a standard meter; it is also facilitated by the fact that the initial foot of (b) is — — U —.

Purpose of application

Level III transformations introduce metric variety; for example, all of the following sequences are variants of *majzū' al-kāmil*:

- — U — ω — U —
 ω — U — — — U —
 ω — U — ω — — —
 ω — U — — — — —
 — — U — — — — —
 ω — U — ω — U — — —
 — — U — ω — U — — —
 ω — U — — — U — — —

Not only do these variants differ one from the other, but they also differ from the standard form of the hemistich (ω — U — ω — U —). The availability of such alternatives on Level III gives the poet some freedom in choosing words.

By promoting syllabic symmetry, Level III transformations promote variety. Consider, for example, the following strings:

- (a) — U — — — — U — — — — U —
 (b) — U — U — — U — U — — U —

String (a) is the standard hemistich of *al-ramal*; string (b) is derived from (a) by Level III reduction. Both strings are symmetrical, but each embodies a distinct form of syllabic symmetry. Occurrence in the same ode of both forms contributes to variety.

Variety, then, is the primary purpose of Level III transformations. The type of variety involved, however,

is one which aspires to and gains from syllabic symmetry; it is, furthermore, one which is moulded by type assonance in the interest of preserving the identity of the standard meter.

Restrictions on application

(1) The *atypical* application of Level III rules is subject to certain restrictions.

Typically, Level III rules apply as *simple* transformations, and produce *primary* variants. A simple transformation is a rule which changes a single constituent of the foot. The following are simple transformations:

$$\begin{aligned} \omega - U - &\rightarrow - - U - \\ - U - &\rightarrow U U - \\ - U - - &\rightarrow - U - \\ \omega - U - &\rightarrow \omega - U - - \end{aligned}$$

A primary variant is one which is derived directly from the standard foot.

Atypically, Level III rules apply as complex transformations to produce primary variants, or as the second stage in *chain derivation* to produce *secondary* variants. A complex transformation is a rule which simultaneously changes more than one constituent of the foot, or a combination of different rules which apply simultaneously to change more than one constituent of the foot. The following are complex transformations:

$$\begin{aligned} \text{(a)} \quad - U - - &\rightarrow - - \\ - - U - &\rightarrow U U U - \\ - U - - &\rightarrow U U - U \\ \text{(b)} \quad \omega - U - &\rightarrow - - - \\ \omega - U - - - U - & \\ - U - - &\rightarrow U U - \\ - U - &\rightarrow U U - - \end{aligned}$$

In chain derivation, the output of one transformation becomes the input of another (a transformation in the chain may be simple or complex). The following transformations involve chain derivation:

$$\begin{aligned} - U - &\rightarrow - - \rightarrow - \\ - - U - &\rightarrow U - - \rightarrow U - \\ \omega - U - &\rightarrow \omega - - \rightarrow \omega - \\ \omega - U - &\rightarrow - - - \rightarrow - - \end{aligned}$$

A form is attributed to chain derivation if neither a simple nor a complex transformation can derive it directly from the standard foot; such a form is called a *secondary* variant.

At this point it is probably necessary to justify a preference which was employed in the above discussion: we have attributed a group of variants to direct derivation from the standard feet (through simple and complex transformations); the rest of the variants we have attributed to chain derivation. Variants of the second group are very few (see Appendix I) and they are rarely used. Our model therefore means that the vast majority of



variants are derived directly from standard feet; such direct derivation reflects the poet's intuition concerning performance. An alternative to the concept of complex transformations is to postulate cyclical application of the same transformation and consecutive application of different transformations; this alternative would increase the number of variants attributed to chain derivation, and would therefore widen the gap between performance and the descriptive model.

The restrictions imposed on *atypical* applications are listed below; they represent constraints on three possibilities: producing less type assonance, producing unclear type assonance, and producing no type assonance. In connection with certain variants, the following labels are used: "relatively few", "relatively infrequent", "distasteful", "rare", and "ugly"; it is also asserted that certain forms do not occur. To verify the validity of those labels and assertions, see: B18 (especially pp. 49, 101, 128, 129, 137, 150, 162, 191); B21 (especially pp. 59, 122, 123); and B10, Vol. II, pp. 361 - 368 (especially pp. 362, 363).

(a) Primary variants may be divided into two groups: the first comprises forms which display minimal type assonance, while the second comprises forms which display optimum or average type assonance. Variants of the first group are usually generated by complex transformations; they are relatively few (see Appendix I), relatively infrequent, and considerably distasteful. Variants of the second group are usually generated by simple transformations. In other words, the output of a complex transformation usually displays less type assonance than displayed by "sister" variants; for this reason, complex transformations are less favored than simple ones.

(b) In the case of some primary variants, type assonance is not readily perceptible; for example, the type assonance which relates the variant — — U to the source foot U — — — becomes obvious only when the first constituent of the former is lined up with the *second* constituent of the latter. The least favored of complex transformations are those which produce unclear type assonance: al-Rāḍī considers — — U, in its role as a variant of U — — —, to be "rare and distasteful"; he considers — U —, in its role as a variant of U — ω —, to be "ugly".

In this study, "clear" type assonance is opposed to "unclear" type assonance; the former exists when type assonance can be established without the necessity of skipping a syllable.

(c) Complex transformations are not permitted to produce primary variants which display no type assonance; thus U — — — does yield — U U.

(d) Chain derivation is not permitted in any of the following situations:

(i) When the final output of the chain would display less type assonance than displayed by the immediate predecessor; thus the second transformation of the following chain does not occur:

$$\omega - U - \rightarrow - - U - - \rightarrow - - - U$$

(ii) When the final output would display unclear type assonance; thus the second transformation of the following chain does not occur:

$$- U - \rightarrow - U - - \rightarrow U - -$$

(iii) When the final output would display no type assonance; thus the second transformation of the following chain does not occur:

— U — → — — — → U U U

In fact, chain derivation is not permitted unless its final output displays *more* clear type assonance than the immediate predecessor.

As observed earlier, the variants which do occur as a result of chain derivation are very few and they are rarely used.

The foregoing discussion leads to the conclusion that atypical applications are relatively uncommon because they tend to obscure the identity of the foot:

(a) A complex transformation minimizes the similarity between output and input; in addition, it tends to create misleading similarity between the output and at least one standard foot other than the input (in this context, similarity is defined as type assonance). For example, the output of — U — → U — displays *unclear* type assonance with the input while displaying *optimum* type assonance with the standard foot U — —; thus, if the derivational process were not known in advance, it would be tempting to identify U — with U — — rather than with — U —.

(b) A chain derivation causes ambiguity although its final output displays more type assonance with the standard source foot than does the immediate predecessor. For example, ω — can be perceived as a form which comprises *two* constituents, but it also can be perceived as a form which comprises *three* constituents (U U —); in the second instance, the process of identifying the source foot is subject to no small measure of uncertainty: U U — is more readily identifiable with — U — or — U — — than with ω — U —, it is as readily identifiable with — — U — as with ω — U —, and yet it is actually generated by chain derivation from ω — U —. The form U — is another case in point: it is more readily identifiable with U — — than with — — U —, it is as readily identifiable with ω — U — as with — — U —, and yet it may be actually generated by chain derivation from — — U —.

It must be remembered that the identity of a given variant is established by relative rather than absolute similarity, and that various degrees of similarity are defined as various degrees of type assonance. In descending order of intensity, the degrees of type assonance are the following: clear (optimum, average, minimal), unclear, zero.

Blocking a general transformation to avoid ambiguity is by no means a peculiarity of prosodic meters. On the morphological level, for example, a general transformation effects the change *awi* → *ā* (e.g., *khawif* → *khāf* 'to be afraid'); in the case of *sawid* 'to become black', however, the transformation is blocked to identify the form as a verb of color (significantly, the form *sād* exists in the lexicon but with a totally unrelated meaning). Again, a general transformation effects the change *Cwa* → *Cā* (e.g., *'ajwab* → *'ajāb* 'to answer'); in the case of *'aṭwal* 'taller', however, the transformation is blocked to identify the form as an relative adjective rather than a Measure IV trilateral verb (significantly, the form *'aṭāl* exists in the lexicon but as a Measure IV trilateral verb).

(2) Level III transformations are usually blocked or neutralized when they would obscure the identity of the meter; i.e., when they would render the standard form of the hemistich less than readily discernible, or when they would confuse one meter with another (a meter is subject to confusion with another meter when a string representing the first is identical with, or *minimally* distinct from, a string representing the second). The following are some examples:

(a) We have already seen that, because they tend to obscure the identity of the foot, atypical applications of Level III transformations are often blocked. The more ambiguous the individual feet in regard to identity, the greater the effort required to ascertain the standard form of the hemistich.

(b) The transformation $— — U — — — U — — — U — \rightarrow — — U — — — U — — —$ is blocked since the output would be identical to a variant of *al-sarī'* (the input is the standard form of *al-rajaz*).²⁴

(c) The transformation $— — U — — — U — — U — \rightarrow — — U — — — U — UU — —$ (whose input is the second hemistich of *al-sarī'*) is almost invariably blocked because the output would be readily confused with $— — U — — — U — \omega — —$ (which is a variant derived from the second hemistich of *al-kāmil*). On the other hand, the system imposes less restriction on the transformation $— — U — — — U — — U — \rightarrow — — U — — — U — — U — —$ since the clear difference in onset between $— U — —$ and $\omega — —$ is intended to signal the distinction in identity between *al-sarī'* and *al-kāmil*.²⁵

(d) The line-final foot of *majzū' al-kāmil* rejects deletion of its medial U;²⁶ the deletion in question can make the second hemistich of *majzū' al-kāmil* perceptually identical to a variant of *al-mujtatḥḥḥ*:

$$— — U — \omega — U — \rightarrow — — U — \omega — —$$

In each hemistich of *majzū' al-wāfir*, the final foot rejects the form $U — U —$; the same is true in each hemistich of *al-hazaj* and *majzū' al-kāmil*. But for this restriction, the hemistichs in question could become identical with a variant of *majzū' al-rajaz* (and, of course, with one another):

$$\begin{array}{l} U — \omega — \quad U — \omega — \rightarrow U — U — \quad U — U — \quad (\textit{majzū' al-wāfir}) \\ U — — — \quad U — — — \rightarrow U — U — \quad U — U — \quad (\textit{al-hazaj}) \\ \omega — U — \quad \omega — U — \rightarrow U — U — \quad U — U — \quad (\textit{majzū' al-kāmil}) \\ — — U — \quad — — U — \rightarrow U — U — \quad U — U — \quad (\textit{majzū' al-rajaz}) \end{array}$$

Similarly, in each hemistich of *al-kāmil* the final foot rejects the form $U — U —$ to avoid confusion with a variant of *al-rajaz*.

(e) We may divide into two types the instances where a pair of different meters become identical in form through Level III transformations: the first type comprises instances where the pair are closely affined; the second type comprises instances where the pair are not closely affined. Instances of the first type are more frequent than those of the second type; it must be emphasized, however, that instances of both types constitute the exception rather than the rule: in 'Antara b. Ṣhaddād's ode, the meter is *al-kāmil* (whose standard form is closely affined to that of *al-rajaz*); of the ode's 168 hemistichs, only fourteen (8.3%) merge with the standard form of *al-rajaz*, and only two of the fourteen form a line (the ode is scanned in Appendix II, and the fourteen hemistichs are identified by asterisks).

(f) Transformations are sometimes blocked to keep different meters clearly—rather than minimally—distinct. For example, the following transformation is usually blocked since the output would be considerably similar to the hemistich $UU — UU — UU — —$ (a variant second hemistich of *majzū' al-mutadārak*); the input is the second hemistich of *al-madīd* in its standard form:²⁷

$$— U — — \quad — U — \quad — U — — \rightarrow UU — — \quad UU — \quad UU — —$$

In *al-kḥafīf* and *majzū' al-kḥafīf*, the second syllable of $— — U —$ is never shortened; the purpose is to keep *al-kḥafīf* clearly (rather than minimally) distinct from the *additional* meter $— U — — \quad — U — — \quad — U — —$ and to keep *majzū' al-kḥafīf* clearly (rather than minimally) distinct from *majzū' al-ramal*. The second syllable

of — — U — in *al-mujtath̥th̥* is never shortened to keep the meter clearly (rather than minimally) distinct from *majzū' al-ramal*. In *al-kḥafīf* and *majzū' al-kḥafīf*, the last syllable of each hemistich-initial foot usually rejects reduction, thus ruling out the string — U — U U — U — U — (—) as a variant of *al-kḥafīf* and ruling out the string U U — U — — U — as a variant of *majzū' al-kḥafīf*; notice that the former string is minimally (rather than clearly) distinct from *majzū' al-wāfir*, and that the latter string can confuse the first foot (at least momentarily) with ω — U — .²⁸

(g) In the first hemistich of *al-ṭawīl*, the final foot rejects the transformation U — — — → U — —; but for this restriction, the first hemistich of *al-ṭawīl* would be minimally, rather than clearly, distinct from *al-mutaqārib*. (Other restrictions keep the *second* hemistich of *al-ṭawīl* clearly distinct from *al-mutaqārib*²⁹).

(h) The non-final feet of hemistichs usually reject deletion and addition. It is because deletion does not usually occur in hemistich-initial position that we are inclined (though tentatively) to interpret the sequence — U — — U — — as *al-mujtath̥th̥* (— — U — — U — —) rather than *majzū' al-mutaqārib* (the transformation U — — U — — U — — → — — U — — U — — is rare);³⁰ and it is because addition does not occur in hemistich-medial position that we must interpret the sequence — U — — — — U — — U — — as *al-kḥafīf* (— U — — — — U — — U — —) rather than *al-madīd* (the following transformation does not occur: — U — — — — U — — → — U — — — — U — — U — —).

(i) Addition and deletion are restricted in both hemistich-final feet, but they are more restricted in the final foot of the first hemistich than they are in the final foot of the second hemistich. It takes no great deal of reflection to perceive the underlying logic. The two transformations often obscure the identity of feet; thus they would often obscure the identity of meters if they occurred freely in *both* hemistich-final feet (for then neither domain would provide unmistakable clues). One would therefore be justified in expecting addition and deletion to be blocked in a single domain, preferably the first since it represents an earlier occasion for identifying the meter. As a matter of fact, addition is totally rejected in the first domain, and deletion is even more scarce than in the second domain. When it does occur in the first domain, deletion almost invariably occurs in the second as well (the deleted constituents being, almost invariably, the same in the second domain as in the first); the reverse is not true: deletion often occurs in the second domain without occurring in the first.³¹

In al-Kḥalīl's system, the final foot of the first hemistich is called *al-'arūd* 'the yardstick or measure', while the final foot of the second hemistich is called *al-ḍarb* 'the likeness, reflection, or counterpart'. The two terms seem to imply the concept that, of the two feet in question, the former is a more helpful clue in determining the identity of the meter; they also seem to imply an inclination to interpret the latter foot in terms of the former but not the former in terms of the latter.

As stated above, in *all* cases the *'arūd* is less prone to undergo deletion than the *ḍarb*. There is, however, a situation where deletion is completely rejected by the *'arūd*: namely, the situation where replacing the *'arūd* by a different foot would produce a different meter; the reason, once again, is that the *'arūd* represents an early occasion for identifying the meter.

According to al-Rādī (B18, pp. 95 - 305), 'Anīs (B32, pp. 59 - 139), and Wright (B10, Vol. II, pp. 361 - 368), the *'arūd* rejects deletion in the following meters:

— — U — — — U — — — U — (*al-rajaz*)
 — — U — — — U — — U — (*al-sarī'*)
 — U — — — — U — — U — — (*al-kḥafīf*)
 — U — — — — U — — U — (*al-munsariḥ*)

— U — — — U — — — U —	(<i>al-ramal</i>)
— U — — — U — — — U — —	(<i>additional</i>)
— — U — — — U —	(<i>majzū' al-rajaz</i>)
— — U — — U — —	(<i>al-mujtath̄th̄</i>)
— U — — — — U —	(<i>majzū' al-kh̄afīf</i>)
— U — — — U — —	(<i>majzū' al-ramal</i>)

(3) In general, Level III transformations do not obliterate all explicit forms of patterning.³² Consider the following transformations:

$$\begin{array}{ccccccc} \omega - U - & \omega - U - & \omega - U - & \rightarrow & - - U - & \omega - U - & \omega - U - \\ - U - - & - U - - & - U - & \rightarrow & U U - U & - U - - & - U - \end{array}$$

In the first transformation, the change does not obliterate pre-existing forms of patterning: both before and after the change, the hemistich may be represented by BBB (where B stands for a quadripartite foot); besides, the change does not alter the similarity among the three feet in regard to the position of U. The situation is analogous in the second transformation: both before and after the change, the hemistich may be represented by BBA (where B stands for a quadripartite foot and A stands for a tripartite foot); besides, the change does not alter the similarity between the last two feet in regard to the position of U. Both transformations are legitimate since they enhance variety without robbing the hemistich of explicit patterning.

Unless prevented from doing so by some restriction, Level III changes *can* rob the hemistich of explicit "meter" as demonstrated by the following transformation:

$$- - U - - U - - \rightarrow - - U - - - -$$

The hemistich — — U — — — — is devoid of explicit patterning: overtly, it embodies neither Level I nor Level II patterning; furthermore, syllabic symmetry is not sufficient to endow the hemistich with explicit "meter".³³ The fact that hemistichs such as — — U — — — — are rare in Arabic poetry³⁴ suggests that Level III rules are not usually permitted to apply in a manner that would eliminate all forms of explicit patterning. Syllabic symmetry is usually substituted for whatever patterning is obliterated by Level III transformations.

(4) When the standard foot contains ω , synthesis is by far the most favored of the simple transformations which can apply (because its output is related to its input by optimum type assonance).³⁵ For example, the standard foot $\omega - U -$ yields four primary variants as a result of simple transformations: — — U — —, U — U — —, $\omega - -$, and $\omega - U - -$; of these, the first three are expected to occur in *al-kāmil*. In 'Antara b. Shaddād's ode (whose meter is *al-kāmil*), — — U — — occurs 225 times, and U — U — — occurs once; $\omega - -$ does not occur (see Appendix II).

(5) Deletion and addition are blocked if they would violate the pattern of number assonance.

An ancient Arabic ode usually consists of divided lines; in other words, an ancient Arabic ode usually

comprises two columns of hemistichs. In each column, the final feet are related to each other by number assonance: i.e., in most cases they all have the same number of constituents.³⁶ The first hemistich-final foot may form an exception in its column; this is because the foot in question usually has the same number of constituents as its counterpart in the second column.³⁷ Thus, with respect to a transformation which alters the number of syllables, the hemistich-final feet of the second column, together with the first hemistich-final foot of the other column, constitute a unified domain: in general, such a transformation applies to all or else to none of the feet in question; the remaining hemistich-final feet behave in the same way. The following is an example.³⁸

— U — —	U U — —	— U — —	U U — —	— U — —	U U — —
U U — —	— U — —	— U — —	U U — —	U U — —	— U — —
— U — —	U U — —	U U — —	— U — —	— U — —	— U — —
— U — —	U U — —	U U — —	U U — —	— U — —	— U — —
— U — —	— U — —	U U — —	U U — —	— U — —	U U — —

It will be recalled that a hemistich-final foot which belongs to the first column is called a 'arūd, while a hemistich-final foot which belongs to the second column is called a ḍarb. As explained above, the foot which terminates the first hemistich of the ode is anomalous; for that reason, the foot in question will be excluded from the present discussion and its first counterpart (in the same column) will be viewed as the "first 'arūd".

The principle of number assonance underlies an important observation made by Arab prosodists: hemistich-final deletion is a 'illa (i.e., a binding process or feature); generally speaking, if it occurs in the first 'arūd it must recur in every subsequent 'arūd, and if it occurs in the first ḍarb it must recur in every subsequent ḍarb. Likewise, line-final addition is a 'illa.

The occurrence of — U — or U U — as a hemistich-final foot (in either or both columns) is governed by certain restrictions:

(a) If the first 'arūd is — U — or U U —, every subsequent 'arūd must be identical to it; and the first ḍarb, if trisyllabic, must also be identical to it.

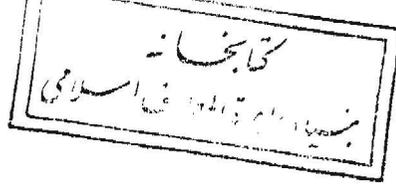
(b) If the first ḍarb is either — U — or U U —, every subsequent ḍarb must be identical to it.

Thus, as a constituent of the first 'arūd, the initial syllable of — U — or U U — has the status of an inter-column 'illa; as a constituent of the first ḍarb, it has the status of a local-column 'illa. As a rule, Level III transformations are not permitted to violate such status (the most common violations occur in *al-ramal* and *majzū' al-ramal*).

(6) Deletion is blocked if it can produce a broken sequence of more than four long syllables.³⁹ (A "broken sequence" is a string of syllables interrupted by at least one foot boundary. For the purpose of this definition, the cesura is viewed as two consecutive foot boundaries). This rule operates on the *emic* level where ω is viewed as a long syllable. Although broken sequences of four long syllables do occur, there is a strong preference for ones of only three long syllables. The following are examples:

(a) In hemistich-final position, a standard foot rejects deletion of its *initial* short syllable to avoid outputs such as the following:

U — ω — U — ω — → U — ω — — ω —, U — — — — —	(<i>majzū' al-wāfir</i>)
U — — — U — — — → U — — — — —	(<i>al-hazaj</i>)
U — — U — — U — — → U — — U — — — —	(<i>majzū' al-mutaqārib</i>)
U — — U — — U — — U — — → U — — U — — U — — — —	(<i>al-mutaqārib</i>)



Again in hemistich-final position, — U — — rejects the deletion of U to avoid outputs such as the following:⁴⁰

- | | |
|-------------------------------------|---|
| — U — — — U — — — — — | (Second hemistich of the <i>additional</i> meter) |
| — U — — — — — | (Second hemistich of <i>majzū' al-ramal</i>) |
| — U — — — U — — — — — — U — — — — — | (Line of <i>al-madīd</i>) |
| — U — — — U — — — — — | (Second hemistich of <i>al-madīd</i>) |
| — U — — — — U — — — — — | (Second hemistich of <i>al-kḥafīf</i>) |
| — — U — — — — | (Second hemistich of <i>al-mujtathḥ</i>) |

(b) In *al-wāfir* and *majzū' al-wāfir*, the non-canonical transformation *al-kḥarm* may delete the initial short syllable of the first hemistich, but not that of the second. This restriction rules out the following unmetrical sequences of long syllables across the cesura:

- | | |
|---------------|-------------|
| U — — | — ω — |
| U — — | — — — |
| U — ω — | — ω — |
| U — ω — | — — — |
| U — — — | — — — |

(c) In *majzū' al-kāmil*, the 'arūd rejects deletion; in *al-kāmil*, the 'arūd changes rather infrequently to ω — but never to ω — —. Both restrictions rule out the following unmetrical sequences (of long syllables) across the cesura:

- | | |
|-------------|---------------|
| ω — — | ω — U — |
| — — — | ω — U — |
| ω — — | — — U — |
| — — — | — — U — |

In addition, the latter restriction reduces the occurrence of the following undesirable sequences across the cesura:

- | | |
|-----------|---------------|
| ω — | ω — U — |
| — — | ω — U — |
| ω — | — — U — |
| — — | — — U — |

(d) In *al-ramal*, the *ḍarb* rejects deletion lest a sequence of four long syllables should result.

(7) Level III reduction is blocked when it would produce a broken sequence of more than two short syllables or a continuous sequence of more than three short syllables. This rule operates on the *etic* level where ω is viewed as a sequence of two short syllables. The following are examples:

(a) The occurrence of three short syllables consecutively across a foot boundary or across the cesura is barred in *al-hazaj*, *al-ṭawīl*, *al-wāfir*, *majzū' al-wāfir*, *al-madīd*, *al-ramal*, *majzū' al-ramal*, *al-kḥafīf*, and

majzū' al-kḥafīf:

(i) In a line of *al-hazaj*, each of the first three feet may be changed to U — — U; the first and the third may also be changed to U — U — (though the change is very rare); however, none of the three feet in question may be changed to U — U U.

(ii) In *al-ṭawīl*, the hemistich-medial foot U — — — may be changed to U — U — (though the change is very rare); however, it may not be changed to U — U U.

(iii) In *al-wāfir* and *majzū' al-wāfir*, a hemistich-initial or hemistich-medial U — ω — may be changed to U — — U or U — U — (although both changes are rare), but not to U — U U.

(iv) In *al-madīd*, — U — may be changed to U U — when the preceding foot ends in a long syllable but not when the preceding foot ends in a short syllable, and the first foot of the second hemistich may be changed to U U — — when the preceding foot ends in a long syllable but not when the preceding foot ends in a short syllable.

(v) In *al-ramal* and *majzū' al-ramal*, a foot-initial syllable may be shortened when the preceding foot ends in a long syllable but not when the preceding foot ends in a short syllable.

(vi) In *al-kḥafīf*, — U — — may not be changed to U U — — if preceded by a foot which ends in a short syllable.

(vii) In *majzū' al-kḥafīf*, each hemistich-final foot rejects the form U U U — when the preceding foot ends in a short syllable.⁴¹

(b) Level III reduction is blocked if it would cause a short syllable to occur after ω.⁴²

A study of Classical Arabic morphology reveals a restriction on the number of short syllables which may occur consecutively in the stem;⁴³ in prosodic meters, however, the injunction is more stringent since it holds true throughout the entire line (regardless of boundaries).

A continuous (as opposed to a broken) sequence of three short syllables is metrical; there is, however, a strong preference for continuous sequences of only two short syllables. In the few instances where it does occur, U U U — is considered a "most distasteful" variant; its occurrence is barred in *al-kāmil*, *majzū' al-kāmil*, *al-kḥafīf*, *majzū' al-kḥafīf*, and *al-mujtathḥ* (even when the preceding foot ends in a long syllable).⁴⁴

Blocking transformations to avoid unmetrical sequences of short syllables is a restriction known to Arab prosodists as *al-mu'āqaba*⁴⁵; unfortunately those prosodists express the restriction in a set of very complex rules.

(8) Level III reduction is blocked when it would produce a short syllable at the end of the line: because it is followed by a pause, and in order to emphasize the rhyme, the last syllable of each line is always long.⁴⁶ The same restriction applies, though somewhat less stringently, at the end of the first hemistich. The meters *al-hazaj* and *al-mutaqārib* are the only contexts where a short syllable commonly terminates the first hemistich; in both meters, the short syllable in question functions as a marker and, in addition, prevents the occurrence of an unmetrical sequence (see defusing applications c and f under the next title). In *majzū' al-kḥafīf* and in the meters where the standard 'arūḍ is — U — —, occurrence of a short syllable at the end of the first hemistich is very rare indeed. Elsewhere, the first hemistich must end in a long syllable.⁴⁷

To summarize, a restriction may be general or specific: a general restriction applies to any transformation in order to safeguard a prosodic principle; a specific restriction applies to a particular transformation. Of the restrictions listed above, the first three are general and the rest are specific.

Necessary application

It has already been shown that Level III transformations are often blocked to safeguard certain prosodic

principles or to avoid certain unmetrical sequences. The same reasons necessitate the application of Level III transformations in certain situations; this section discusses such situations. As the examples below demonstrate, necessary application at one point may be accompanied by blocking at another.

(1) To neutralize a transformation which would confuse one meter with another, a marking device is sometimes employed. Two such devices involve *al-ṭawīl*, *al-mutaqārib*, and *majzū' al-mutaqārib*:²⁹

(a) Consider the second hemistich of *al-ṭawīl* in its standard form (i.e., U — U — — U — — U — — —). Changing the last foot to U — — would, in the absence of any other change, make the hemistich minimally rather than clearly distinct from *al-mutaqārib*; for this reason, another change is introduced as a marker: the penult foot becomes U — U. Significantly, the penult foot in the second hemistich of *al-mutaqārib* is almost never changed to U — U.

(b) Consider the following transformation whose input is the standard 'ajuz of *majzū' al-mutaqārib* (a 'ajuz is defined as the second hemistich of a divided line):

U — U — — U — — → U — — U — — —

Notice that the output is considerably similar to the corresponding portion in the standard 'ajuz of *al-ṭawīl* (i.e., to the line-final string U — — U — — —). This similarity in composition has prompted the illusion of similarity in function: thus the line-final string U — — U — — — tends to function as a "false 'ajuz"; in other words, the second hemistich of *al-ṭawīl* tends to behave like a divided line (and this tendency derives further strength from the fact that the two divisions are identical). Through analogy, the *ṣadr* (i.e., the first hemistich) of *al-ṭawīl* behaves like a divided line with its last two feet functioning as a false 'ajuz. A marking device differentiates each false 'ajuz of *al-ṭawīl* from the variant 'ajuz of *majzū' al-mutaqārib* whose final foot is — : while the penultimate syllable in the former is almost invariably shortened, the penultimate syllable in the latter is never shortened.

The string U — — U — — — also comprises the last three feet in a variant 'ajuz of *al-mutaqārib*; consequently, that 'ajuz is subject to the marking device specified in the foregoing paragraph: the penultimate syllable is never shortened.

It is interesting to note that in *al-ṭawīl* the second foot of each hemistich behaves like a 'arūd in regard to Level III reduction: the final syllable of the foot in question tends to reject reduction. This fact provides additional support for the assertion that each hemistich of *al-ṭawīl* behaves like a divided line. The assertion, however, constitutes only one of two motivations for using the form U — U — rather than the form U — — — as the 'arūd of *al-ṭawīl*; the other motivation is the necessity of avoiding unmetrical sequences of long syllables: the foot U — — — becomes U — U — (and the latter form assumes the status of a standard foot) to provide formal immunity against deletion of its initial syllable, thus blocking the possibility of producing five or even seven long syllables in a row (notice that the initial foot of the second hemistich is subject to a non-canonical deletion transformation, called *al-kḥarm*, which will be discussed later).

U — — U — — — U — — — — — U — — U — — — U — — U — — —
U — — U — — — U — — — — — — — U — — — U — — U — — —

(2) The 'arūd of *al-basit* is obligatorily changed from — U — to U U — (and the latter form assumes the status of a standard foot); this provides formal immunity against deletion of the 'arūd's medial U, and thus blocks

the possibility of producing an unmetrical sequence of long syllables across the cesura:

— U — — U — — U — — — — — U —

The change also promotes pattern congruence since it makes *al-basīṭ* compatible with other tetrameters: in *al-ṭawīl*, the 'arūḍ' obligatorily undergoes Level III reduction; in *al-mutadārak* it usually does.

The 'arūḍ of *al-munsariḥ* undergoes the same obligatory change (from — U — to U U —); the change provides a formal device which serves two purposes:

(a) To block the possibility of producing an un-metrical sequence of long syllables across the cesura:

— — U — — — — U — — — — — U — —

(b) To highlight the contrast between *al-munsariḥ* and *al-sarī'* (in their standard forms the two meters are minimally, rather than clearly, distinct). Significantly, the 'arūḍ is invariably — U — in *al-sarī'*.

(3) In *al-hazaj*, where hemistich-initial feet are subject to *al-kḥarm*, the 'arūḍ's final syllable is usually shortened to avert the possibility of producing a sequence of six long syllables across the cesura:

U — — — U — — — — — — — U — — —

Shortening the 'arūḍ's final syllable has two additional functions:

(a) It provides formal immunity against deleting the 'arūḍ's initial U (type assonance between the two forms U — — — and — — U is very low), thus ruling out the occurrence of very long, unmetrical sequences:

U — — — — —	U — — — — —
U — — — — —	— — — — — U — — — —
— — — — —	— — — — — U — — — —

(b) It distinguishes *al-hazaj* from a variant of *majzū' al-wāfir* where every ω is changed to — . Significantly, the 'arūḍ's final syllable is never shortened in *majzū' al-wāfir* (see B32, pp. 110 - 114). In passing, we may mention that this contrast can be obscured by deletion and thus the 'arūḍ of *majzū' al-wāfir*, like that of *al-hazaj*, rejects deletion.

The meter *majzū' al-mutaqārib* is subject to the non-canonical deletion *al-kḥarm*. An unmetrical sequence of long syllables could result if the initial U is deleted from the 'arūḍ and from the next foot as well. For this reason, the 'arūḍ's final syllable is obligatorily deleted and the resultant form (U —) assumes the status of a standard foot (thus making it impossible to delete the 'arūḍ's initial U). For the same reason, the 'arūḍ's final syllable is either dropped or shortened in *al-mutaqārib*.

(4) In *majzū' al-kḥafīf*, deletion of U from the *ḍarb* must be accompanied by shortening the first syllable of the same foot; this stipulation eliminates the possibility of producing a sequence comprising five long syllables:

..... — U — — — — —

(5) Under restriction 5 it was shown that the initial syllable of — U — or U U — has the status of an inter-column 'illa in the 'arūd and the status of a local-column 'illa in the *ḍarb*. It was stated that Level III transformations which would violate such status are usually blocked; by the same token, transformations which establish such status are usually obligatory.

(6) In general, addition and deletion transformations which establish number assonance are obligatory.

(7) As a rule, addition and deletion transformations apply obligatorily to the *ḍarb* if they apply to the 'arūd.

It is clear that the contexts specified in items 5, 6, and 7 (under "Necessary application") are general and pervasive; we shall therefore refer to them as the "major contexts" for necessary application. In the major contexts, necessary application pertains to several transformations; in the vast majority of minor contexts, necessary application pertains to a single transformation: Level III reduction.

The foregoing discussion leads to an interesting observation: in *minor contexts*, a necessary application may be viewed as a process which occurs only in the presence of an injunction against some other transformation. The necessary application may be of the "neutralizing" type or the "defusing" type.

(1) A **neutralizing application** permits relaxation of the injunction (in response to pressure of some kind) by undoing the unmetrical nature of the result. Of the necessary applications discussed above, the following are neutralizing:

(a) The replacement of — — U —, the *ḍarb* of *majzū' al-khāfīf*, by U — —. Independently, the optional deletion of U from the *ḍarb* in question produces an unmetrical sequence of long syllables; yet pattern congruence encourages such deletion (in *every* other meter where — — U — constitutes the *ḍarb*, the penultimate syllable of the line is subject to deletion). Shortening the foot-initial syllable facilitates the deletion by eliminating the possibility of producing an un-metrical sequence of long syllables.

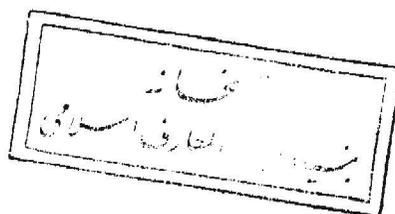
Similarly, deletion of U from the 'arūd of *majzū' al-basīṭ* must be accompanied by shortening the initial syllable of the same foot (thus U — — occurs instead of — — —).

(b) The replacement of U — — U — —, the two feet which terminate the 'ajuz of *al-tawīl*, by U — U U — —. Notice that two changes are involved: deletion of a syllable, and reduction of another syllable. The (optional) deletion can make the 'ajuz minimally, rather than clearly, distinct from *al-mutaqārib*; yet such deletion is encouraged by pattern congruence (in *al-hazaj*, the only other meter where U — — — constitutes the *ḍarb*, the line-final syllable is subject to deletion). The reduction facilitates the deletion by helping to differentiate the two meters.

The following may be added:

(c) In *al-madīd* (— U — — — U — — U — —), an injunction exists against deleting the hemistich-final syllable lest the string should become minimally, rather than clearly, distinct from the standard form of *al-ramal*; all the same, such deletion is encouraged by the fact that the standard form of *al-madīd* is minimally, rather than clearly, distinct from the *additional* meter (in its standard form). The dilemma is resolved as follows: the deletion is usually performed provided that the first syllable of the catalectic foot is reduced to U; the reduction permits relaxation of the injunction by neutralizing the undesirable result. Significantly, the hemistich-final feet of the *additional* meter are never catalectic.

(2) A **defusing application** provides a marker which serves a purpose of its own and which at the same time sustains the injunction. This is possible because the marker changes the environment from one which can trigger the unwanted transformation to one which cannot do so. In effect, the marked form *assumes the status of*



a standard foot. Of the necessary applications discussed above, the following are defusing:

(a) The obligatory replacement of — U —, the 'arūd of *al-basīṭ*, by U U —. To begin with, there is an injunction against deleting the 'arūd's medial constituent lest an unmetrical sequence of long syllables should occur. Shortening the 'arūd's initial syllable sustains the injunction (by eliminating the option of deleting the medial constituent), and in addition serves a purpose of its own: to promote pattern congruence.

(b) The obligatory replacement of U — —, the 'arūd of *al-ṭawīl*, by U — U —. To begin with, there is an injunction against deleting the 'arūd's initial constituent lest an unmetrical sequence of long syllables should occur. Shortening the 'arūd's penultimate syllable sustains the injunction and in addition serves a purpose of its own: to differentiate the second half of the *ṣadr* from the 'ajuz of *majzū' al-mutaqārib*.

(c) The very common replacement of U — —, the 'arūd of *al-hazaj*, by U — — U. To begin with, there is an injunction against deleting the 'arūd's initial constituent lest an unmetrical sequence of long syllables should occur. The replacement under discussion sustains the injunction and in addition serves a purpose of its own: to distinguish *al-hazaj* from a variant of *majzū' al-wāfir* where every ω is changed to —.

(d) The obligatory replacement of — U —, the 'arūd of *al-munsariḥ*, by U U —. To begin with, there is an injunction against deleting the 'arūd's medial constituent in order to block the possibility of producing an unmetrical sequence of long syllables. Shortening the 'arūd's initial syllable sustains the injunction and in addition serves a purpose of its own: to increase the contrast between *al-munsariḥ* and *al-sarī'*.

(e) The obligatory replacement of the 'arūd (U — —) by U — in *majzū' al-mutaqārib*. To begin with, there is an injunction against deleting the 'arūd's initial U (to avoid producing an unmetrical sequence of long syllables when the next foot undergoes *al-kḥarm*); the replacement in question upholds the injunction and, in addition, serves a function of its own: to maximize contrast with *al-mujtathith*:

— — U — — U —	(First hemistich of <i>majzū' al-mutaqārib</i> after the application of <i>al-kḥarm</i>)
— — U — — U — —	(<i>al-mujtathith</i>)

(Were the 'arūd of *majzū' al-mutaqārib* acatalectic, both of the above strings would comprise the syllabic sequence — — U — — U — —). Significantly, the 'arūd of *al-mujtathith* never assumes the form — U —.

(f) The very frequent (almost obligatory) replacement of the 'arūd U — — by U — U or U — in *al-mutaqārib*. To begin with, there is an injunction against deleting the 'arūd's initial U (to avoid producing an unmetrical sequence of long syllables when the next foot undergoes *al-kḥarm*). The replacement in question upholds the injunction; in addition, it marks a peculiarity which characterizes *al-mutaqārib* and which may be stated as follows: if altering the ultimate syllable constitutes the only change in the 'arūd, then altering the ultimate syllable can also constitute the only change in the *ḍarb* (notice that such change can produce either U — or U — U in the first position but only U — in the second position since a line must end in a long syllable); in contrast, the occurrence of U — — as 'arūd rules out the occurrence of U — as *ḍarb* (see B10, Vol. II, p. 364).

The following may be added:

(g) The common (though not obligatory) replacement of — U — by U U — throughout *al-mutadārak* and *majzū' al-mutadārak*. Due to contamination, every foot in *al-mutadārak* and *majzū' al-mutadārak* is subject to optional replacement by — —; consequently, the two meters violate five restrictions (see section 3.3.3). Shortening the first syllable of each foot eliminates the option of replacement by — —, and thus upholds the five restrictions; in addition, the defusing application facilitates clearer contrast with *al-madīd*.

Use of the standard form — U — in *al-mutadārak* can render the meter minimally (rather than clearly) distinct from *al-madīd*:

— U — — U — — U — — —
 — U — — — U — — U — —

(Variant of *al-mutadārak*)
 (Standard form of *al-madīd*)

The defusing application rules out the standard form of the foot, and renders *al-mutadārak* clearly distinct from even the closest variant of *al-madīd*:

UU — UU — UU — UU —
 UU — — UU — UU — —

(Variant of *al-mutadārak* resulting
 from the defusing application)
 (Closest variant of *al-madīd*)

Similarly, use of the standard form — U — in *majzū' al-mutadārak* can render the meter minimally (rather than clearly) distinct from *al-madīd*:

— U — — U — UU —
 — U — — — U — UU —

(Variant of *majzū' al-mutadārak*)
 (Common catalectic hemistich of
al-madīd)

The defusing application rules out the standard form of the foot, and (because it shortens the initial syllable of every foot) reduces considerably the possibility of confusing *majzū' al-mutadārak* with *al-madīd*.

The following comments summarize the rules and definitions which pertain to the necessary application of Level III transformations *in minor contexts*:

(1) Situations which call for a necessary application are characterized by the presence of an injunction, the presence of an additional consideration, and the need for a solution.

(a) *The injunction* is against deletion (usually of U, and usually from a hemistich-final foot).

(b) *The additional consideration* is usually pattern congruence or differentiation.

(c) *The solution* (necessary application) is usually syllable reduction; it may be a "neutralizing" or a "defusing" application.

(i) A neutralizing application satisfies the additional consideration by *relaxing* the injunction and *rectifying* the detrimental result.

(ii) A defusing application provides a marker which serves two purposes *simultaneously*: it satisfies the additional consideration, and it *upholds* the injunction (by changing the environment from one which can trigger the unwanted transformation to one which cannot do so). Notice that a defusing application replaces *convention by form* as the means of enforcing the injunction.

(2) It may or may not be accidental that the necessary application is usually neutralizing if the injunction pertains to a long foot, but defusing if the injunction pertains to a short foot.

(3) The following strings constitute the contexts for necessary application:

- (a) The tetrameters and their "clipped" counterparts.
- (b) The meters *majzū' al-kḥafīf*, *al-hazaj*, *al-madīd*, and *al-munsariḥ*.

The section on restrictions and the section on necessary application facilitate the following general statements concerning the correspondence between 'arūd and ḍarb:

(1) Addition of a final long syllable occurs optionally in the ḍarb (but never in the 'arūd). To be eligible for addition, the standard ḍarb must be of the form (ω) — U —, and it must reject deletion.

(2) Both the 'arūd and the ḍarb are subject to optional deletion, the former being a far less common domain for the transformation. If the 'arūd is catalectic, the ḍarb is almost decidedly catalectic; the reverse is not true: a catalectic ḍarb often corresponds to an acatalectic 'arūd. These statements are rendered more specific by the following three points:

(a) Of the Arabic meters, the longest and the shortest totally reject deletion in the 'arūd (the longest meters are *al-ṭawīl* and *al-basīṭ*—i.e., the tetrameters which contain long feet; the shortest are the dimeters). Deletion in the 'arūd is rejected by eight other meters: *al-kḥafīf*, *al-sarī'*, the additional meter, *al-ramal*, *al-munsariḥ*, *al-kāmil*, *al-wāfir*, and *al-rajaz*. In the case of *al-kāmil*, rejection is almost, but not quite, complete: the 'arūd never changes to ω — —; it does change to ω —, but the change is infrequent.

(b) In both hemistich-final positions, a standard foot tends to reject deletion of its initial short syllable; in the same positions, — U — — rejects deletion of its short syllable.

(c) In the remaining instances, the 'arūd is subject to deletion but less so than the ḍarb.

(3) The deletion transformations which simultaneously shorten both hemistich-final feet are almost invariably identical.

(4) As a general rule, the initial syllable of — U — or U U — is an inter-column 'illa in the 'arūd position and a local-column 'illa in the ḍarb position; thus, with a few exceptions, the following two rules hold true:

(a) If — U — or U U — occurs as the first 'arūd, every subsequent 'arūd must be identical to it, and so must be the first ḍarb if trisyllabic.

(b) If — U — or U U — occurs as the first ḍarb, every subsequent ḍarb must be identical to it.

Suspension of the 'illa status

It has already been shown that the identity of a meter may be signalled by the obligatory occurrence of a variant (necessary application) or by the total exclusion of a variant (blocking); it remains to be shown that, in Arabic poetry, a third device is employed for the same purpose: namely, the co-occurrence of two alternants in hemistich-final position. In some meters, for example, two different forms of the ḍarb can co-occur in the same ode; such co-occurrence constitutes one dimension in a tripartite opposition which differentiates three meters. In each of the cases discussed below, the co-occurrence of alternants violates a 'illa status.

(1) Consider the following two sets:

- | | |
|---|--|
| (i) — U — — — U — — — U — — | (Standard 'ajuz of the additional meter) |
| (ii) — U U — — — U — (or — U U —) — — U — | (Variant 'ajuz of <i>al-rajaz</i>) |
| (iii) — U — — — — U — — U — — | (Standard 'ajuz of <i>al-kḥafīf</i>) |

- | | |
|-----------------------------------|---|
| (i) — U — — — U — — | (Standard 'ajuz of <i>majzū' al-ramal</i>) |
| (ii) — — U — (or — U U —) — — U — | ('ajuz of <i>majzū' al-rajaz</i>) |
| (iii) — — U — — U — — | (Standard 'ajuz of <i>al-mujtatḥtḥ</i>) |

Were each *ḍarb* in the first set to assume the form — — —, the three strings would become minimally, rather than clearly, distinct. For this reason, (i) rejects the catalectic *ḍarb* — — —, (ii) admits the catalectic *ḍarb* — — —, while (iii) permits alternation of — — — with the acatalectic form in the *ḍarb* position. Thus the 'illa status is suspended in (iii), but such suspension is one dimension in a tripartite opposition which helps to differentiate three meters. The same is true of the second set.

(2) Consider the following three sets:

- | | |
|-----------------------------|--|
| (i) — U U — — U U — — U — | (Variant hemistich of <i>al-sarī'</i>) |
| (ii) — U — — — U — — U — | (Catalectic hemistich of <i>al-madīd</i>) |
| (iii) — U — — — U — — — U — | (Standard hemistich of <i>al-ramal</i>) |

- | | |
|-----------------------|---|
| (i) — U — — — — U — | (Standard 'ajuz of <i>majzū' al-kḥafīf</i>) |
| (ii) — U — U — — U — | (Catalectic 'ajuz of <i>al-mujtatḥtḥ</i> , known as <i>al-muqṭadab</i> . See Remark 4 in section 4.2.23). |
| (iii) — U — — — — U — | (Catalectic 'ajuz of <i>majzū' al-ramal</i>) |

- | | |
|------------------------------|---|
| (i) — U U — — — U — — U — | (Variant 'ajuz of <i>al-sarī'</i>) |
| (ii) — U U — — — — U — — U — | (Variant 'ajuz of <i>al-munsarih</i>) |
| (iii) — U — — — — U — — U — | (Catalectic 'ajuz of <i>al-kḥafīf</i>) |

The strings of the first set are minimally, rather than clearly, distinct; for this reason, (i) rejects reduction of the antepenult syllable, (ii) favors such reduction, while (iii) permits the co-occurrence of — and U as the antepenult syllable. Thus the 'illa status is suspended in (iii), but such suspension is one dimension in a tripartite opposition which helps to differentiate three meters. The same is true of the other two sets.

Not surprisingly, suspension of the 'illa status is rare in Arabic poetry.

The string — U — — — — U — — U — (which permits suspension of the 'illa status) is a very rare 'ajuz of *al-kḥafīf*; in fact, 'Anīs claims that it does not exist in ancient Arabic poetry (see B32, pp. 79, 80). Thus, for all practical purposes, the submeter in question can be disregarded.

(3) There are five meters where suspension of the 'illa status is *not* a device for differentiating meters: *al-mutaqārib*, *al-rajaz*, *majzū' al-rajaz*, *al-mutadāarak*, and *majzū' al-mutadāarak*.

(a) *al-Mutaqārib*: In the 'arūḍ position of this meter, U — U co-occurs with U — because the two forms are closely related in regard to function (see defusing application f under "Necessary application" in section 3.3.1).

(b) *al-Rajaz* and *Majzū' al-Rajaz*: In the *ḍarb* position of these two meters, number assonance may be violated when the ode is multi-rhymed (the second hemistich of each line rhyming with the first hemistich). Due to internal rhyme, each line is viewed as a somewhat independent entity: it is bound to employ a form of the meter (catalectic or acatalectic), but not a specific one; and (like a *maṭla*⁴⁸) its *'arūḍ* must be identical to its *ḍarb*.

(c) *al-Mutadārak* and *Majzū' al-Mutadārak*: In the *'arūḍ* position of these meters, the catalectic and the acatalectic forms of the foot may co-occur; in the same position, the first syllable of the form — U — or the form UU — has neither the status of a column *'illa* nor that of an inter-column *'illa*. The contamination which, in this writer's opinion, caused the anomaly will be discussed in section 3.3.3. With respect to the *'illa* status, anomaly in *al-mutadārak* and *majzū' al-mutadārak* is minor (being confined to the relatively uncommon strings) and may therefore be disregarded: the most common submeter in each case employs the form UU — throughout the line, thus fully upholding the *'illa* status of the *'arūḍ* (as well as the *ḍarb*).

Domain of application

In section 3.1 it was shown that the domain of Level I patterning is the hemistich; given the nature of Level I patterning, the domain cannot be a shorter string. Level II and Level III are characterized by syllabic patterning: on Level II, the domain of syllabic patterning is the hemistich; on Level III, the domain may be all or part of the hemistich.

The rules which produce Level III patterning apply to the individual foot; this means that in the non-final feet of hemistichs transforming a given foot does not *usually* become a compelling reason for transforming a preceding or a following foot; it is hardly necessary to mention that non-final feet constitute the majority of metric slots.

We have already pointed out and defined four types of entailment:

- (1) That which exists in the *'arūḍ* column.
- (2) That which exists in the *ḍarb* column.
- (3) That which exists between the *ḍarb* and the *'arūḍ*.

What needs to be re-iterated here is that entailment is the general rule in hemistich-final slots, while in non-final slots it is the exception rather than the rule.

Entailment in the non-final feet of hemistichs is a consequence of the restrictions discussed above: in some cases, a restriction means that changing one foot either demands or blocks a change in another foot. Numerous examples have already been cited; at this point, the following will suffice:

(1) We have already shown that the standard form of *al-ṭawīl* may undergo a transformation which triggers another transformation: changing the hemistich-final foot from U — — to U — — causes the preceding foot to change from U — — to U — U.

(2) Consider the following hemistich (the standard form of *al-mujtathith*):

— — U — — U — —

The string manifests Level I patterning (since it may be represented by BB, where B stands for a quadripartite foot) as well as Level II patterning (since its two feet are similar in regard to the positioning of U); both types of explicit patterning can be obliterated by Level III transformations:

- (a) — — U — — U — — → — — U — — — —
 (b) — — U — — U — — → U — U — — — —

The output of transformation (a) produces a hemistich which lacks explicit patterning: overtly it embodies neither Level I nor Level II patterning; furthermore, syllabic symmetry is not sufficient to produce "meter". The output of transformation (b), on the other hand, is a hemistich which (although overtly devoid of Level I and Level II patterning) manifests explicit "meter" because *both* feet are symmetrical. Therefore, (b) is more likely to occur than (a); in other words, changing the second foot of the standard hemistich usually entails a change in the first foot.

Now consider a *maṭla'* whose meter is *al-mujtathṭh* and whose first hemistich ends in — — — (— — — is a symmetrical variant of the foot — U — —): such a *maṭla'* usually ends in — — —⁴⁹ since deletion in the *'arūḍ* usually entails deletion in the *ḍarb*. Furthermore, the second hemistich usually begins with U — U — not only to promote syllabic symmetry (U — U — is a symmetrical variant of the foot — — U —) but also to prevent the occurrence of an unmetrical sequence of long syllables across the cesura.⁵⁰ Here, then, is a situation where changing a foot in one hemistich triggers changes in the other hemistich.

3.3.2. Compensation

Besides the ones discussed above, there is an important rule which operates on Level III: namely, compensation. The rule states that the total duration of a standard meter tends to be unalterable. Thus when a long syllable is reduced, the durational balance is added to an adjacent long syllable in the same foot.⁵¹ Such addition is possible when there is a neighboring syllable whose vowel is long or one whose final consonant is a continuant; otherwise compensation takes the form of a rest.

The fact that compensation tends to preserve the total durational value of the *standard* sequence suggests that Level II has intuitive, as well as descriptive, priority over Level III.

3.3.3. Non-canonical transformations

A non-canonical transformation is one which violates a Level III rule. In this section, non-canonical transformations will be discussed under three headings: Types, Justification, and Frequency.

Types

(1) Reduction: The final syllable of — — U — is occasionally shortened in *al-kḥaṣīf* and *al-mujtathṭh*.⁵²

(2) Addition: Prosodists report a few instances of a process which they call *al-kḥazm* and which adds a maximum of two syllables in hemistich-initial position.⁵³

(3) Deletion: A rare process, known as *al-kḥarm*,⁵⁴ drops a short syllable which introduces the hemistich (and which is followed in the same foot by two long syllables).⁵⁵ In *al-mutadārak* and *majzū' al-mutadārak*, another non-canonical process may apply to a hemistich-initial or a hemistich-medial foot, changing — U — to — —.⁵⁶

Justification

(1) In most cases, non-canonical transformations are motivated by a tendency to promote syllabic symmetry. Consider the following:⁵⁷

- (a) — U — U — — U — — U — U → — U — U — — U U — U — U

- (b) $-U- - -U- -U- \rightarrow -U- -U- / UU -U- -$
- (c) $- -U- -U- \rightarrow \left\{ \begin{array}{l} - - / UU \quad -U- - \\ - - UU / \quad -U- U \\ U- UU \quad -U / - - \\ U- U / U \quad -U- U \end{array} \right\}$
- (d) $U- U- \quad UU / - \quad - -U- \quad - - \rightarrow UU- U- \quad UU / - \quad - -U- \quad - -$
- (e) $U- - \quad U- - - \quad U- - / \quad U- U- \rightarrow - - U- - - \quad U- - / \quad U- U- -$

Transformation (a) produces a totally symmetrical hemistich, and transformation (b) produces a hemistich consisting of two symmetrical segments (separated by a slanting line). Both transformations result in shortening the final syllable of $- -U-$, which violates the general rule of Level III reduction and therefore constitutes a non-canonical change. It might be mentioned in passing that the output of the first transformation displays a rather interesting form of syllabic symmetry: beginning from the two ends and moving towards the middle, we find that the corresponding syllables are consistently *dissimilar*; the same form of symmetry characterizes the sequence which follows the slanting line in the output of the second transformation. Transformation (c) provides additional instances where the final syllable of $- -U-$ is shortened to symmetrize certain segments.

In the input of transformation (d) the sequence which precedes the slanting line is not symmetrical, while in the output the sequence which precedes the slanting line is symmetrical. The latter sequence consists of the former plus the syllable added by the transformation; in other words, the syllable added by the transformation serves the purpose of "balancing" the medial syllable of $UU-$. Significantly, the addition of syllables in hemistich-initial position is a non-canonical process.

In the input of transformation (e), the sequence which precedes the slanting line is not symmetrical, while in the output the sequence which precedes the slanting line is symmetrical. The symmetry in question results from a non-canonical deletion transformation.

As mentioned earlier, the process illustrated by transformation (d) is known to Arab prosodists as *al-kḥazm*, and the process illustrated by (e) is known as *al-kḥarm*. Their function obscured by al-Kḥalīl's theory, both processes have been considered so pointless and unexplainable that some scholars dismiss them as fabrication.⁵⁸ In the context of our theory, *al-kḥazm* and *al-kḥarm* are altogether plausible, and we therefore need not resort to claims of fabrication.

(2) In addition to promoting syllabic symmetry, *al-kḥazm* promotes pattern congruency: thanks to this latter function of *al-kḥazm*, a meter is operational which would otherwise have been latent. Consisting of three different feet, the meter $-U- - -U- -U-$ is anomalous (foot recurrence is a typical characteristic of standard hemistichs). The addition of a long syllable in hemistich-initial position endows the first two feet with enough similarity to remove the anomaly:

- (a) Variant generated by *al-kḥazm* $- -U- - - -U- -U-$
- (b) al-Kḥalīl's standard form of *al-munsariḥ* $- -U- - - -U- -U-$

That (b) is segmented erroneously while (a) embodies the correct segmentation is proved in part by the form of

the second foot: while unexplainably anomalous in (b), that foot is perfectly regular in (a). It seems reasonable, therefore, to conclude that string (a) is a variant which has assumed the status of a standard meter; it also seems reasonable to conclude that al-Kḥalīl committed an error in segmenting *al-munsariḥ*.

(3) In *al-mutadārak* and *majzū' al-mutadārak*, non-canonical deletion seems to have resulted from a process of contamination.

al-Kḥalīl does not include *al-mutadārak* in his inventory of meters although the string is generated by his fifth circle. This fact cannot be explained by the assumption that no examples of *al-mutadārak* occurred in the primary data, for then al-Kḥalīl could have considered the string a "neglected meter" (as he did when his other circles generated some unused strings); a more plausible explanation is that al-Kḥalīl rejected *al-mutadārak* as non-systematic because he perceived it as a string which violates five restrictions: the non-final feet of its hemistichs do not reject deletion,⁵⁹ its 'arūḍ is not more restricted in regard to deletion than its *ḍarb*,⁶⁰ its 'arūḍ is not bound by number assonance,⁶¹ the initial syllable of — U — or U U — does not have the status of a 'illa in its 'arūḍ,⁶¹ and it permits the juxtaposition of more than four long syllables.⁶² Significantly, it is related that al-Kḥalīl himself composed a poem with — — — — — — — — in each hemistich.⁶³

What gave rise to the violations listed above? Diachronic developments must sometimes be explained through plausible conjecture; the following paragraphs offer no more than such conjecture:

(a) Prior to al-Kḥalīl's time, *al-mutadārak* (with the standard form fā'ilun fā'ilun fā'ilun fā'ilun in each hemistich) was used as a regular meter which conformed to the general rules of Arabic prosody. At some point prior to al-Kḥalīl's time, a few poets used an *undivided*, invariable string which we shall call the "extra long primitive" and which was related in no way to *al-mutadārak*; the string in question is maf'ulātun maf'ulātun maf'ulātun maf'ulātun. It will be recalled that on Level I we encountered maf'ulātun maf'ulātun maf'ulātun maf'ulātun as a theoretical string which was excluded from the system (to avoid doubling), and whose exclusion left a gap in the inventory of theoretical meters. The occasional use of the extra long primitive seems to represent a rare victory of pattern congruence (which rejects gaps) over economy (which rejects doubling).

The surfacing of a theoretical (Deep-Structure) form is uncommon but not unknown in language; it must be emphasized, however, that the admission of a theoretical form into surface structure does not necessarily lead to the admission of other theoretical forms. For example, the Deep-Structure string of "equational sentences" in Classical Arabic contains the form *kān* 'to be'; while other theoretical forms did not surface, *kān* was used (though rarely) by some speakers in sentences like 'anta takūnu mājidun nabīlun 'You are praiseworthy and noble'.⁶⁴

(b) At a later point, still prior to al-Kḥalīl's time, the extra long primitive underwent a process of re-interpretation: conscious of the periodic beat which characterizes the rhythm, poets divided the string into feet of equal length and familiar (rather than theoretical) structure. The result was an undivided string comprising eight occurrences of fa'lun (a form which the poets naturally identified with fā'ilun).

(c) In a short step, a new meter emerged: one which is not divided, which comprises eight occurrences of fā'ilun, and where *every* foot is subject to deletion (as well as reduction). Not a 'arūḍ, the fourth foot was not more restricted than the eighth in regard to deletion, not subject to the requirement of number assonance, and not bound to assign the status of a 'illa to the initial syllable of fā'ilun or fa'ilun.

How did the new meter survive when a canonical hemistich comprises a *maximum* of four feet? In the first place, it must be remembered that the new meter was rare; we have encountered other instances where anomaly results in scarcity rather than total exclusion. In the second place, the new meter was probably viewed as nothing more than a version of *al-mutadārak* where the first hemistich runs into the second.

(d) When analyzing his data, al-Kḥalīl (yielding to the pressure of overwhelming convention) split the new meter into two hemistichs, thus obtaining a *divided* string which violates five restrictions and which he failed to differentiate from *al-mutadārak*.

(e) Like al-Kḥalīl, al-'Akhfash regarded the edited form of the extra-long primitive as a deviant meter; unlike al-Kḥalīl, however, he admitted it into the prosodic register. From then on, poets were free to ignore five restrictions when using *al-mutadārak*.⁶⁵

(f) The poems representing earlier stages (and comprising undivided lines) were edited in order to superimpose the now contaminated structure of *al-mutadārak*.⁶⁶

A similar line of development led to the contamination of *majzū' al-mutadārak*,⁶⁷ acceptance by al-'Akhfash, and editing by linguists.

Frequency

Non-canonical transformations produce the rarest of all variants. Some may argue that non-canonical deletion in *al-mutadārak* and *majzū' al-mutadārak* violates this statement; the present writer, however, holds that such deletion is rooted in a process of contamination rather than the general rules of the prosodic system.

3.3.4. The main features of Level III: A recapitulation

A. Four major transformations apply, with certain restrictions, to generate variants from standard meters; they are: synthesis, reduction, deletion, and addition. Functioning within the framework of type assonance (which safeguards the identity of feet), the four transformations promote syllabic symmetry and (by providing a set of variants for each standard foot) give the poet a measure of freedom in selecting his words.

So strong is the tendency towards syllabic symmetry and pattern congruency that sometimes, though very rarely, Level III transformations apply in a non-canonical fashion.

B. Addition and deletion are the most restricted of the four transformations; the following statements specify their distributional properties:

(1) Apparently due to contamination, deletion occurs with no positional restriction in *al-mutadārak* and *majzū' al-mutadārak*. In the remaining meters, only a few positions admit deletion; of these positions:

(a) *al-ḍarb*—i.e., the line-final foot—is the most common domain.

(b) *al-'arūḍ*—i.e., the ultimate foot of the first hemistich—is a less common domain (a directional, but not reversible, dependency exists between *al-'arūḍ* and *al-ḍarb*: almost invariably, deletion applies to the latter if it applies to the former; on the other hand, deletion often applies to the latter but not to the former).

(c) The slot for *al-kḥarm* is the least common domain (*al-kḥarm* is a non-canonical transformation defined as the deletion of a short syllable which introduces a hemistich; as might be expected, no such deletion can occur unless the short syllable is followed in the same foot by two long syllables).

(2) Addition occurs in less positions than deletion; of these positions:

(a) The line-final feet of the following meters constitute the canonical, relatively common domain: *majzū' al-mutadārak*, *majzū' al-kāmil*, *al-ramal*, and *al-sarī'* (addition in the first and the last meters is an innovation introduced by the later poets). Respectively, the transformations involved are:

— U — → UU — —

$\omega - U - \rightarrow \omega - U - - , - - U - - , U - U - - , \text{ or } - U U - -$
 $- U - \rightarrow - U - - , U U - -$
 $- U - \rightarrow - U - -$

(b) The slot for *al-kḥazm* is a less common domain (*al-kḥazm* is a non-canonical transformation defined as the addition of no more than two syllables at the beginning of a hemistich).

B. The following list indicates the relative frequency of Level III variants in any given position⁶⁸ (the most common are given first):

- (1) Canonical (primary) variants generated by the *typical* application of Level III rules.
- (2) Canonical variants generated by the *atypical* application of Level III rules:
 - (a) Primary variants generated by complex transformations.
 - (b) Secondary variants, generated by chain derivation.
- (3) Non-canonical variants, generated by the violation of Level III rules.

OUTLINE OF MAJOR POINTS ON LEVEL III

- (1) Canonical transformations:
 - (a) Types (from the least to the most restricted):
Reduction, synthesis, deletion, and addition
 - (b) Effect on strings:
Syllabic symmetry
Type assonance
 - (c) Purpose of application:
Variety
Freedom in choosing words
 - (d) Restrictions on application:
 - (i) Three restrictions are general (blocking *any* transformation to safeguard the identity of feet, the identity of meters, and explicit patterning).
 - (ii) Five restrictions are specific (blocking particular transformations).
- Some basic principles related to restrictions:
- (i) Necessity of safeguarding identity (i.e., keeping meters and feet distinct)
 - (ii) Primacy of patterning
 - (iii) Close affinity between ω and $-$
 - (iv) Number assonance (column *'illa*)
 - (v) Formal influence of the *'arūd* on the *darb* (inter-column *'illa*)
 - (vi) Unmetrical or undesirable status of certain uniform syllabic sequences
 - (vii) Correlation between the hemistich-final position and the

long-syllable type

- (e) Necessary application
- (i) Major contexts (hemistich-final columns): As a rule, the initial syllable of — U — or U U — is an inter-column *'illa* if it occurs in the *'arūd* and a local-column *'illa* if it occurs in the *ḍarb*; the same is true of deletion. Addition is a local-column *'illa* in the *ḍarb*.
 - (ii) Minor contexts: Here a necessary application resolves the competition between an injunction and an additional consideration. One solution (**neutralizing application**) relaxes the injunction to satisfy the additional consideration, and rectifies the detrimental result; another (**defusing application**) provides a marker which at once upholds the injunction and satisfies the additional consideration.
- (f) Suspension of the *'illa* status: serves as one dimension in a tripartite opposition which helps to differentiate three meters.
- (g) Domain of application: In general, the individual foot.
- (2) Non-canonical transformations:
- (a) Types: Reduction, deletion (*al-kḥarm*), and addition (*al-kḥazm*)
 - (b) Justification:
 - (i) Promotion of syllabic symmetry
 - (ii) Promotion of pattern congruence (which has permanently modified the form of *al-munsarih*)
 - (c) Frequency: Non-canonical transformations produce the rarest of all variants.
- (3) Relative frequency of variants in any given position (the most common are given first):
- (a) Variants generated by typical application of canonical transformations
 - (b) Variants generated by atypical application of canonical transformations
 - (c) Variants generated by non-canonical transformations
- (4) Correspondence between *'arūd* and *ḍarb*: Three criteria indicate the existence of directional but not reversible dependence; those criteria are: deletion, addition, and the *'illa* status assigned to the first syllable of *fā'ilun/fa'ilun*.
- (a) If the *'arūd* is catalectic, the *ḍarb* is almost invariably catalectic, but the reverse is not true.
 - (b) Addition in the *ḍarb* does not entail addition in the *'arūd*.
 - (c) As a rule, the initial syllable of *fā'ilun/fa'ilun* is a local-column *'illa* in the *ḍarb* position, but an inter-column *'illa* in the *'arūd* position.
- (5) Compensation: Tends to preserve the durational value of the *standard* string.

CHAPTER IV VERIFICATION

4.1. Introduction

In Chapter III, we presented a list of the standard meters which result from applying the rules of Level II; thus we showed that our theory does in fact account for the standard meters of Arabic poetry. The chief purpose of this chapter is to present further proof of adequacy by showing that:

(1) All the variants reported by al-Kḥalīl are generated by our Level III rules (the sufficient condition).

(2) The variants generated by our Level III rules do not substantially exceed the variants reported by al-Kḥalīl (the necessary condition).

The meters are listed in the descending order of frequency reported by 'Ibrāhīm 'Anīs (B32, pp. 59 - 139, 189 - 208). A careful analysis of 'Anīs' findings yields an interesting observation: the count is *not* restricted to ancient Arabic poetry, but such restriction would hardly alter the present frequency list since the modern portion of 'Anīs' corpus adheres rather closely to ancient models. It must be emphasized that odes composed in non-standard Arabic are excluded from the count.

Each standard string is followed by a list of "submeters", also arranged in descending order of frequency. In general, a submeter differs from the standard string only in regard to one or both of the hemistich-final feet; the difference results from applying a 'illa to the standard 'arūḍ, the standard ḍarb, or both. Submeters have a twofold purpose: (a) to define the number assonance which occurs in each column, and (b) to state the correspondence which occurs between the 'arūḍ and the ḍarb (submeters are governed by the rules of correspondence discussed in section 3.3.1).

As a by-product, this chapter provides a convenient reference for students and scholars: it lists the variant strings assigned by al-Kḥalīl to each meter, and specifies the relative frequency of those strings. In the tables used for this purpose, certain conventions are employed; an explanation of those conventions is in order:

(1) In the first column, the slots are indicated; the term "slot" designates the position (in the meter) where a given standard foot and its variants occur.

(2) In the second column we list the forms (standard and derived) which are reported by al-Kḥalīl as fillers of various slots. The arrangement of items is significant in three respects:

(a) Of the hemistich-final fillers, the unindented items represent different 'illa stipulations; not so with a hemistich-final filler and the forms indented under it, for here the entire set is uniform in regard to 'illa stipulation.

(b) Of the hemistich-initial and hemistich-medial fillers, the unindented items are standard forms, while the indented items are variants.

(c) As a rule, variants are listed in descending order of frequency.

The following notations deserve explanation:

(a) The symbols < > indicate that the enclosed form is reported by al-Kḥalīl but is not generated by our theory; in other words, the symbols in question indicate an instance where our theory violates the sufficient condition.

(b) An asterisk indicates that the form is generated by our theory but is not reported by al-Kḥalīl; in other words, an asterisk indicates an instance where our theory violates the necessary condition—an instance where a "probable variant" does not actually materialize. With respect to our theory, the necessary

condition is satisfied if the "probable variants" do not substantially exceed al-Kḥalīl's data. Probable variants comprise two sets:

(a) Forms which result from the necessary application of Level III transformations.

(b) Forms which result from the optional application of Level III transformations and whose occurrence is not banned (or rendered unlikely) by restrictions.

The remaining variants range from the *marginally* systematic to the non-systematic. Needless to say, the majority of probable variants belong to Class V₁ (see item 4 below).

(3) In the third column we specify the transformations which our theory provides to generate the variants. In most instances, the specified transformations are canonical.

(4) In the fourth column, we classify the fillers according to the principles of our theory:

(a) A filler belongs to Class *S* if it is a standard foot, and to Class *Sb* if it is the hemistich-final foot of a submeter.

(b) A filler belongs to Class V₁ if it is a canonical (primary) variant derived by a simple transformation from a standard foot.

(c) A filler belongs to Class V₂ if it is a canonical (primary) variant derived by a complex transformation from a standard foot.

(d) A filler belongs to Class V₃ if it is a canonical (secondary) variant derived from another variant.

(e) A filler belongs to Class V₄ if it is derived by a non-canonical transformation.

(5) In the fifth column we specify the relative frequency of fillers as reported by al-Kḥalīl. Where available, the esthetic judgement of Arab prosodists is enclosed within quotation marks (e.g., "ugly", "distasteful", "pleasant").

(6) In the sixth column we indicate the relative frequency of fillers as predicted by our theory. Most of the predictions are based on the principles discussed in section 3.3.1 under the titles "Restrictions on application" and "Necessary application"; the reader is therefore advised to familiarize himself with those principles before using the tables. The descriptions in the sixth column are accompanied by cross-references, footnotes, or explanatory remarks only when the reader is likely to need assistance. The sixth column merely identifies the explanatory remarks; the text of those remarks follows the tables.

Of the works consulted, al-Rādī's *Shārh Tuhfat al-Kḥalīl*, Wright's *Grammar*, and 'Anīs' *Mūsīqā al-Shī'r* are the major sources.

4.2. *The Meters of Ancient Arabic Poetry*

4.2.1. The meter al-ṭawīl

The standard form

U — U — — U — U — — U — — U — — U — —

Submeters

(1)	U — —	U — — —	U — —	U — U —	U — —	U — — —	U — —	U — U —
(2)	U — —	U — — —	U — —	U — U —	U — —	U — — —	U — U	U — —
(3)	U — —	U — — —	U — —	U — U —	U — —	U — — —	U — —	U — — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	U — — —	None	S	Non-existent	Non-existent (Rem. 2)
	U — U —	Reduction	Sb #1-3 (V ₁)	Overwhelming	Overwhelming (Rem. 2)
(2) <i>al-ḡarb</i>	U — — —	None	S, Sb #3	Very rare; almost non-existent	Almost non-existent (Rem. 3)
	U — U —	Reduction	Sb #1 (V ₁)	Common	Common (Rem. 3)
	U — —	Deletion	Sb #2 (V ₁)	Rare	Rare (Restriction 2i)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final 1, 5	U — —	None	S	Common	Common
	U — U	Reduction	V ₁	Common	Common
	— —	Non-canonical deletion (<i>al-kḥarm</i>)	V ₄	Very rare	Very rare (section 3.3.4)
	— U	Reduction & non-canonical deletion (<i>al-kḥarm</i>)	V ₄	Very rare	Very rare (section 3.3.4)
3	U — —	None	S	Common	Common
	U — U	Reduction	V ₁	Common	Common
7	U — —	None	S	Common	Common
	U — U	Reduction	V ₁	Common; obligatory before U — —	Common; obligatory before U — — (Rem. 3)
2, 6	U — — —	None	S	Common	Common
	U — U —	Reduction	V ₁	Common	Common
	U — — U	Reduction	V ₁	Rare (almost non-existent); "ugly"	Rare (Restriction 8, & paragraph 6 under "Necessary application" in section 3.3.1)

Remarks

(1) *al-Ṭawīl* is one of the most common meters of Arabic poetry; reportedly, one-third of all ancient Arabic poems employed it. Notice that *al-ṭawīl*, in its standard form, comprises the maximum possible number of

syllables. 'Anīs observes that, in general, the meters with a relatively large number of syllables were favored in ancient Arabic poetry (see B32, pp. 191, 192).

The standard form of *al-ṭawīl* does not occur; of the submeters, the first is the most common, and the third is the least common.

(2) The standard '*arūd* (U — —) does not occur (except, of course, in a *maṭla*" whose *ḍarb* is U — —); in its place, the form U — U — is used (see defusing application b under "Necessary application" in section 3.3.1).

(3) The standard *ḍarb* (U — —) is almost non-existent; it is commonly replaced by U — U — (see the first four paragraphs under "Necessary application" in section 3.3.1). The *ḍarb* U — — (of the second submeter) must be preceded by U — U (see neutralizing application b in section 3.3.1).

(4) The second foot in each hemistich rejects reduction of its final syllable (see paragraph 6 under "Necessary application" in section 3.3.1).

(5) When discussing *al-ṭawīl*, al-Rāḍī reports no '*ajuz*-initial instances of *al-kḥarm* (see B18, pp. 102, 103); elsewhere, however, al-Rāḍī cites examples which show that, in general, *al-kḥarm* applies to *both* hemistichs of the line (see B18, pp. 63 - 67).

4.2.2. The meter al-kāmil

The standard form

ω — U — ω — U — ω — U — ω — U — ω — U — ω — U —

Submeters

(1) ω — U — ω — U — ω — U — ω — U — ω — U — ω — —
 (2) ω — U — ω — U — ω — U — ω — U — ω — U — — —
 (3) ω — U — ω — U — ω — U — ω — U — ω — U — ω — —
 (4) ω — U — ω — U — ω — ω — U — ω — U — — —
 (5) ω — U — ω — U — ω — ω — U — ω — U — ω —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	ω — U —	None	S; Sb #1, 2, 3	Common	Common
	— — U —	Synthesis	V ₁	Common, "pleasant"	Common (Rem. 5)
	— U U —	Synthesis & reduction	V ₂	Rare, "distasteful"	Rare (Restriction 1)
	ω —	Chain derivation	Sb #4, 5 (V ₃)	Rare	Rare (Restriction 1)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
(2) <i>al-ḍarb</i>	ω — U —	None	S	Very common	Very common
	— — U —	Synthesis	V ₁	Common	Common (Rem. 5)
	— U U —	Synthesis & reduction	V ₂	Rare	Rare (Restriction 1)
	ω — —	Deletion	Sb #1 (V ₁)	Common	Common (since the 'arūḍ is common)
	— — —	Synthesis & deletion	V ₂	Common	Ditto
	— —	Chain derivation	Sb #2 (V ₃)	Rare	Rare (Restriction 1)
	ω —	Chain derivation	Sb #3 (V ₃)	Rare	Rare (Restriction 1)
	— —	Chain derivation	Sb #4 (V ₃)	Very rare	Very rare (Restriction 1; also, the 'arūḍ is rare)
	ω —	Chain derivation	Sb #5 (V ₃)	Very rare	Ditto

B. Non-final
1, 2, 4, 5

ω — U —	None	S	Very common	Very common
— — U —	Synthesis	V ₁	Common, "pleasant"	Common (Rem. 5)
— U U —	Synthesis & reduction	V ₂	Rare, "distasteful"	Relatively uncommon (Restriction 1)
U — U —	Reduction	V ₁	Very rare, "distasteful"	Very rare (Rem. 3)

Remarks

- (1) The meter *al-kāmil* is common in ancient (as well as modern) Arabic poetry.
 (2) In descending order of frequency, the forms of *al-kāmil* are as follows: the standard, the first submeter, the second submeter, the third submeter, the fourth submeter, the fifth submeter.
 (3) In each hemistich of *al-kāmil*, the final foot rejects the form U — U — . But for this restriction, the hemistichs in question could merge into a variant of *al-rajaz*:

ω — U — ω — U — ω — U — → U — U — U — U — U — U — (al-kāmil)
 — — U — — — U — — — U — → U — U — U — U — U — U — (al-rajaz)

Because the non-final feet in *al-rajaz* often assume the form U — U — , the corresponding feet in *al-kāmil* rarely assume that form.

(4) The form ω — behaves like U U — in regard to 'illa status, perhaps because the two forms are perceptually identical (see the rules which specify correspondence between 'arūd and ḍarb at the end of "Necessary application" in section 3.3.1).

(5) — — U — is the most common variant of ω — U — since the former is related to the latter by optimum type assonance.

4.2.3. The meter al-basīṭ

The standard form

— — U — — U — — — U — — U — — — U — — U — — — U — — U —

Submeters

(1) — — U — — U — — — U — U U — — — U — — U — — — U — U U —
 (2) — — U — — U — — — U — U U — — — U — — U — — — U — — —
 (3) — — U — — U — — — U — U U — — — U — — U — — — U — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	— U —	None	S	Non-existent	Non-existent ¹
	U U —	Reduction	Sb #1 - 3 (V ₁)	Overwhelming, "pleasant"	Overwhelming ¹

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
(2) <i>al-ḍarb</i>	— U —	None	S	Non-existent	Non-existent (Rem. 2)
	U U —	Reduction	Sb #1 (V ₁)	Overwhelming, "pleasant"	Overwhelming
	— —	Deletion	Sb #2 (V ₁)	Rare	Rare (Restriction 2i)
	—	Chain derivation	Sb #3 (V ₃)	Very rare	Very rare (Restriction 1)
B. Non-final					
1, 3, 5, 7	— — U —	None	S	Very common	Very common
	U — U —	Reduction	V ₁	Common, "acceptable"	Common
	— U U —	Reduction	V ₁	Common, "acceptable but somewhat distasteful"	Common
	U U U —	Reduction	V ₂	Rare, "ugly"	Rare (Restrictions 1, 7)
2, 6	— U —	None	S	Very common	Very common
	U U —	Reduction	V ₁	Very common, "pleasant", "nice"	Very common

Remarks

(1) The meter *al-basīṭ* is slightly less common than *al-kāmil*; in descending order of frequency, its forms are as follows: the first submeter, the second submeter, the third submeter. The standard form does not occur.

(2) Replacement of the standard *ḍarb* by U U — makes *al-basīṭ* compatible with other tetrameters: in *al-ṭawīl* and *al-mutadārak*, the *ḍarb* usually undergoes Level III reduction (see B10, p. 364; B32, pp. 61, 103; and B18, p. 303).

4.2.4. The meter al-wāfir

The standard form

U — ω — U — ω — U — — U — ω — U — ω — U — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūḍ</i>	U — —	None	S	Common	Common
(2) <i>al-ḡarb</i>	U — —	None	S	Common	Common
	*U —	Deletion	V ₁	Non-existent	Rare (Restriction 2i)
B. Non-final					
1	U — ω —	None	S	Common	Common
	U — — —	Synthesis	V ₁	Common, "pleasant"	Common (Rem. 2)
	U — U —	Reduction	V ₁	Relatively uncommon	Relatively uncommon (Rem. 2)
	U — — U	Reduction & synthesis	V ₂	Relatively uncommon	Relatively uncommon (Rem. 2; Restriction 1)
	— ω —	Deletion (<i>al-kḥarm</i>)	V ₄	Rare, "ugly"	Rare (section 3.3.4)
	— — —	Deletion (<i>al-kḥarm</i>) & synthesis	V ₄	Rare, "ugly"	Rare (section 3.3.4)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
	--U	Deletion (<i>al-kḥarm</i>), synthesis, & reduction	V ₄	Rare, "ugly"	Rare (section 3.3.4)
	--U--	Deletion (<i>al-kḥarm</i>) & reduction	V ₄	Rare, "ugly"	Rare (section 3.3.4)
2, 4, 5	U--ω--	None	S	Common	Common
	U---	Synthesis	V ₁	Common, "pleasant"	Common (Rem. 2)
	U-U--	Reduction	V ₁	Relatively uncommon	Relatively uncommon (Rem. 2)
	U--U	Reduction & synthesis	V ₂	Relatively uncommon	Relatively uncommon (Rem. 2; Restriction 1)

Remarks

(1) The non-canonical transformation *al-kḥarm* is blocked at the beginning of the second hemistich to avert an unmetrical sequence of long syllables.

(2) U--- is the most common variant of U--ω-- since the former is related to the latter by optimum type assonance.

4.2.5. The meter al-kḥafīf

The standard form

--U--- --U-- -U--- --U--- --U-- -U---

Submeter

--U--- --U-- -U--- --U--- --U-- -U--

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	- U - -	None	S, Sb	Common	Common
	U U - -	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	- U - U	Reduction	V ₁	Almost non-existent; conditional (<i>mu'āqaba</i>)	Almost non-existent (Restriction 8); conditional (Restriction 7)
	U U - U	Reduction	V ₂	Ditto	Ditto
(2) <i>al-ḍarb</i>	- U - -	None	S	Common	Common
	U U - -	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	- - -	Deletion	V ₁	Rare	Rare (Restriction 2i; Rem. 6)
	- U -	Deletion	Sb (V ₁)	Very rare	Very rare (Restriction 2; Rem. 2)
	U U -	Reduction & deletion	V ₂	Very rare; conditional (<i>mu'āqaba</i>)	Very rare; conditional (Restrictions 2, 7; Remarks 2, 5)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final					
1, 4	— U — —	None	S	Common	Common
	U U — —	Reduction	V ₁	Common	Common
2, 5	— — U —	None	S	Common	Common
	U — U —	Reduction	V ₁	Common	Common
	— — U U	Non-canonical reduction	V ₄	Very rare; conditional (<i>mu'āqaba</i>)	Very rare (section 3.3.4); conditional (Restriction 7)
	U — U U	Canonical & non-canonical reduction	V ₄	Very rare; conditional (<i>mu'āqaba</i>)	Ditto

Remarks

(1) The standard form of *al-kḥafīf* is far more common than the submeter; in fact, 'Anīs claims that the submeter is non-existent in ancient Arabic poetry (see B32, pp. 79, 80).

(2) The scarcity of the submeter is due (in whole or in part) to Restriction 2: the '*ajuz* of the submeter differs minimally, rather than clearly, from — U U — — — U — — U — (a very common variant of *al-sarī'*).

(3) The second syllable of — — U — rejects reduction to maximize contrast with the *additional* meter.

(4) Almost invariably, the final syllable of the first and the fourth feet rejects reduction; thus the variant string — U — U U — U — U U — (—) is ruled out (notice that the string in question is minimally, rather than clearly, distinct from *majzū' al-wāfir*).

(5) The submeter of *al-kḥafīf* violates a '*illa* status since it permits — U — and U U — to co-occur in line-final position. The violation helps to differentiate *al-kḥafīf* from *al-munsariḥ* and *al-sarī'* (see "Suspension of the '*illa* status" in section 3.3.1). For all practical purposes, however, the submeter of *al-kḥafīf* can be disregarded in view of its extreme scarcity.

(6) The standard form of *al-kḥafīf* violates a '*illa* status since it permits — — — to co-occur with the acatalectic *ḍarb* in the same ode (see "Suspension of the '*illa* status" in section 3.3.1).

4.2.6. The meter al-rajaz

Standard form

— U — — U — — U — — U — — U — — U —

Submeter

— U — — U — — U — — U — — U — — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūḍ</i>	— U —	None	S, Sb	Very common	Very common
	U — U —	Reduction	V ₁	Common	Common
	— U U —	Reduction	V ₁	Common	Common
	U U U —	Reduction	V ₂	Rare, "ugly"	Rare (Restrictions 1,7)
(2) <i>al-ḍarb</i>	— U —	None	S	Very common	Very common
	U — U —	Reduction	V ₁	Common	Common
	— U U —	Reduction	V ₁	Common	Common
	U U U —	Reduction	V ₂	Rare, "ugly"	Rare (Restrictions 1, 7)
	— — —	Deletion	Sb (V ₁)	Relatively uncommon	Relatively uncommon (Restriction 2i)
	U — —	Deletion & reduction	V ₂	Relatively uncommon	Relatively uncommon (Restriction 2i)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final 1, 2, 4, 5	— — U —	None	S	Very common	Very common
	U — U —	Reduction	V ₁	Common	Common
	— U U —	Reduction	V ₁	Common	Common
	U U U —	Reduction	V ₂	Rare, "ugly"	Rare (Restrictions 1, 7)

Remarks

(1) The meter *al-rajaz* was used extensively by ancient Arab poets in folk literature; the language employed was often a colloquial dialect rather than the standard variety. In determining the relative frequency of meters, the present study excludes colloquial poems from the count.²

(2) The standard form of *al-rajaz* is more common than the submeter.

(3) Each line of *al-rajaz* may be undivided, consisting of a single hemistich. Known as the *mashṭūr*, this variety of *al-rajaz* was very popular with ancient Arab poets (modern poets favor the divided line).

(4) An ode may be multi-rhymed, the second hemistich of each line rhyming with the first; in this case, the catalectic and the acatalectic varieties of *al-rajaz* may co-occur. Such flexibility encouraged the later Islamic poets to use *al-rajaz* for scientific and pedagogical treatises.

Due to internal rhyme, each line is viewed as a somewhat independent entity: it is bound to employ a form of *al-rajaz* but not a specific one; and (like a *maṭla'*) its *'arūd* must be identical to its *ḍarb*.

(5) The very frequent occurrence of the variant U — U — in all positions of *al-rajaz* differentiates the meter from *al-kāmil* (where U — U — is non-existent in hemistich-final position and rare in other positions).

4.2.7. The meter *al-ramal*

The standard form

— U — — — U — — — U — — U — — — U — — — U —

Submeter

— U — — — U — — — U — — U — — — U — — — U —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	— U —	None	S, Sb	Common	Common
	U U —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
(2) <i>al-ḡarb</i>	— U —	None	S	Common	Common
	U U —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	— U — —	Addition	Sb (V ₁)	Rare	Rare (Restriction 2i)
	U U — —	Reduction & addition	V ₂	Rare; conditional (<i>mu'āqaba</i>)	Rare (Restrictions 1, 2i); conditional (Restriction 7)
B. Non-final					
1, 2, 4, 5	— U — —	None	S	Common	Common
	U U — —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	— U — U	Reduction	V ₁	Rare; conditional (<i>mu'āqaba</i>)	Rare; conditional (Restriction 7)
	U U — U	Reduction	V ₂	Very rare; conditional (<i>mu'āqaba</i>)	Very rare; conditional (Restriction 7)

Remarks

- (1) The meter *al-ramal* is a favorite choice for themes of love, wine, and nature.
- (2) The submeter of *al-ramal* is far less common than the standard form, yet more common than the *additional* meter.
- (3) In *al-ramal*, the line-final foot rejects deletion of its U to avoid the possibility of producing a sequence of four long syllables.
- (4) In the hemistich-final position of *al-ramal*, — U — and U U — may co-occur; such atypical co-occurrence helps to differentiate *al-ramal* from *al-madīd* and *al-sarī'* (see "Suspension of the 'illa status" in section 3.3.1).
- (5) In *al-ramal*, canonical addition may seem paradoxical since it renders the 'ajuz identical to the corresponding segment of the *additional* meter. The fact is, however, that the *additional* meter is extremely rare. The lower its functional load, the less the motivation for maintaining a given contrast.

4.2.8. The meter al-mutaqārib

The standard form

U — — U — — U — — U — — U — — U — — U — — U — —

Submeters

(1) U — — U — — U — — U — — U — — U — — U — — U — —
 (2) U — — U — — U — — U — — U — — U — — U — — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	U — —	None	S; Sb #1, 2	Very rare; not permissible if the <i>ḍarb</i> is U —	Very rare; not permissible if the <i>ḍarb</i> is U — ³
	U — U	Reduction	V ₁	Very common, "nice, pleasant"	Very common ³
	U —	Deletion	V ₁	Ditto	Ditto
(2) <i>al-ḍarb</i>	U — —	None	S	Very common	Very common
	U —	Deletion	Sb #1 (V ₁)	Very common	Very common
	—	Deletion	Sb #2 (V ₂)	Very rare	Very rare (Restrictions 1, 2i)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final 2, 3, 6, 7	U — —	None	S	Common; obligatory in 7 before —	Common; obligatory in 7 before — (Rem. 4)
	U — U	Reduction	V ₁	Very rare in 7; common elsewhere	Very rare in 7; common elsewhere (Rem. 4)
1, 5	U — —	None	S	Common	Common
	U — U	Reduction	V ₁	Common, "pleasant"	Common
	— —	Deletion (<i>al-kḥarm</i>)	V ₄	Very rare, "distasteful"	Very rare (section 3.3.4)
	— U	Deletion (<i>al-kḥarm</i>) & reduction	V ₄	Very rare, "distasteful"	Very rare (section 3.3.4, Restriction 1)

Remarks

(1) In descending order of frequency, the forms of *al-mutqārib* are as follows: the standard, the first submeter, the second submeter.

(2) The form U — — is very rare in the 'arūd position (see defusing application f in section 3.3.1).

(3) The catalectic form U — and the acatalectic form U — U co-occur in the 'arūd position (thus violating number assonance), perhaps because they are closely related with respect to function; the function in question is to prevent the occurrence of an unmetrical sequence of long syllables, and to signal the possibility of using U — in the *ḍarb* position (see defusing application f in section 3.3.1).

(4) In submeter 2, the penultimate syllable of the 'ajuz is never shortened; elsewhere, the penultimate foot of the 'ajuz very rarely assumes the form U — U (see the first six paragraphs under "Necessary application" in section 3.3.1).

4.2.9. The meter *al-sarī'*

The standard form

— — U — — — U — — U — — — U — — — U — — U —

Submeters

(1)	--U--	--U--	-U-	--U--	--U--	--
(2)	--U--	--U--	UU-	--U--	--U--	UU-
(3)	--U--	--U--	UU-	--U--	--U--	--

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	-U-	None	S, Sb #1	Very common	Very common
	UU-	Reduction	Sb #2, 3 (V ₁)	Very rare	Very rare (Rem. 2)
(2) <i>al-ḡarb</i>	-U-	None	S	Very common	Very common
	--	Deletion	Sb #1 (V ₁)	Common	Common
	UU-	Reduction	Sb #2 (V ₁)	Very rare	Very rare (Rem. 2)
	--	Deletion	Sb #3 (V ₁)	Very rare	Very rare (Rem. 2)
B. Non-final					
	--U--	None	S	Very common	Very common
	U-U-	Reduction	V ₁	Common	Common
	-UU-	Reduction	V ₁	Common	Common
	UUU-	Reduction	V ₂	Rare	Rare (Restrictions 1, 7)

Remarks

(1) In descending order of frequency, the forms of *al-sarī'* are as follows: the standard, the first submeter, the second submeter, the third submeter.

(2) The second submeter is rare because it is perceptually identical with the following variant of *al-kāmil*:

— U — — U — ω — — U — — U — ω —

The third submeter is rare because it is perceptually identical with the following variant of *al-kāmil*:

— U — — U — ω — — U — — U — —

(3) Canonical addition (which changes the *ḍarb* to — U —) was introduced by a few later poets. Non-existent in al-Kḥalīl's corpus, such addition is excluded from the present study.

4.2.10. The meter *al-munsariḥ*

The standard form

— U — — U — — U — — U — — U — — U —

Submeters

(1) — U — — U — UU — — U — — U — UU —

(2) — U — — U — UU — — U — — U — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	— U —	None	S	Non-existent	Non-existent (Rem. 1)
	UU —	Reduction	Sb #1, 2 (V ₁)	Common	Common (Rem. 1, 2)
(2) <i>al-ḍarb</i>	— U —	None	S	Non-existent	Non-existent (Rem. 1)
	UU —	Reduction	Sb #1 (V ₁)	Common	Common (Rem. 1, 2)
	— —	Deletion	Sb #2 (V ₁)	Rare	Rare (Restriction 2i)



Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final 1, 4	— — U — —	None	S	Common	Common (Rem. 3)
	U — U — —	Reduction	V ₁	Common	Common
	— U U — —	Reduction	V ₁	Common	Common
	U — U — U	Reduction	V ₂	Rare	Rare (Restriction 1)
	— U U — U	Reduction	V ₂	Rare	Rare (Restriction 1)
	U U U — —	Reduction	V ₂	Very rare	Very rare (Restrictions 1, 7)
	U U U — U	Reduction	V ₂	Very rare	Very rare (Restrictions 1, 7)
2, 5	— — U —	None	S	Common	Common
	U — U —	Reduction	V ₁	Common	Common

Remarks

(1) The standard form of *al-munsariḥ* is non-existent; the two submeters are used instead (see defusing application d in section 3.3.1).

(2) The second submeter of *al-munsariḥ* was not reported by al-Kḥalīl, probably because it was extremely rare in ancient Arabic poetry. The later poets popularized this variety, although the first submeter remained dominant.

(3) The hemistich-initial foot (— — U — —) results from the non-canonical addition of a long syllable to the form — U — —. The deviance of non-canonical addition is outweighed in this instance by the resultant pattern congruency; indeed, such congruency is so essential that — — U — — has assumed the status of a standard foot (see item 2 under "Justification" in section 3.3.3).

(4) To maximize contrast with *al-ramal*, the seventh syllable in each hemistich is never shortened.

4.2.11. The meter al-madīd

The standard form

— U — — — U — — U — — — U — — — U — —

Submeters

(1)	- U - -	- U -	U U -	- U - -	- U -	U U -
(2)	- U - -	- U -	U U -	- U - -	- U -	- -
(3)	- U - -	- U -	- U -	- U - -	- U -	- -
(4)	- U - -	- U -	- U -	- U - -	- U -	- U -

Arab prosodists report two other submeters (see B10, Vol. II, p. 367):

- U - -	- U -	- U - -	- U - -	- U -	- U -
- U - -	- U -	- U - -	- U - -	- U -	U U -

These two submeters are nowhere attested in the available data (see B18, p. 111), and we therefore prefer to exclude them from the present study. It is possible, of course, that they were employed in a few odes which have been lost; if so, they should be ranked as the least frequent variants of *al-madīd*.

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	- U - -	None	S	Relatively uncommon	Relatively uncommon ⁴
	U U - -	Reduction	V ₁	Relatively uncommon	Relatively uncommon ⁴
	- U - U	Reduction	V ₁	Almost non-existent; conditional (<i>mu'āqaba</i>)	Almost non-existent ⁴ (Restriction 8); conditional (Restriction 7)
	U U - U	Reduction	V ₂	Ditto	Ditto
	U U -	Reduction & deletion	Sb #1, 2 (V ₂)	Common	Common ⁴
	- U -	Deletion	Sb #3, 4 (V ₁)	Virtually non-existent	Uncommon ⁴

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
(2) <i>al-ḍarb</i>	— U — —	None	S	Relatively uncommon	Relatively uncommon ⁴
	U U — —	Reduction	(V ₁)	Relatively uncommon	Relatively uncommon ⁴
	U U —	Deletion & reduction	Sb #1 (V ₂)	Common	Common ⁴
	— —	Deletion	Sb #2 (V ₂)	Relatively uncommon	Relatively uncommon ^{4,5}
	— —	Deletion	Sb #3 (V ₂)	Very uncommon	Very uncommon ^{4,5}
	— U —	Deletion	Sb #4 (V ₁)	Virtually non-existent	Virtually non-existent ^{4,5}

B. Non-final

1, 4	— U — —	None	S	Common	Common
	U U — —	Reduction	V ₁	Common; conditional in slot #4 (<i>mu'āqaba</i>)	Common; conditional in slot #4 (Restriction 7)
	— U — U	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	U U — U	Reduction	V ₂	Ditto	Ditto
2, 5	— U —	None	S	Common	Common
	U U —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)

Remark

In descending order of frequency, the forms of *al-madīd* are as follows: the first submeter, the standard, the second submeter, the third submeter, the fourth submeter.

4.2.12. The meter *al-mutadārak*

The standard form

— U — — U — — U — — U — — U — — U — — U —

Submeters

(1) — U — — U — — U — — U — — U — — U — — U —

(2) — U — — U — — U — — U — — U — — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	— U —	None	S; Sb #1, 2	Almost non-existent	Almost non-existent (Rem. 3)
	UU —	Reduction	V ₁	Very common	Very common (Rem. 3)
	— —	Deletion	V ₁	Common	Common (as a result of contamination; see section 3.3.3 and Rem. 3)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final					
1, 2, 4, 5	— U — —	None	S	Common	Common
	UU — —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	— U — U	Reduction	V ₁	Rare; conditional (<i>mu'āqaba</i>)	Rare; conditional (Restriction 7)
	UU — U	Reduction	V ₂	Very rare; conditional (<i>mu'āqaba</i>)	Very rare (Restriction 1); conditional (Restriction 7)

Remarks

(1) The *additional* meter is extremely rare; its scarcity is attributable to the following facts:

(a) The *additional* meter is minimally, rather than clearly, distinct from *al-madīd* (fā'ilātun fā'ilun fā'ilātun).

(b) The *additional* meter is minimally, rather than clearly, distinct from *al-ramal* (the standard form of *al-ramal* is fā'ilātun fā'ilātun fā'ilun, and its *ḍarb* is sometimes varied by fā'ilātun).

(2) The hemistich-final feet never assume the form — U — lest the *additional* meter should merge into the standard form of *al-ramal* (fā'ilātun fā'ilātun fā'ilun).

4.2.14. The meter majzū' al-kāmil

The standard form

Submeter

ω — U — ω — U —

ω — U — ω — U —

ω — U — ω — U —

ω — U — ω — U — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūḍ</i>	ω — U —	None	S, Sb	Common	Common
	— — U —	Synthesis	V ₁	Common	Common (Rem. 4)
	— U U —	Synthesis & reduction	V ₂	Rare, "distasteful"	Relatively uncommon (Restriction 1)
(2) <i>al-ḍarb</i>	ω — U —	None	S	Common	Common
	— — U —	Synthesis	V ₁	Common	Common (Rem. 4)
	— U U —	synthesis & reduction	V ₂	Rare, "distasteful"	Relatively uncommon (Restriction 1)
	ω — U — —	Addition	Sb (V ₁)	Rare	Rare (Restriction 2i, section 3.3.4)
	— — U — —	Synthesis & addition	V ₂	Rare	Rare (Restrictions 1, 2i; section 3.3.4)
	U — U — —	Reduction & addition	V ₂	Rare	Ditto
	— U U — —	Synthesis, reduction, & addition	V ₂	Very rare	Very rare (Restrictions 1, 2i; section 3.3.4)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final 1, 3	$\omega - U -$	None	S	Common	Common
	$-- U -$	Synthesis	V_1	Common	Common (Rem. 4)
	$- U U -$	Synthesis & reduction	V_2	Rare, "distasteful"	Relatively uncommon (Restriction 1)
	$U - U -$	Reduction	V_1	Rare, "distasteful"	Relatively uncommon (Remarks 3, 4)

Remarks

(1) The standard form of *majzū' al-kāmil* is more common than the submeter.

(2) The *ḍarb*-medial U of *majzū' al-kāmil* rejects deletion; such deletion can render the 'ajuz perceptually identical to a variant of *almujtatḥtḥ*:

$-- U - \quad \omega - U - \quad \rightarrow \quad -- U - \quad \omega - -$ (*majzū' al-kāmil*)
 $-- U - \quad - U - - \quad \rightarrow \quad -- U - \quad U U - -$ (*al-mujtatḥtḥ*)

(3) In both hemistichs of *majzū' al-kāmil*, the final foot rejects the form $U - U -$. But for this restriction, the hemistichs in question could merge into a variant of *majzū' al-rajaz*:

$\omega - U - \quad \omega - U - \quad \rightarrow \quad U - U - \quad U - U -$ (*majzū' al-kāmil*)
 $-- U - \quad -- U - \quad \rightarrow \quad U - U - \quad U - U -$ (*majzū' al-rajaz*)

Because the non-final feet of *majzū' al-rajaz* often assume the form $U - U -$, the corresponding feet of *majzū' al-kāmil* rarely assume that form.

(4) $-- U -$ is the most common variant of $\omega - U -$ since the former is related to the latter by optimum type assonance.

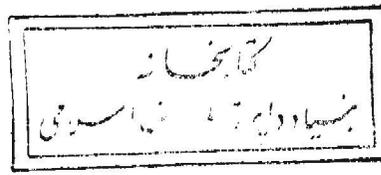
4.2.15. The meter *majzū' al-rajaz*

The standard form

$-- U - \quad -- U - \quad \quad \quad -- U - \quad -- U -$

Submeter

$-- U - \quad -- U - \quad \quad \quad -- U - \quad - - -$



Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	--U--	None	S, Sb	Very common	Very common
	U-U--	Reduction	V ₁	Common	Common
	--UU--	Reduction	V ₁	Common	Common
	UUU--	Reduction	V ₂	Rare, "ugly"	Rare (Restrictions 1, 7)
(2) <i>al-ḡarb</i>	--U--	None	S	Very common	Very common
	U-U--	Reduction	V ₁	Common	Common
	--UU--	Reduction	V ₁	Common	Common
	UUU--	Reduction	V ₂	Rare, "ugly"	Rare (Restrictions 1, 7)
	---	Deletion	Sb (V ₁)	Relatively uncommon	Relatively uncommon (Restriction 2i)
	U---	Reduction & deletion	V ₂	Relatively uncommon	Relatively uncommon (Restrictions 1, 2i)
B. Non-final					
1, 3	--U--	None	S	Very common	Very common
	U-U--	Reduction	V ₁	Common	Common
	--UU--	Reduction	V ₁	Common	Common
	UUU--	Reduction	V ₂	Rare, "ugly"	Rare (Restrictions 1, 7)

Remarks

(1) The meter *majzū' al-rajaz* was used extensively by ancient Arab poets in folk literature. The language employed was often a colloquial dialect rather than the standard variety. In determining the relative frequency of meters, the present study excludes colloquial poems from the count.⁶

(2) The meter *majzū' al-rajaz* is less common than *al-rajaz*. The standard form of *majzū' al-rajaz* is more common than the submeter.

(3) Each line of *majzū' al-rajaz* may be undivided, consisting of a single hemistich. This variety is known as the *manhūk*.

(4) An ode may be multi-rhymed, the second hemistich of each line rhyming with the first; in this case, the catalectic and the acatalectic varieties of *majzū' al-rajaz* may co-occur. Such flexibility encouraged the later Islamic poets to use *majzū' al-rajaz* for scientific and pedagogical treatises.

Due to internal rhyme, each line is viewed as a somewhat independent entity: it is bound to employ a form of *majzū' al-rajaz* but not a specific one, and (like a *matla'*) its *'arūd* must be identical to its *ḍarb*.

(5) The very frequent occurrence of the variant U — U — in all positions of *majzū' al-rajaz* differentiates the meter from *majzū' al-kāmil*, *majzū' al-wāfir*, and *al-hazaj* (where U — U — is non-existent in hemistich-final position and rare in other positions).

4.2.16. The meter *al-hazaj*

The standard form

	U — — —	U — — —	U — — —	U — — —
Submeter				
	U — — —	U — — —	U — — —	U — — —
Constituent feet				

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	U — — —	None	S, Sb	Common	Common
	U — — U	Reduction	V ₁	Common ⁷	Common ⁷ (Rem. 4)
(2) <i>al-ḍarb</i>	U — — —	None	S	Common	Common
	U — —	Deletion	Sb (V ₁)	Rare	Rare (Restriction 2i)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final 1, 3	U — — —	None	S	Common	Common
	U — — U	Reduction	V ₁	Common	Common
	U — U —	Reduction	V ₁	Rare, "ugly"	Rare (Rem. 3)
	— — —	Deletion (<i>al-kḥarm</i>)	V ₄	Very rare, "distasteful"	Very rare (section 3.3.4)
	— — U	Deletion (<i>al-kḥarm</i>) & reduction	V ₄	Very rare, "distasteful"	Very rare (Restriction 1, section 3.3.4)
	— U —	Deletion (<i>al-kḥarm</i>) & reduction	V ₄	Very rare, "distasteful"	Very rare (Restriction 1, section 3.3.4)

Remarks

- (1) With ancient Arab poets, the meter *al-hazaj* was relatively unpopular.
- (2) The standard form of *al-hazaj* is far more common than the submeter.
- (3) In both hemistichs of *al-hazaj*, the final foot rejects the form U — U — ; but for this restriction, the hemistichs in question could merge into a variant of *majzū' al-rajaz*:

U — — —	U — — —	→	U — U —	U — U —	(<i>al-hazaj</i>)
— — U —	— — U —	→	U — U —	U — U —	(<i>majzū' al-rajaz</i>)

Because the non-final feet of *majzū' al-rajaz* often assume the form U — U — , the corresponding feet in *al-hazaj* rarely assume that form.

- (4) The 'arūḍ usually assumes the form U — — U ; this transformation serves two purposes (see defusing application c in section 3.3.1):

(a) It reduces to a negligible probability the option of deleting the 'arūḍ's initial U (type assonance between — — U and U — — is extremely low), which practically eliminates the possibility of generating an unmetrical sequence of long syllables.

(b) It differentiates *al-hazaj* from the variant of *majzū' al-wāfir* where every ω is replaced by — (in *majzū' al-wāfir*, the 'arūḍ never assumes the form U — — U).

- (5) When discussing *al-hazaj*, al-Rādī reports no 'ajuz-initial instances of *al-kḥarm* (see B18, p. 191); elsewhere, however, al-Rādī cites examples which show that, in general, *al-kḥarm* applies to both hemistichs of the line (see B18, pp. 63 - 67).

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
	— ω —	Deletion (<i>al-kḥarm</i>)	V ₄	Rare	Rare (section 3.3.4)
	— — —	Deletion (<i>al-kḥarm</i>) & synthesis	V ₄	Rare	Rare (section 3.3.4, Restriction 1)
	— — U	Deletion (<i>al-kḥarm</i>), synthesis, & reduction	V ₄	Rare	Rare (section 3.3.4, Restriction 1)
	— U —	Deletion (<i>al-kḥarm</i>) & reduction	V ₄	Rare	Rare (section 3.3.4, Restriction 1)
3	U — ω —	None	S	Common	Common
	U — — —	Synthesis	V ₁	Common, "pleasant"	Common (Rem. 5)
	U — — U	Synthesis & reduction	V ₂	Uncommon	Uncommon (Rem. 3)
	U — U —	Reduction	V ₁	Uncommon	Uncommon (Remarks 2, 5)

Remarks

(1) The meter *majzū' al-wāfir* is less common than *al-wāfir* (see B10, Vol. II, p. 363).

(2) In both hemistichs of *majzū' al-wāfir*, the final foot rejects the form U — U — . But for this restriction, the hemistichs in question could merge into a variant of *majzū' al-rajaz*:

U — ω —	U — ω —	→	U — U —	U — U —	<i>(majzū' al-wāfir)</i>
— — U —	— — U —	→	U — U —	U — U —	<i>(majzū' al-rajaz)</i>

Because the non-final feet of *majzū' al-rajaz* often assume the form U — U — , the corresponding feet in *majzū' al-wāfir* rarely assume that form.

(3) The 'arūd of *majzū' al-wāfir* never change to U — — U ; this restriction differentiates *al-hazaj* (whose 'arūd is usually U — — U) from the variant of *majzū' al-wāfir* where every ω is replaced by — (see defusing application c in section 3.3.1). The non-final feet of *al-hazaj* often assume the form U — — U ; for this reason, the corresponding feet in *majzū' al-wāfir* rarely assume that form.

(4) The non-canonical transformation *al-kḥarm* is blocked at the beginning of the second hemistich to avert an unmetrical sequence of long syllables.

(5) U — — — is the most common variant of U — ω — since the former is related to the latter by optimum type assonance.

(6) The structural contrast between the standard string and the submeter indicates that the line-final forms U — ω — and U — — — do not co-occur in the same poem (see B18, pp. 146 - 154; also see B10, Vol. II, p. 363). Our rules do not account for this empirical observation.

4.2.18. The meter *majzū' al-basīṭ*

The standard form

— — U — — U — — — U — — — U — — U — — — U —

Submeters

(1) — — U — — U — U — — — — U — — U — U — —

(2) — — U — — U — U — — — — U — — U — — — —

(3) — — U — — U — — — U — — — U — — U — — — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	— — U —	None	S, Sb #3	Common	Common
	U — U —	Reduction	V ₁	Common, "acceptable"	Common
	— U U —	Reduction	V ₁	Common, "acceptable but somewhat distasteful"	Common
	U — —	Deletion & reduction	Sb #1, 2 (V ₂)	Very common	Very common ⁸

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
(2) <i>al-darb</i>	--U--	None	S	Common	Common
	U--U--	Reduction	V ₁	Common, "acceptable but somewhat distasteful"	Common
	--UU--	Reduction	V ₁	Ditto	Common
	UUU--	Reduction	V ₂	Rare, "ugly" ⁹	Rare (Restrictions 1, 7)
	U---	Deletion & reduction	Sb #1 (V ₂)	Very common	Very common ⁸
	---	Deletion	Sb #2 (V ₁)	Common	Common ¹⁰
	U---	Deletion & reduction	V ₂	Common	Common ¹⁰
	---	Deletion	Sb #3 (V ₁)	Rare	Rare (Restriction 6)
	U---	Deletion & reduction	V ₂	More common than ---	More common than --- (Rem. 4)
B. Non-final 1, 4	--U--	None	S	Common	Common
	U--U--	Reduction	V ₁	Common, "acceptable"	Common
	--UU--	Reduction	V ₁	Common, "acceptable but somewhat distasteful"	Common
	UUU--	Reduction	V ₂	Rare, "ugly"	Rare (Restrictions 1, 7)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
2, 5	— U —	None	S	Common	Common
	U U —	Reduction	V ₁	Common, "pleasant, nice"	Common

Remarks

(1) The meter *majzū' al-basīṭ* is relatively uncommon in ancient Arabic poetry. In descending order of frequency, its forms are: the first submeter, the standard, the second submeter, the third submeter.

(2) In the second submeter, the *'arūd* rejects the form — — — to avert an unmetrical sequence of long syllables; instead, U — — is used (see neutralizing application a in section 3.3.1).

(3) On account of its *ḍarb*, the second submeter is less common than the first: the occurrence of the form — — — in the *ḍarb* position results in a sequence of four long syllables; such a sequence is undesirable in Arabic poetry (see Restriction 6 in section 3.3.1).

(4) To avert a sequence of four long syllables, — — — is frequently replaced by U — — in the *ḍarb* position of the third submeter.

4.2.19. The meter *majzū' al-kḥafīf*

The standard form

— U — — — — U — — U — — — — U —

Submeter

— U — — — — U — — U — — U — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	— — U —	None	S, Sb	Common	Common
	U — U —	Reduction	V ₁	Common	Common
	— — UU	Non-canonical reduction	V ₄	Almost non-existent; conditional (<i>mu'āqaba</i>)	Almost non-existent (Restriction 8, section 3.3.4); conditional (Restriction 7)
	U — UU	canonical & non-canonical reduction	V ₄	Ditto	Ditto
(2) <i>al-ḡarb</i>	— — U —	None	S	Common	Common
	U — U —	Reduction	V ₁	Common	Common
	U — —	Reduction & deletion	Sb (V ₂)	Rare	Rare (Restrictions 1, 2i)
B. Non-final					
1, 3	— U — —	None	S	Common	Common
	UU — —	Reduction	V ₁	Common	Common

Remarks

- (1) The standard form of *majzū' al-kḥafīf* is more common than the submeter.
- (2) For the catalectic *ḡarb* (of the submeter), U — — is used rather than — — — to avert an unmetrical sequence of long syllables (see neutralizing application a in section 3.3.1).
- (3) The second syllable of — — U — rejects reduction to maximize contrast with *majzū' al-ramal*.
- (4) The final syllable of — U — — almost invariably rejects reduction, thus ruling out the following variant string: UU — U — — U — ; notice that the string in question can confuse the hemistich-initial foot (at least momentarily) with ω — U — .

4.2.20. The meter *majzū' al-ramal*

The standard form

— U — — — U — — — U — — — U — —

Submeter

— U — — — U — — — U — — — U —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final (1) <i>al-'arūd</i>	— U — —	None	S, Sb	Common	Common
	U U — —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	— U — U	Reduction	V ₁	Almost non-existent; conditional (<i>mu'āqaba</i>)	Almost non-existent (Restriction 8); conditional (Restriction 7)
	U U — U	Reduction	V ₂	Ditto	Ditto
(2) <i>al-ḡarb</i>	— U — —	None	S	Common	Common
	U U — —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	— U —	Deletion	Sb (V ₁)	Very rare	Rare (Restriction 2i)
	U U —	Reduction & deletion	V ₂	Very rare; conditional (<i>mu'āqaba</i>)	Very rare (Restrictions 1, 2i); conditional (Restriction 7)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final					
1, 3	— U — —	None	S	Common	Common
	U U — —	Reduction	V ₁	Common	Common
	— U — U	Reduction	V ₁	Rare; conditional (<i>mu'āqaba</i>)	Rare; conditional (Restriction 7)
	U U — U	Reduction	V ₂	Very rare; conditional (<i>mu'āqaba</i>)	Very rare (Restriction 1); conditional (Restriction 7)

Remarks

(1) The meter *majzū' al-ramal* is a favorite choice for themes of love, wine, and nature.

(2) The submeter was extremely rare in ancient Arabic poetry; in later times, it gained more popularity but remained far less common than the standard form (see B18, p. 212; also see B32, pp. 124 - 126).

(3) In the submeter's line-final position, U U — co-occurs with — U — ; such atypical co-occurrence helps to distinguish the submeter in question from the standard form of *majzū' al-khāfīf* and the favored form of *al-muqṭaḍab* (see "Suspension of the 'illa status" in section 3.3.1).

4.2.21. The meter *majzū' al-mutaqārib*

The standard form

U — — U — — U — — U — — U — — U — —

Submeters

(1) U — — U — — U — U — — U — — U —
 (2) U — — U — — U — U — — U — — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	U — —	None	S	Non-existent	Non-existent (Rem. 2)
	U —	Deletion	Sb #1, 2 (V ₁)	Common	Common ¹¹
(2) <i>al-ḡarb</i>	U — —	None	S	Non-existent	None-existent (Rem. 2)
	U —	Deletion	Sb #1 (V ₁)	Common	Common (Rem. 2)
	—	Deletion	Sb #2 (V ₂)	Very rare	Very rare (Restrictions 1, 2i; Rem. 4)
B. Non-final					
2, 5	U — —	None	S	Obligatory	Obligatory (Rem. 3; also see Rem. 4 in section 4.2.23)
1, 4	U — —	None	S	Common	Common
	U — U	Reduction	V ₁	Common, "pleasant"	Common
	— —	Deletion (<i>al-kh₂arm</i>)	V ₄	Very rare	Very rare (section 3.3.4)
	— U	Deletion (<i>al-kh₂arm</i>) & reduction	V ₄	Ditto	Ditto

Remarks

(1) The meter *majzū' al-mutaqārib* is relatively rare in ancient Arabic poetry.

(2) The standard form of *majzū' al-mutaqārib* does not occur: its *ḍarb* is rejected, in favor of U — , to avoid confusion with *al-mujtatḥṡḥ* (— U — — U — —); for the same reason, and for the reasons explained in section 3.3.1 (under defusing application e), its 'arūḍ is rejected in favor of U — . It should be pointed out that the string — — U — — U — — (generated by *al-kḥarm* from the standard form of *majzū' al-mutaqārib*) is especially susceptible to confusion with *al-mujtatḥṡḥ*.

Of the two submeters, the first is the more common string.

(3) The penultimate syllable in the 'ajuz of submeter 2 rejects reduction (see the first four paragraphs under "Necessary application" in section 3.3.1).

(4) The extreme scarcity of submeter 2 is due in part to violation of the general injunction against deleting an initial short syllable from a hemistich-final foot.

(5) According to al-Kḥalīl, the meter *al-muḍāri'* comprises the following strings:

U — — U — U — —
 U — U — — U — —
 — — U — — U — —
 — U — — U — —

It is possible that, in ancient times, *al-muḍāri'* occurred as a variant of *majzū' al-mutaqārib* where the hemistich-final foot retains its standard form and where deletion of a constituent from the hemistich-medial foot reduces the possibility of confusion with *al-mujtatḥṡḥ* (the constituent to be deleted is apparently determined by an attempt to avoid the occurrence of four long syllables in a row). If correct, this assumption would explain the extreme scarcity of *al-muḍāri'*: deleting a syllable from a hemistich-medial foot is a non-canonical transformation.

(6) The assumption that *al-muḍāri'* was originally a variant of *majzū' al-mutaqārib* raises an interesting question: Did *al-muḍāri'* co-occur, in ancient odes, with entirely canonical variants of *majzū' al-mutaqārib*? Restricted as they are to isolated lines, the examples cited by Arab prosodists shed no light on this question (see B32, p. 55; also see B35, p. 163).

4.2.22. The meter *majzū' al-mutadārak*

The standard form

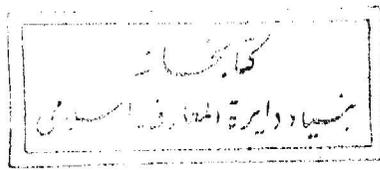
— U — — U — — U — — — U — — U — — U — —

Submeters

<p>(1) — U — — U — — U — —</p> <p>(2) — U — — U — — U — —</p> <p>(3) — U — — U — — U — —</p>	<p>— U — — U — — U U — —</p> <p>— U — — U — — — —</p> <p>— U — — U — — U U — —</p>
--	--

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	— U —	None	S; Sb #1, 2, 3	Almost non-existent	Almost non-existent (Rem. 3)
	UU —	Reduction	V ₁	Very common	Very common (Rem. 3)
	— —	Deletion	V ₁	Common	Common (as a result of contamination. See section 3.3.3 and Rem. 3)
(2) <i>al-ḡarb</i>	— U —	None	S	Almost non-existent	Almost non-existent (Rem. 3)
	UU —	Reduction	Sb #1 (V ₁)	Very common	Very common (Rem. 3)
	— —	Deletion	Sb #2 (V ₁)	Common	Common (as a result of contamination. See section 3.3.3 and Rem. 3)
	UU — —	Reduction & addition	Sb #3 (V ₂)	Rare	Rare (Restrictions 1, 2i)



Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final					
1, 2, 4, 5	— U —	None	S	Almost non-existent	Almost non-existent (Rem. 3)
	UU —	Reduction	V ₁	Very common	Very common (Rem. 3)
	— —	Deletion	V ₁	Common	Common (as a result of contamination. See section 3.3.3 and Rem. 3)

Remarks

(1) The meter *majzū' al-mutadārak* is rare in ancient as well as modern Arabic poetry.

(2) Like *al-mutadārak*, *majzū' al-mutadārak* is anomalous in five respects; al-Kḥalīl probably rejected the meter on account of such anomaly.

(3) The standard form of *majzū' al-mutadārak* is almost non-existent (see defusing application g in section 3.3.1); of the submeters, the first is the most common and the third is the least common. Respectively, the most common strings of submeter 1 and submeter 2 are as follows:

- (i) UU — UU — UU — UU — UU — UU —
- (ii) — — — — — — — — — — — —

String (i), the most common variety of *majzū' al-mutadārak*, eliminates the five anomalous features discussed in section 3.3.3 and, in addition, promotes contrast with *al-madīd* (see defusing application g in section 3.3.1).

The existence of string (i) side by side with the somewhat less common string (ii) apparently represents the gradual emergence of a defusing application to counteract a process of contamination. As mentioned above, *majzū' al-mutadārak* has been used very scarcely throughout the history of Arabic poetry; had the meter for some reason gained more popularity, the defusing application would no doubt have become more firmly established.

4.2.23. The meter al-mujtathth

The standard form

— U — — U — — — U — — U — —

Constituent feet

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
A. Hemistich-final					
(1) <i>al-'arūd</i>	— U — —	None	S	Common	Common
	U U — —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	— U — U	Reduction	V ₁	Almost non-existent	Almost non-existent (Restriction 8)
	U U — U	Reduction	V ₂	Almost non-existent; conditional (<i>mu'āqaba</i>)	Almost non-existent (Restrictions 1, 8); conditional (Restriction 7)
(2) <i>al-ḡarb</i>	— U — —	None	S	Common	Common
	U U — —	Reduction	V ₁	Common; conditional (<i>mu'āqaba</i>)	Common; conditional (Restriction 7)
	— — —	Deletion	V ₁	Rare	Rare (Restriction 2i; also, violates number assonance)

Slots	Fillers	Transformations	Filler Types	Reported Frequency	Predicted Frequency
B. Non-final 1, 3	— — U —	None	S	Common	Common
	U — U —	Reduction	V ₁	Common	Common
	— — UU	Non-canonical reduction	V ₄	Very rare; conditional (<i>mu'āqaba</i>)	Very rare (section 3.3.4); conditional (Restriction 7)
	U — UU	Canonical & non-canonical reduction	V ₄	Very rare; conditional (<i>mu'āqaba</i>)	Very rare (section 3.3.4); conditional (Restriction 7)

Remarks

(1) The available corpus lends no support to the claim that *al-mujtatḥtḥ* was used in ancient times. During the Abbasid period, the meter gained a measure of popularity; in modern times it has become even more popular (see B18, pp. 281, 282; also see B32, p. 115).

(2) The second syllable of — — U — rejects reduction to maximize contrast with *majzū' al-ramal*.

(3) The acatalectic *ḍarb* may co-occur with the form — — —. Though rare, such co-occurrence helps to differentiate *al-mujtatḥtḥ* from *majzū' al-rajaz* and *majzū' al-ramal* (see "Suspension of the 'illa status" in section 3.3.1).

(4) According to al-Kḥalīl, *al-muqtaḍab* comprises the following two sequences:

— U — U — UU —
U — — U — UU —

Of these, the second is less common than the first (see B10, Vol. II, p. 366). The present writer believes that *al-muqtaḍab* was, in ancient Arabic poetry, a catalectic variant of *al-mujtatḥtḥ* whose derivation involved *al-kḥazm*; if so, *al-muqtaḍab* should be segmented as follows:

(a) — U — U — UU —
(b) U — — U — UU —

To generate string (a), the standard form of *al-mujtatḥtḥ* must undergo three transformations: *al-kḥazm*, shortening the initial syllable of the first foot, and shortening the initial syllable of the second foot; two of these transformations are involved in generating string (b). The transformations in question promote contrast with the following variants (which constitute submeter 1 of *majzū' al-mutaqārib*):

- (c) (U) — — U — — U —
 (d) (U) — U U — — U —

It is significant that the medial foot in (c) and (d) never changes to U — U. Also significant is the fact that the string — — U — — U — does not constitute a variant of *al-mujtatḥtḥ*: its similarity to string (c) is obvious.

(5) The derivation postulated in Remark 4 (above) would explain the extreme scarcity of *al-muqtadab*: *al-kḥazm* is a non-canonical, and for this reason a very rare, transformation.

(6) The assumption that *al-muqtadab* was originally a variant of *al-mujtatḥtḥ* raises an interesting question: Did *al-muqtadab* co-occur, in ancient odes, with entirely canonical variants of *al-mujtatḥtḥ*? Restricted as they are to isolated lines, the examples cited by Arab prosodists shed no light on this question (see B35, p. 168; B32, p. 55; and B18, pp. 272, 273).

CHAPTER V CONCLUSIONS

It is appropriate at this point to bring into sharper focus the observation that "meter" in Arabic poetry is invariably the product of patterning. By postulating three levels of analysis, we have identified three types of "meter"-producing patterning:

(1) The type of patterning which characterizes Level I is defined as the arrangement of feet in the hemistich; four arrangements occur: mere repetition, interrupted repetition, supplemented repetition, and alternation.

(2) The type of patterning which characterizes Level II is defined as the similar placement of reduction in all feet of the hemistich.

(3) The type of patterning which characterizes Level III is defined as the tendency to achieve syllabic symmetry in the entire hemistich or in a portion thereof (without violating certain restrictions).

The rules which produce Level I and Level II patterning apply to the entire hemistich; furthermore, the second hemistich of a divided line duplicates the patterns of the first hemistich. On the other hand, the rules which produce Level III patterning are foot-bound, an application being limited (in the vast majority of cases) to an individual foot.¹ Thus the two hemistichs of a divided line must be identical on the first two levels but may differ on the third level. The following is only one of many examples which can be cited for the identity and the diversity in question:

The standard form of majzū' al-rajaz:

-- U -- -- U -- -- U -- -- U --

variations:²

-- U -- -- UU --	U -- U -- -- UU --
-- UU -- -- U --	-- U -- U -- U --
-- U -- U -- U --	U -- U -- -- UU --
-- U -- -- UU --	-- U -- -- U --
U -- U -- -- U --	-- UU -- -- UU --
-- U -- U -- U --	U -- U -- -- UU --

The three types of patterning defined above do not have to co-occur in explicit form since each can—independently—give rise to "meter", and since implicit patterning is capable of endowing the hemistich with "meter". In example (a) below, only Level I patterning is explicit (the hemistich can be represented by BB, where B stands for a quadripartite foot); in (b), only Level II patterning is explicit (the feet are similar in respect of the position where U occurs relative to the long syllables); in (c), only Level III patterning is explicit (recurrence of syllabic symmetry is clear from the fact that both feet are symmetrical; besides, syllabic symmetry pervades the hemistich as a whole).

- (a) U — — U U — — —
- (b) U — — — U — —
- (c) — U — U — U —

In most hemistichs, however, at least two types of patterning are explicit (although one type may be dominant); for example, in the hemistich — — U — — U — — — U — — U — , three types of patterning are explicit:

- (1) Level I patterning is explicit since the hemistich may be represented by the sequence BABA (where B stands for a quadripartite foot and A stands for a tripartite foot).
- (2) Level II patterning is explicit since the feet are similar in respect of the position where U occurs relative to the long syllables.
- (3) Level III patterning is explicit since syllabic symmetry occurs in two feet (the second and the last) and since the hemistich may be divided into two strings each of which has a symmetrical syllabic structure (the strings in question are — — U — — U — — and — U — — U —).

Hemistichs differ in regard to the *explicit* manifestation of patterning. All standard hemistichs manifest Level I and Level II patterning; in addition, some manifest syllabic symmetry at least in a constituent string. As for variants, some manifest only one type of patterning, others manifest two, and still others manifest all three.

In addition to defining Level I, Level II, and Level III patterning, this study has defined an important feature (type assonance) which relates the strings of Level III to those of Level II.

The rules which operate on Level III (synthesis, reduction, deletion, addition, and compensation) are by no means arbitrary processes: they facilitate a kind of variety which aspires to and gains from syllabic symmetry; besides, they preserve the identity of the meter by producing type assonance and by tending to retain the total duration of the standard sequence.

On all levels, a meter is defined as the sequence which constitutes a single hemistich; this definition stems from the fact that the two hemistichs of a divided line are the same. It will be recalled that on Level I and Level II the second hemistich of a divided line is a duplicate of the first; on Level III the two hemistichs of a divided line are often different in terms of composition, and yet those hemistichs are considered to be exactly alike because type assonance identifies them with identical strings (in other words, the difference in composition is viewed as non-contrastive variation).

Our theory satisfies the necessary condition as well as the sufficient condition. Some of the strings generated do not exist in al-Kḥalīl's corpus; those strings constitute latent possibilities which cannot invalidate the theory: they are very few in number, they are the product of general principles, and their dormancy is explained by the theory. On the other hand, it would be excessive to claim—as does 'Abū Dīb—that the latent possibilities are extremely numerous and that the dormancy of such possibilities is purely accidental. Even an appeal to the confining influence of al-Kḥalīl's theory could not disguise the naivety of this claim: for many centuries poets and critics alike condemned every deviation from al-Kḥalīl's rules, which may very well have suppressed some latent possibilities; but what justifies the conclusion that over two centuries of vigorous poetic

composition *prior* to al-Kḥalīl's theory³ failed to utilize the vast majority of equally acceptable strings?

A scholar must distinguish between two aspects of al-Kḥalīl's contribution to the study of Arabic prosody: stating the data, and constructing an abstract theory which seeks to account for the data. In this study, the present author has taken the position that al-Kḥalīl's statement of the data is accurate and comprehensive; it is al-Kḥalīl's *theory* that breeds controversy.

APPENDIX I

THE FEET REPORTED BY AL-KĤALĪL

The table below lists the standard feet and the variants reported by al-KĤalĪl b. 'Aĥmad.¹ The two feet *fā'i-lātun* and *mustaf'i-lun* are omitted since the former is restricted to the almost non-existent meter *al-muĥāri'* and since the latter is actually identical to *mustaf'ilun*.² The foot *maf'ūlātu* is omitted since it is restricted to the almost non-existent meter *al-muĥtaĥab* (the assumption that *maf'ūlātu* also occurs in *al-munsariĥ* is based on a misinterpretation³).

The table comprises four rows (separated by dotted lines). Each form in the first row is a standard foot; each form in the second row is a variant which results from a single change in the corresponding standard foot; each form in the third row is a variant which results from two or more changes in the corresponding standard foot; and each form in the last row is a variant derived from another variant.

U--	-U-	U----	-U--	--U-	U-ω-	ω-U-
U-U	UU-	U-U-	UU--	U-U-	U---	--U-
U-	--	U--U	-U-U	-UU-	U-U-	
--		U--	-U-	--UU	-ω-	U-U-
		---	---	---		ω-U--
						ω--
-U	UU--	U-UU	UU-U	UUU-	U--U	--U--
-		--U	UU-	U-UU	U--	U-U--
		-U-	--	U--	---	-UU-
					--U	-UU--
					-U-	---
				U-		ω-
						--

APPENDIX II¹

‘ANTARA B. SHADDĀD’S ODE

1.	--U-	ω-U-	ω-U-	--U-	--U-	ω-U-
2.	--U-	--U-	ω-U-	--U-	ω-U-	--U-
3.	ω-U-	ω-U-	--U-	--U-	--U-	ω-U-
4.	--U-	ω-U-	ω-U-	ω-U-	--U-	ω-U-
5.	--U-	ω-U-	--U-	--U-	ω-U-	ω-U-
6.	ω-U-	--U-	ω-U-	ω-U-	ω-U-	ω-U-
7.	ω-U-	ω-U-	ω-U-	--U-	--U-	ω-U-
8.	--U-	ω-U-	ω-U-	--U-	ω-U-	--U-
9.	--U-	--U-	ω-U-	--U-	ω-U-	ω-U-
10.	--U-	ω-U-	ω-U-	--U-	ω-U-	ω-U-
11.	ω-U-	ω-U-	--U-	--U-	ω-U-	--U-
12.	--U-	ω-U-	ω-U-	ω-U-	ω-U-	--U-
13.	--U-	--U-	ω-U-	--U-	ω-U-	--U-
14.	--U-	--U-	ω-U-	--U-	ω-U-	--U-
15.	--U-	ω-U-	ω-U-	--U-	ω-U-	--U-
16.	--U-	ω-U-	--U-	--U-	ω-U-	--U-
17.	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-
18.	--U-	ω-U-	ω-U-	--U-	--U-	ω-U-
*19.	--U-	--U-	--U-	ω-U-	ω-U-	--U-
20.	--U-	--U-	ω-U-	--U-	--U-	ω-U-
21.	ω-U-	ω-U-	ω-U-	ω-U-	--U-	ω-U-
22.	ω-U-	ω-U-	ω-U-	--U-	ω-U-	--U-
23.	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-
24.	ω-U-	--U-	--U-	--U-	ω-U-	--U-
25.	--U-	--U-	ω-U-	ω-U-	--U-	ω-U-
*26.	--U-	--U-	--U-	ω-U-	ω-U-	--U-
27.	ω-U-	ω-U-	ω-U-	ω-U-	--U-	ω-U-
28.	--U-	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-
29.	--U-	ω-U-	ω-U-	ω-U-	--U-	ω-U-
*30.	--U-	ω-U-	ω-U-	--U-	--U-	--U-
31.	ω-U-	--U-	ω-U-	--U-	ω-U-	--U-
32.	ω-U-	--U-	ω-U-	--U-	ω-U-	ω-U-

33.	--U-	--U-	ω-U-	--U-	--U-	ω-U-
34.	--U-	--U-	ω-U-	ω-U-	ω-U-	ω-U-
35.	ω-U-	--U-	ω-U-	ω-U-	ω-U-	ω-U-
36.	ω-U-	--U-	--U-	--U-	ω-U-	ω-U-
*37.	--U-	--U-	--U-	--U-	--U-	--U-
*38.	--U-	--U-	ω-U-	--U-	--U-	--U-
39.	--U-	ω-U-	ω-U-	--U-	ω-U-	--U-
40.	ω-U-	ω-U-	ω-U-	--U-	ω-U-	--U-
41.	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-	--U-
42.	ω-U-	--U-	ω-U-	ω-U-	ω-U-	ω-U-
*43.	ω-U-	ω-U-	--U-	--U-	--U-	--U-
44.	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-
45.	ω-U-	ω-U-	ω-U-	--U-	ω-U-	--U-
46.	ω-U-	ω-U-	ω-U-	ω-U-	ω-U-	--U-
47.	--U-	--U-	ω-U-	--U-	ω-U-	--U-
48.	--U-	ω-U-	ω-U-	--U-	ω-U-	ω-U-
49.	--U-	ω-U-	ω-U-	--U-	ω-U-	ω-U-
50.	--U-	ω-U-	ω-U-	--U-	ω-U-	--U-
51.	ω-U-	ω-U-	ω-U-	ω-U-	--U-	ω-U-
52.	ω-U-	ω-U-	ω-U-	--U-	ω-U-	--U-
53.	--U-	--U-	ω-U-	ω-U-	--U-	ω-U-
*54.	ω-U-	--U-	--U-	--U-	--U-	--U-
55.	ω-U-	--U-	ω-U-	--U-	ω-U-	ω-U-
56.	ω-U-	ω-U-	ω-U-	--U-	ω-U-	--U-
57.	ω-U-	ω-U-	ω-U-	--U-	--U-	ω-U-
58.	ω-U-	U-U-	ω-U-	--U-	--U-	ω-U-
59.	--U-	--U-	ω-U-	--U-	ω-U-	ω-U-
60.	ω-U-	--U-	ω-U-	ω-U-	--U-	ω-U-
61.	--U-	--U-	ω-U-	ω-U-	ω-U-	--U-
62.	ω-U-	ω-U-	--U-	--U-	--U-	ω-U-
63.	--U-	ω-U-	--U-	ω-U-	ω-U-	--U-
64.	ω-U-	ω-U-	ω-U-	ω-U-	--U-	ω-U-
65.	--U-	ω-U-	--U-	--U-	ω-U-	ω-U-
*66.	ω-U-	ω-U-	ω-U-	U--U-	--U-	--U-
67.	--U-	--U-	ω-U-	--U-	ω-U-	--U-
68.	ω-U-	ω-U-	--U-	--U-	ω-U-	--U-

*69. --U- --U- --U-
 70. --U- ω-U- ω-U-
 71. --U- --U- ω-U-
 *72. --U- ω-U- ω-U-
 73. --U- --U- ω-U-
 74. --U- --U- ω-U-
 75. --U- --U- ω-U-
 76. ω-U- --U- ω-U-
 77. --U- ω-U- ω-U-
 78. ω-U- --U- ω-U-
 79. --U- --U- ω-U-
 *80. --U- --U- --U-
 *81. ω-U- --U- --U-
 82. ω-U- ω-U- ω-U-
 *83. --U- --U- --U-
 84. --U- ω-U- ω-U-

ω-U- --U- ω-U-
 --U- --U- ω-U-
 ω-U- ω-U- ω-U-
 --U- --U- --U-
 ω-U- --U- ω-U-
 ω-U- ω-U- ω-U-
 ω-U- ω-U- ω-U-
 --U- ω-U- ω-U-
 --U- ω-U- --U-
 --U- ω-U- --U-
 ω-U- --U- --U-
 --U- --U- --U-
 --U- ω-U- --U-
 --U- ω-U- ω-U-
 ω-U- ω-U- --U-

APPENDIX III
 RULES OF VARIATION
 IN AL-KHALĪL'S SYSTEM

A. Definitions

In the following list, the definienda are listed alphabetically.

- | | |
|--------------------------------------|---|
| <i>'ajuz</i> (pl.: <i>'a'jāz</i>): | The second hemistich of a line. |
| <i>'arūḍ</i> (pl.: <i>'a'ārīḍ</i>): | The foot which terminates the first hemistich of a line. |
| <i>bayt</i> (pl.: <i>'abyāt</i>): | A line of poetry. |
| <i>ḍarb</i> (pl.: <i>'aḍrub</i>): | The foot which terminates the second hemistich of a line. |
| <i>faṣl</i> : | A <i>'arūḍ</i> which differs from the <i>ḥaṣḥw</i> with respect to transformational potential. Thus the <i>'arūḍ</i> of <i>al-ṭawīl</i> is a <i>faṣl</i> since it must undergo <i>qabḍ</i> (in the <i>ḥaṣḥw</i> , <i>qabḍ</i> is optional). Similarly, the <i>'arūḍ</i> of <i>al-munsarih</i> is a <i>faṣl</i> since it rejects <i>kḥabl</i> (in the <i>ḥaṣḥw</i> , <i>kḥabl</i> is optional). Indeed, almost every hemistich-final foot is a <i>faṣl</i> capable of undergoing at least one transformation which is rejected by the <i>ḥaṣḥw</i> . |
| <i>ghāya</i> : | A <i>ḍarb</i> which differs from the <i>ḥaṣḥw</i> in regard to transformational potential. Thus the catalectic submeter of <i>al-ṭawīl</i> has a <i>ghāya</i> in line-final position (<i>ḥadhḥf</i> is obligatory in the submeter's <i>ḍarb</i> but inadmissible in its <i>ḥaṣḥw</i>). Indeed, almost every <i>ḍarb</i> is a <i>ghāya</i> , capable of undergoing at least one transformation which is rejected by the <i>ḥaṣḥw</i> . |
| <i>ḥaṣḥw</i> : | The feet of a line other than the <i>'arūḍ</i> and the <i>ḍarb</i> . |
| <i>ibtidā'</i> : | A hemistich-initial foot which differs from the rest of the <i>ḥaṣḥw</i> with respect to transformational potential. Thus in hemistich-initial position, <i>fa'ūlun</i> is an <i>ibtidā'</i> since it can undergo <i>kḥarm</i> (<i>kḥarm</i> is rejected by the rest of the <i>ḥaṣḥw</i>); the same is true of <i>mafā'īlun</i> and <i>mufā'alatun</i> in hemistich-initial position. |

'illa (pl.: 'ilal):

A process which alters an entire *sabab* or one which alters a *watad*; it may be illustrated by the following changes:



The input is usually a hemistich-final foot. A 'illa is usually a "binding" process; i.e., if it applies to one 'arūd or one *ḍarb*, it must apply to all of the counterpart feet throughout the ode. When not binding, a 'illa is said to have a *ziḥāf* status.

i'timād:

Denotes the status of *qabḍ* relevant to the standard foot fa'ūlun in two contexts:

(a) In a line of *al-ṭawīl*, *i'timād* denotes the necessity of applying *qabḍ* to the standard penult fa'ūlun when the next foot is a *mahdhūf* (fa'ūlun).

(b) In a hemistich of *al-mutaqārib*, *i'timād* denotes rejection of *qabḍ* by the standard penult fa'ūlun when the next foot is an 'abtar (fa').

juz' (pl.: 'ajzā'):

A foot.

majzū' 'clipped':

A (divided) metrical line which results from deleting the two hemistich-final feet of the original *bayt* (i.e., the *bayt* generated by the circle). Clipping is obligatory in five meters (*al-madīd*, *al-hazaj*, *al-muḍāri'*, *al-muqtaḍab*, *al-mujtathth*), unmetrical in three meters (*al-ṭawīl*, *al-sarī'*, *al-munsariḥ*), and optional in the remaining meters (*al-basīṭ*, *al-wāfir*, *al-kāmil*, *al-ramal*, *al-rajaz*, *al-kḥafīf*, *al-mutaqārib*, *al-mutadārak*).

manhūk:

An undivided metrical line defined by two criteria: it comprises the first portion of the original *bayt* (i.e., the *bayt* generated by the circle), and its constituent feet are one-third as many as those of the original *bayt*. Only two meters are subject to such abbreviation: *al-rajaz* and *al-munsariḥ*.

mashṭūr:

An undivided metrical line comprising one hemistich of the original *bayt* (i.e., the *bayt* generated by the circle). Only two meters occur in this form: *al-rajaz* and *al-sarī'*.

miṣrā' (pl.: maṣārī'):

A hemistich.

- muqaffan*: A line whose 'arūḍ satisfies three requirements:
 (a) It must rhyme with the *ḍarb*.
 (b) It must be identical with the *ḍarb* in metrical structure.
 (c) It must occur in its standard form (or the form which obligatorily replaces the standard).
- muṣarra'*: A line whose 'arūḍ satisfies three requirements:
 (a) It must rhyme with the *ḍarb*.
 (b) It must be identical with the *ḍarb* in metrical structure.
 (c) It must, as a result of the second condition, differ from its standard form (or the form which obligatorily replaces the standard).
- muṣmat*: A line whose hemistich-final feet neither rhyme with each other nor coincide in regard to metrical structure. In a given ode, any line but the *maṭla'* may be a *muṣmat*.
- mutaḥarrik*
 (pl.: *mutaḥarrikāt*)
 'moving letter': The sequence CV, where C stands for a consonant and V stands for a short vowel. A *mutaḥarrik* is represented, in al-Kḥalīl's system, by a dash (—).
- muwahḥad*: A metrical line consisting of a single foot. Only *al-rajaz* is subject to such abbreviation.
- sābāb* (pl.: 'asbāb)
kḥafīf 'weak cord': A sequence consisting of a *mutaḥarrik* 'moving letter' and a following *sākin* 'quiescent letter' (— •).
- sabab* (pl.: 'asbāb)
ṭḥaqīl 'strong cord': A sequence consisting of two moving letters in a row (— —).
- ṣadr* (pl. *ṣudūr*): The first hemistich of a line.
- sākin* (pl.: *sawākin*)
 'quiescent letter': A consonant which is not followed by a vowel, or vowel length. A *sākin* is represented, in al-Kḥalīl's system, by a dot (•).
- tafīla* (pl.: *tafā'il*
 or *tafīlāt*): A foot; it comprises a peg and one or two cords. al-Kḥalīl's system employs ten feet:

fa'ūlun (— — • / — •)
 fā'ilun (— • / — — •)
 mafā'ilun (— — • / — • / — •)

mustaf'ilun (— • / — • / — — •)
 fā'ilātun (— • / — — • / — •)
 mufā'alatun (— — • / — — / — •)
 mutafā'ilun (— — / — • / — — •)
 fā'i-lātun (— • — / — • / — •)
 maf'ūlātu (— • / — • / — • —)
 mustaf'i-lun (— • / — • — / — •)

tāmm:

A metrical line which lacks none of the original feet (i.e., the feet generated by its circle) and whose feet are alike in regard to derivational potential. Clipped meters do not meet this definition since they result from deleting certain original feet; again, *al-ṭawīl* does not meet this definition since *qabḍ* is obligatory in its *'arūḍ* but optional in its *ḥaṣḥw*. Only two metrical lines meet the definition of *tāmm*: the standard form of *al-kāmil*, and the standard form of *al-rajaz*.

wāfin:

A metrical line which lacks none of the original feet (i.e., the feet generated by the circle) but where at least one hemistich-final foot differs from the *ḥaṣḥw* in regard to derivational potential. A line of *al-ṭawīl* meets this definition since it lacks none of the original feet, and since *qabḍ* is obligatory in its *'arūḍ* but optional in its *ḥaṣḥw*. The clipped meters, the *mashṭūr*, the *manhūk*, and the *tāmm* do not meet this definition; almost all other metrical lines do.

watad (pl.: *'awtād*)
mafrūq 'trochaic peg':

A sequence consisting of two moving letters separated by a quiescent letter (— • —).

watad (pl.: *'awtād*)
majmū 'iambic peg':

A sequence consisting of two moving letters followed by a quiescent letter (— — •).

ziḥāf (pl.: *ziḥāfāt*):

A process which alters the second constituent of a *sabab* 'cord'; it may be illustrated by the following change

— • — — • → — — — •
 — — — • — — • → — • — • — — •

The input may be any foot of the line. In most cases, a *ziḥāf* is not a "binding" process; i.e., its application to a given foot does not necessitate application to the corresponding feet of other lines. When binding, a *ziḥāf* is said to have a *'illa* status. A "simple *ziḥāf*" alters the second constituent of one *sabab* 'cord'; a "compound *ziḥāf*" alters the second constituent in each of two cords.

B. Transformations

al-Kḥalīl identifies two major processes which derive variants from standard feet or from other variants; those two processes are the *zihāf* and the *'illa* (defined in the foregoing section). al-Kḥalīl further divides each process into sub-types (discussed in this section). We shall use the term "transformations" in referring to the sub-types.

The transformations listed in this section are usually optional; in a handful of contexts, however, certain transformations apply obligatorily. The following remarks should be noted at this point:

(1) For no obvious reason, a transformation may apply to one foot but not to another.

(2) A given foot may be subject to a certain transformation in one meter but not in another.

(3) When listing the meters involved, the "clipped" strings (*majzū'āt*) are not given separate mention; thus what is said of *al-wāfir* applies to *majzū' al-wāfir* as well, what is said of *al-ramal* applies to *majzū' al-ramal* as well, etc.

(4) To qualify for a given transformation, an element must meet a general provision as well as a specific provision; the former derives from the definition of *zihāf* or *'illa*; the latter derives from the definition of the transformation in question.

(5) In defining various transformations, the term "constituent" is used as an abbreviation of "Mediate Constituent"; it will be recalled that, in al-Kḥalīl's system, a Mediate Constituent is either a *mutaḥarrik* or a *sākin*.

(1) *The Simple Zihāf*

<i>kḥabn:</i>	Deletion of a <i>sākin</i> which occurs as the second constituent of the foot.
<i>waqṣ:</i>	Deletion of a <i>mutaḥarrik</i> which occurs as the second constituent of the foot.
<i>'idmār:</i>	Replacement of a <i>mutaḥarrik</i> which occurs as the second constituent of the foot; the replacement is by a <i>sākin</i> .
<i>ṭayy:</i>	Deletion of a <i>sākin</i> which occurs as the fourth constituent of the foot.
<i>qabḍ:</i>	Deletion of a <i>sākin</i> which occurs as the fifth constituent of the foot.
<i>'aql:</i>	Deletion of a <i>mutaḥarrik</i> which occurs as the fifth constituent of the foot.
<i>'aṣb:</i>	Replacement of a <i>mutaḥarrik</i> which occurs as the fifth constituent of the foot; the replacement is by a <i>sākin</i> .
<i>kaff:</i>	Deletion of a <i>sākin</i> which occurs as the seventh constituent of the foot.

The following table shows the input and the output of each transformation; it also indicates the meters involved.

Zihāf	Input	Output	Output is said to be:	Meters involved
<i>kḥabn</i>	fā'ilun fā'ilātun mustaf'ilun mustaf'i-lun maf'ülātu	fa'ilun fa'ilātun mafā'ilun mafā'ilun mafā'īlu	<i>makḥbūn</i>	<i>al-basīṭ, al-madīd, al-rajaz, al-ramal, al-sarī', al-khafīf, al-munsariḥ, al-muqtaḍab, al-mujtathḥ, al-mutadārak</i>
<i>waqṣ</i>	mutafā'ilun	mafā'ilun	<i>mawqūṣ</i>	<i>al-kāmil</i>
<i>'idmār</i>	mutafā'ilun	mustaf'ilun	<i>mudmar</i>	<i>al-kāmil</i>
<i>ṭayy</i>	mustaf'ilun maf'ülātu	mufta'ilun fā'ilātu	<i>maṭwī</i>	<i>al-basīṭ, al-rajaz, al-sarī', al-munsariḥ, al-muqtaḍab</i>
<i>qabḍ</i>	fa'ūlun mafā'ilun	fa'ūlu mafā'ilun	<i>maqḥūḍ</i>	<i>al-ṭawīl, al-hazaj, al-muḍārī', al-mutaqārib</i>
<i>'aql</i>	mufā'alatun	mafā'ilun	<i>ma'qūl</i>	<i>al-wāfir</i>
<i>'aṣb</i>	mufā'alatun	mafā'ilun	<i>ma'ṣūb</i>	<i>al-wāfir</i>
<i>kaff</i>	mafā'ilun fā'ilātun mustaf'i-lun	mafā'īlu fā'ilātu mustaf'i-lu	<i>makfūf</i>	<i>al-ṭawīl, al-madīd, al-hazaj, al-ramal, al-kḥafīf, al-muḍārī', al-mujtathḥ</i>

Notice that fā'i-lātun (— • — / — • / — •) is not subject to *kḥabn* since the general provision is not met (the second constituent of the foot, though a *sākin*, is not the second constituent of a *sabab* 'cord'; similarly, mustaf'i-lun (— • / — • — / — •) is not subject to *ṭayy* (the fourth constituent of the foot, though a *sākin*, is not the second constituent of a *sabab*); and mustaf'ilun (— • / — • / — — •) is not subject to *kaff* (the seventh constituent of the foot, though a *sākin*, is not the second constituent of a *sabab*).

(2) The Compound Zihāf

- kḥabl*: *kḥabn* plus *ṭayy*.
shākl: *kḥabn* plus *kaff*.
kḥazl: *'idmār* plus *ṭayy*.
naqṣ: *'aṣb* plus *kaff*.

The following table shows the input and the output of each transformation; it also indicates the meters involved.

Zihāf	Input	Output	Output is said to be:	Meters involved
<i>kḥabl</i>	mustaf'ilun maf'ulātu	fa'alatun fa'ilātu	<i>makhbūl</i>	<i>al-basīṭ, al-rajaz, al-sarī,</i> <i>al-munsariḥ</i>
<i>shakl</i>	fā'ilātun mustaf'i-lun	fa'ilātu mafā'ilu	<i>mashkūl</i>	<i>al-madīd, al-ramal, al-kḥafīf,</i> <i>al-mujtathḥ</i>
<i>kḥazl</i>	mutafā'ilun	mufta'ilun	<i>makhzūl</i>	<i>al-kāmil</i>
<i>naqṣ</i>	mufā'alatun	mafā'īlu	<i>manqūṣ</i>	<i>al-wāfir</i>

(3) The 'Illa: Deletion

Of the following deletion transformations, three have a *zihāf* status (see the definitions of 'illa and *zihāf* above): *ḥadhḥf* has a *zihāf* status in the 'arūd of *al-mutaqārib*; *tash'īṭḥ* has a *zihāf* status in the *ḍarb* of *al-kḥafīf* and *al-mujtathḥ*; *kḥarm* always has a *zihāf* status.

ḥadhḥf: Deletion of a foot-final *sabab kḥafīf* 'weak cord'.

qaṭf: *ḥadhḥf* plus 'aṣb.

ḥadhḥdh: Deletion of a *watad majmū* 'iambic peg' from *mutafā'ilun*.

ṣalm: Deletion of a *watad mafrūq* 'trochaic peg' from *maf'ulātu*.

waqf: Replacing a *mutaḥarrik* which occurs as the seventh constituent of the foot; replacement is by a *sākin*, and the transformation can therefore be viewed as deletion of a vowel.

kashf: Deletion of a *mutaḥarrik* which occurs as the seventh constituent of the foot.

qaṣr: Deletion of the *mutaḥarrik* from the [final] *sabab kḥafīf* 'weak cord' in *fa'ülun*, *fā'ilātun*, and *mustaf'i-lun*.

- qat'*: Deletion of a *mutaḥarrik* from a *watad majmū'* 'iambic peg'.
- batr*: *ḥadhḥf* plus *qat'*.
- tashḥīṭh*: Deletion of a *mutaḥarrik* from the *watad majmū'* 'iambic peg' in [the *ḍarb*] *fā'ilātun*.
- kharm*: The rare deletion of a hemistich-initial *mutaḥarrik* from a *watad majmū'* 'iambic peg'. Different terms are used to designate *kharm*, depending on the form of the input foot (see the last portion of the table below).

The following table shows the input and the output of each transformation; it also indicates the meters involved in each case.

<i>'Illa</i>	Input	Output	Output is said to be:	Meters involved
<i>ḥadhḥf</i>	fa'ūlun mafā'ilun fā'ilātun	fa'al fa'ūlun fā'ilun	<i>mahdhūf</i>	<i>al-mutaqārib</i> <i>al-ṭawīl</i> , <i>al-hazaj</i> <i>al-madīd</i> , <i>al-ramal</i> , <i>al-kḥafīf</i>
<i>qatf</i>	mufā'alatun	fa'ūlun	<i>maqṭūf</i>	<i>al-wāfir</i>
<i>ḥadhḥdh</i>	mutafā'ilun	fa'ilun	<i>'ahadhḥdh</i>	<i>al-kāmil</i>
<i>ṣalm</i>	maf'ūlātu	fa'lun	<i>'aṣlam</i>	<i>al-sarī'</i>
<i>waqf</i>	maf'ūlātu	maf'ūlāt	<i>mawqūf</i>	<i>al-sarī'</i> , the <i>manhūk</i> of <i>al-munsariḥ</i>
<i>kashf</i>	maf'ūlātu	maf'ūlun	<i>makshūf</i>	<i>al-sarī'</i> , the <i>manhūk</i> of <i>al-munsariḥ</i>
<i>qasr</i>	fā'ūlun fā'ilātun mustaf'i-lun	fa'ūl fā'ilāt maf'ūlun	<i>maqṣūr</i>	<i>al-mutaqārib</i> <i>al-madīd</i> , <i>al-ramal</i> <i>majzū'</i> <i>al-kḥafīf</i>
<i>qat'</i>	fā'ilun mutafā'ilun mustaf'ilun	fa'lun fā'ilātun maf'ūlun	<i>maqṭū'</i>	<i>al-basīṭ</i> , <i>al-mutadārak</i> <i>al-kāmil</i> <i>al-rajaz</i>

'Illa	Input	Output	Output is said to be:	Meters involved
<i>batr</i>	fa'ūlun fā'ilātun	fa' fa'lun	' <i>abtar</i>	<i>al-mutaqārib</i> <i>al-madīd</i>
<i>tash'īth</i>	fa'ilātun	maf'ūlun	<i>mush'a'ath</i>	<i>al-khāfīf</i> , <i>al-mujtathth</i>
<i>kharm</i>			<i>makh'rūm</i>	<i>al-ṭawīl</i> , <i>al-mutaqārib</i> , <i>al-hazaj</i> , <i>al-muḍārī</i> , <i>al-wāfir</i>
<i>th'alm</i>	fa'ūlun	fa'lun		
<i>th'arm</i>	fa'ūlu	fa'lu		
<i>kh'aram</i>	mafā'ilun	maf'ūlun		
<i>sh'atr</i>	mafā'ilun	fā'ilun		
<i>kh'arab</i>	mafā'ilu	maf'ūlu		
' <i>aḍb</i>	mufā'alātun	mufta'ilun		
' <i>aqṣ</i>	mufā'altu	maf'ūlu		
<i>qaṣm</i>	mufā'altun	maf'ūlun		
<i>jamam</i>	mufā'atun	fā'ilun		

The following seven transformations (all of which involve deletion) are not listed by al-Rādī, probably because they are extremely rare:

<i>rab'</i> :	fā'ilātun	→	fa'al
<i>jahf'</i> :	fā'ilātun	→	fā'
<i>takh'lī'</i> :	fā'ilun	→	fa'al
	mustaf'ilun	→	fa'ūlun
<i>raf'</i> :	mustaf'ilun	→	fā'ilun
	maf'ūlātu	→	maf'ūlu
<i>jad'</i> :	maf'ūlātu	→	fā'
<i>jabb</i>	mafā'ilun	→	fa'al
<i>hatm</i> :	mafā'ilun	→	fa'ūl

The following terms designate the outputs respectively: *marbū'*, *majhūf*, *makh'lū'*, *marfū'*, *majdū'*, *majbūb*, *mahtūm*.

4. The 'Illa: Addition

The following three addition transformations are restricted to the line-final foot (i.e., the *ḍarb*) of the specified meters:

- tarfīl*: The addition of a *sabab khāfīf* 'weak cord' to *mutafā'ilun* in *majzū' al-kāmil* and to *fā'ilun* in *majzū' al-mutadārak*; the expanded *ḍarb* is said to be *muraffal*.
- tadhīl*: The addition of a *sākin* to *mutafā'ilun* in *majzū' al-kāmil*, to *fā'ilun* in *majzū' al-mutadārak*, and to *mustaf'ilun* in *majzū' al-basīṭ*; the expanded *ḍarb* is said to be *mudḥayyal*.
- tasbīgh*: The addition of a *sākin* to *fā'ilātun* in *majzū' al-ramal*; the expanded *ḍarb* is said to be *musabbagh*.

A rare addition known as *khāzm* occurs in hemistich-initial position, "provided that no [essential] change takes place in the meaning of the line." The addition in question may comprise 1 - 4 letters at the beginning of the *ṣadr*, but it may not exceed two letters at the beginning of the '*ajuz*. The expanded foot is said to be *makhzūm*.

The domain of *khāzm* is rather ill-defined: the transformation applies to *al-basīṭ*, *al-kāmil*, *al-ṭawīl*, *al-hazaj*, and *al-madīd*, but this list does not seem to be exhaustive; besides, the constituents supplied by the transformation are not specified with any degree of precision.

The status of *khāzm*, like its domain, is ill-defined: al-Rāḍī considers it "pointless" and classifies it neither as a *zihāf* nor as a '*illa* (see B18, pp. 59 - 63).

C. Interdependence

(1) *Murāqaba*

The process known as *murāqaba* *obligatorily* alters either of two weak cords which occur consecutively in the foot. The following feet are involved:

- (a) *mafā'ilun*, in *al-muḍārī*.
- (b) *maf'ulātu*, in *al-muqtaḍab*.

The effect of *murāqaba* is to delete the *sākin* from a single cord (*either* the first *or* the second, but not both). Thus *mafā'ilun* changes to *mafā'ilun* or to *mafā'īlu*, but it can neither retain its standard form nor change to *mafā'ilu*; similarly, *maf'ulātu* changes to *mafā'īlu* or to *fā'ilātu*, but it can neither retain its standard form nor change to *fa'ilātu*.

(2) *Mu'āqaba*

The process known as *mu'āqaba* *optionally* alters either of two weak cords which occur consecutively.

The effect of *mu'āqaba* (when it produces a change) is to delete the *sākin* from a single cord (*either* the first *or* the second, but not both). Thus the foot *mafā'ilun* may retain its standard form, change to *mafā'īlu*, or change to *mafā'ilun* (but it may not change to *mafā'īlu*).

The pair of weak cords may occur in a single foot; such is the case in the following contexts:

- (a) The foot mafā'ilun in *al-hazaj* and *al-tawīl*.
- (b) The variant mafā'ilun in *al-wāfir*.
- (c) The variant mustaf'ilun in *al-kāmil*.
- (d) The 'arūḍ mustaf'ilun in *al-munsariḥ*.

The pair of weak cords may also occur in two adjacent feet; in this context, a foot where the deletion occurs is designated by one of the terms *ṣadr*, 'ajuz, or *ṭarafān*:

(a) The term *ṣadr* indicates that the reduced cord is foot-initial, and that the final weak cord of the preceding foot must remain intact.

(b) The term 'ajuz indicates that the reduced cord is foot-final, and that the initial weak cord of the next foot must remain intact.

(c) The term *ṭarafān* indicates that the foot contains two reduced cords: one initial, and the other final; the term also indicates that the final weak cord of the preceding foot and the initial weak cord of the next foot must remain intact.

In the acatalectic line of *al-madīd*, the fourth foot may function as *ṣadr*, 'ajuz, or *ṭarafān*; the first and the third feet may function as 'ajuz; the second, the third, and the fifth feet may function as *ṣadr*.

In the trimeter of *al-ramal*, a hemistich-medial foot may function as *ṣadr*, 'ajuz, or *ṭarafān*; a hemistich-initial foot may function as 'ajuz; a hemistich-final foot may function as *ṣadr*. In the dimeter of *al-ramal*, a line-medial foot may function as *ṣadr*, 'ajuz, or *ṭarafān*; a line-initial foot may function as 'ajuz; a line-final foot may function as *ṣadr*.

In a line of *al-mujtath̄th̄*, the second and the third feet may function as *ṣadr*, 'ajuz, or *ṭarafān*; the last foot may function as *ṣadr*; the first foot may function as 'ajuz.

In the acatalectic trimeter of *al-kḥafīf*, each line-medial foot may function as *ṣadr*, 'ajuz, or *ṭarafān*; the line-initial foot may function as 'ajuz; the line-final foot may function as *ṣadr*.

(3) *Mukānafa*

The process known as *mukānafa* optionally alters either or both of two weak cords which occur consecutively in the following contexts:

- (a) The foot mustaf'ilun in *al-rajaz*, *al-sarī*, and *al-basī*.
- (b) The hemistich-initial foot mustaf'ilun in *al-munsariḥ*.
- (c) The foot maf'ulātu in *al-munsariḥ*.

The effect of *mukānafa* (when it produces a change) is to delete the *sākin* from either cord or from both. Thus mustaf'ilun may retain its standard form; it may also change to mafā'ilun, mufta'ilun, or fa'ilatun.



FOOTNOTES

Preface

1. See, for example, the following works: Zaki N. Abdel-Malek, *Arabic Basic Course: Modern Standard* (Presidio of Monterey, California: Defense Language Institute, 1976); Peter Abboud et al., *Introduction to Modern Standard Arabic Pronunciation and Writing* (Ann Arbor, Michigan: The University of Michigan, 1968); Ernest T. Abdel-Massih, *A Sample Lexicon of Pan Arabic* (Ann Arbor, Michigan: The University of Michigan, 1975); Afif A. Bulos, *The Arabic Triliteral Verb: A Comparative Study of Grammatical Concepts and Processes* (Beirut: Khayats, 1965); Jean Cantineau, *Durūs fī 'Ilm 'Aṣwāt al-'Arabīya*, trans. S. al-Qirmādī (Tunis: The Tunisian University, 1966); J.A. Haywood and H. M. Nahmad, *A New Arabic Grammar of the Written Language*, 2d ed. (London: Lund Humphries, 1982); Library of Congress Cataloging Service, *Arabic Romanization*, Bulletin 91, September 1970; Fuad H. Megally and M. Mansoor, *Arabic Course Handbook: Explanatory Notes, Vocabulary* (Great Britain: The Chaucer Press, 1981); *The M.E.C.A.S. Grammar of Modern Literary Arabic* (Beirut: Khayats, 1965); Raja T. Nasr, *The Structure of Arabic: From Sound to Sentence* (Beirut: Librairie du Liban, 1967); Mohamed Ben Smael, *l'Arabe Moderne* (Tunis: Maison Tunisienne de l'Édition, 1974); G.W. Thatcher, *Arabic Grammar of the Written Language* (London: Lund Humphries, 1942); Hans Wehr, *A Dictionary of Modern Written Arabic*, 6th ed. (Weisbaden: Otto Harrassowitz, 1979).
2. See Fuad H. Megally and M. Mansoor, *Arabic Course Handbook: Explanatory Notes, Vocabulary* (Great Britain: The Chaucer Press, 1981).
3. See Michael K. Brame, "Arabic Phonology: Implications for Phonological Theory and Historical Semitic" (Ph.D. dissertation, Massachusetts Institute of Technology, 1970), pp. 414 - 434.
4. See Jean Cantineau, *Durūs fī 'Ilm 'Aṣwāt al-'Arabīya* (Tunis: The University of Tunisia, 1966), pp. 75 - 79.
5. See B12, pp. 169 - 173.
6. See B32, pp. 49 - 56.
7. See B27, pp. 184, 185.
8. See B24, pp. 327 - 336; also see B27, pp. 177 - 193.
9. See B25, pp. 210, 211; also see B27, pp. 187 - 191.

10. The line occurs in 'Antara b. Ṣhaddād's *mu'allaqa*. The translation (quoted from B2, p. 179) is as follows:

You might think a merchant's musk-bag borne in its basket
has outstripped the press of her side-teeth wafted from her mouth to you.

Chapter I

1. For a very brief biography of al-Kḥalīl b. 'Aḥmad al-Farāhīdī, see B34, pp. 77 - 79.
2. See B20, p. 9. Also see B21, pp. 7 - 11.
3. In this study, "ancient Arabic poetry" is defined as the body of Arabic verse composed between the earliest times and the fall of the Umayyad dynasty in 750 A.D.; "modern poetry" is here defined as the body of Arabic verse composed between the beginning of the nineteenth century and the present time. Certain metric innovations have occurred in modern Arabic poetry; especially significant are those initiated by Nāzik al-Malā'ika and Badr Ṣhākīr al-Sayyāb in 1947 (see B29, pp. 99, 249). It must be emphasized, however, that a large portion of modern Arabic poetry is characterized by strict adherence to the meters of ancient models.
4. See B18.
5. Two types of Arabic measures must be differentiated: the grammatical and the prosodic. For a definition of the grammatical type, see B1, pp. 148 - 154. The prosodic measures were probably inspired by the pre-existent grammatical measures, but the two types differ in an important respect: in a grammatical measure the symbols *f*, *'*, and *l* stand for the first radical, the second radical, and the third radical respectively; in a *prosodic* measure, these symbols do not necessarily stand for radicals. It seems that al-Kḥalīl simply adopted the grammatical measures which, redefined and slightly modified, could stand for his sequences of *mutaḥarrikāt* and *sawākin*.
6. See B18, p. 10.
7. The present writer believes that vowel length is a realization of underlying glides. This analysis would reduce the ultimate constituents of feet to two types: consonants and short vowels. Nevertheless, we shall not insist on adopting the analysis in question because it is not universally accepted, because the arguments which support it are beyond the scope of this study, and because the underlying representation of vowel length has no drastic bearing on the issues being discussed.
8. See B18, p. 11.
9. See B18, p. 10.

10. The hyphen in *fā'i-lātun* and *mustaf'i-lun* represents an atypical IC boundary; it therefore signals a structural contrast between two feet:

- (a) *fā'i-lātun* comprises the following three IC's in order: *watad mafrūq, sabab kḥafīf, sabab kḥafīf* (— • — / — • / — •); on the other hand, *fā'ilātun* comprises the following three IC's in order: *sabab kḥafīf, watad majmū', sabab kḥafīf* (— • / — — • / — •).
- (b) *mustaf'i-lun* comprises the following three IC's in order: *sabab kḥafīf, watad mafrūq, sabab kḥafīf* (— • / — • — / — •); on the other hand, *mustaf'ilun* comprises the following three IC's in order: *sabab kḥafīf, sabab kḥafīf, watad majmū'* (— • / — • / — — •).

Whether a certain rule of variation may apply to a given foot depends on the structural composition of that foot; consequently, the above contrasts determine the derivational potential.

11. Clipping is dropping the last foot of each hemistich. Of al-Kḥalīl's meters, five must be clipped (*al-madīd, al-hazaḡ, al-muḡārī', al-muḡtaḡab, al-muḡtatḥḡḡ*), three may not be clipped (*al-ṡawīl, al-sarī', al-munsariḡ*), and seven may be clipped (*al-basīṡ, al-wāfir, al-kāmil, al-ramal, al-raḡaz, al-kḡafīf, al-muṡaḡārib*). See B20, pp. 20 - 84; also see B18, p. 84.
12. See B20, p. 85. 'Abd al-Ḥamīd al-Rāḡī argues that *al-muṡadārak* could not have been overlooked by al-Kḥalīl (see B18, pp. 17, 18).

13. See B4, pp. 49 - 60.

14. See B20, p. 12.

15. Appendix III summarizes the rules of variation stated in B18 (pp. 43 - 91) and in B22 (pp. 134 - 151 of Volume I, and pp. 301 - 306 of Volume II).

Chapter II

1. See B20, pp. 38, 49, 63, 80, 88. Also see B18, pp. 15 - 41.

2. For each meter, only one hemistich is generated; the two hemistichs are identical.

3. See B16.

4. The occurrence of such alterations after, not before, the MC's have been grouped into feet sometimes forces al-Zahāwī to change the foot boundaries established by al-Kḥalīl; for example, each hemistich of *al-munsariḡ* is *mustaf'ilun maf'ūlātu mustaf'ilun* according to al-Kḥalīl, but *mustaf'ilun fa'lun fā'ilun fā'ilun* according to al-Zahāwī.

5. See B32, pp. 139 - 161.

6. See B32, pp. 147, 148. Also see B29, pp. 240, 241.
7. 'Anīs prefers to say that the syllables which occur in ancient Arabic poetry are either short (CV) or medium (C \bar{V} , CVC), long syllables being of very rare occurrence (see pp. 146 - 149 of B32).
8. fa'ulātun corresponds to al-Kḥalīl's mafā'ilun; mustaf'ilātun occurs only as the first foot in each hemistich of *al-munsariḥ* (according to 'Anīs, each hemistich of *al-munsariḥ* is mustaf'ilātun mustaf'ilun fā'ilun).
9. See pp. 156 - 159 of B32. In stating these rules, 'Anīs uses the expression "medium syllable" where the present writer uses "long syllable".
10. The sequence — • • , which occurs exclusively in hemistich-final position, should be considered a variant of — • ; only occasionally is the sequence — • • encountered in Arabic poetry.
11. See B28, pp. 85 - 87.
12. See B28, pp. 106, 107.
13. For a different position on the relationship between competence and performance, see B5, pp. 3 - 15.
14. See section 2.3.2 of this study.
15. In some modern varieties of Arabic, stress is entirely predictable from the phonological environment; in other modern varieties, stress is *almost* entirely predictable from the phonological environment (see B8, pp. 47 - 49). The present writer believes that stress was phonologically conditioned in Classical Arabic and the contemporaneous dialects; it is difficult to see an accident in the fact that ancient Arab grammarians, meticulous as they were, have left us no systematic description of stress.

Unless trained in structural linguistics, native speakers are usually unaware of phonologically conditioned entities (i.e., allophones); for example, in colloquial Egyptian Arabic the sound [p] occurs before voiceless obstruents as an allophone of the phoneme /b/, and yet the average Egyptian does not recognize [p] as an entity which differs phonetically from [b].
16. As the following examples indicate, stress patterns cannot be considered the main determinant of variation either in modern or in ancient Arabic poetry (a dash stands for a *mutaḥarrik* and a dot stands for a *sākin*):

(a) Modern Arabic poetry contains instances where commutable feet have different stress patterns; for example, Egyptian poets substitute — — — • for — • — • — • although Egyptians pronounce the form — — — • with primary stress on the first constituent while pronouncing the form — • — • — • with primary stress on the fifth constituent.

(b) Ancient Arabic poetry contains instances where a single form is commutable with at least two feet of different stress patterns. For example, ancient Arab poets frequently substituted the form — • — • for — — • — • and for — • — • — • although, according to Guyard, the last two forms were probably pronounced in Classical Arabic with different stress patterns (see section 2.3.2 of this study).

17. See B28, pp. 46, 47, 93 - 98.

18. At the end of Chapter I (p. 98), 'Abū Dīb rejects feet in favor of rhythmic nuclei. He argues that the use of feet has resulted in "fossilizing" Arabic meters. The present writer considers the foot a useful entity which should be retained. As will be shown in Chapter III of this study, and as 'Abū Dīb himself admits, recognition of the foot as a metrical unit facilitates the formulation of rules to account for variation. Furthermore, the foot, as defined by al-Kḥalīl, seems to be a psychological reality. Over the centuries which separate our day from al-Kḥalīl's, various metrical innovations were introduced: different meters were permitted to co-occur in the same poem, some meters underwent different degrees of abbreviation, and new arrangements of feet found their way into the system (see B32, pp. 207 - 245); yet every new meter is reducible to feet, and no new feet—based on a new definition—have emerged.

There is no guarantee that rhythmic nuclei would not have resulted in "fossilization" had they been proposed by al-Kḥalīl; it is no secret that the tendency to revere and therefore to imitate ancient models has flourished among Arab poets of the modern age.

19. Vol. II, pp. 358 - 368.

20. See B9.

21. See B10, Vol. II, p. 363. A single bar separates two consecutive feet; a double bar marks the break between the two hemistichs of a meter. In the scansion of metrical verse, — usually stands for a long or stressed syllable, and U usually stands for a short or unstressed syllable; the theory being discussed employs a representation of Arabic feet where — stands for a long syllable and U stands for a short syllable.

22. The first and the third of the defects listed here are pointed out in B33, pp. 62 - 67.

23. The summary is based on pages 68 - 87 of B33.

24. Each symbol stands for the durational value of a syllable: — stands for a full beat; U, for half a beat; and —U, for a beat and a half.

25. For example the string $\bar{u} \cup \acute{u} \cup \cup$, the first portion of sequence (a) which begins with a primary stress and which is followed by a primary stress, yields a measure in the following manner:

$$\bar{u} \cup \acute{u} \cup \cup \rightarrow \bar{u} \cup \acute{u} \cup \cup$$

This change results from rule (6). The transformation $\bar{u} \cup \acute{u} \cup \cup \rightarrow \bar{u} \cup \acute{u} \cup$ seems to satisfy rule (6), but it would be incorrect since it reduces the number of symbols (each symbol stands for a syllable; thus the number of symbols cannot be reduced as long as the number of syllables remains the same).

26. Unlike other symbols, \cup does not represent the duration of a syllable.

27. Pages 75 - 87.

28. See B33, pp. 81, 82.

29. See B33, pp. 77, 78.

30. See B6, pp. 29 - 106.

31. 'Abū Naṣr 'Ismā'īl al-Jawharī (who died in 1005 A.D.) suggests that Arabic meters comprise two distinct types: the "simple", and the "complex" (see B22, Vol. I, pp. 135 - 137). A simple meter results from the mere repetition of a given foot; a complex meter results from combining two simple meters. Thus *al-mutaqārib*, *al-hazaj*, *al-ramal*, *al-rajaz*, and *al-mutadārak* are simple meters; on the other hand, the following are complex meters whose source strings are indicated within parentheses:

<i>al-ṭawīl</i>	(<i>al-mutaqārib</i> and <i>al-hazaj</i>)
<i>al-muḍāri'</i>	(<i>al-hazaj</i> and <i>al-ramal</i>)
<i>al-kḥafīf</i>	(<i>al-ramal</i> and <i>al-rajaz</i>)
<i>al-basīṭ</i>	(<i>al-rajaz</i> and <i>al-mutadārak</i>)
<i>al-madīd</i>	(<i>al-mutadārak</i> and <i>al-ramal</i>)

32. Cyclical permutation: $PKK \rightarrow KKP, KPK$. If a permutation applies to one foot, the very same permutation must apply to each of the other feet in the hemistich.
33. In T_3 , post-P deletion applies to a *non-final* (not just a hemistich-initial) foot, while pre-P deletion applies to a hemistich-final foot. This fact is not clear from the notation used by Maling.

Chapter III

1. A line of Arabic poetry usually comprises two structurally independent sequences of feet; each of the sequences in question is called a hemistich, and the line is said to be divided. In a few cases, the line consists of a single sequence which is identical to one hemistich of a divided line; for the sake of

simplicity and consistency, we shall say that in such cases the line consists of a single hemistich. We define a hemistich, then, not as a sequence of feet which *always* constitutes a half or a division, but as one which can (and *usually* does) constitute a half or a division.

2. In this study, the word *meter* appears within quotation marks when used generically to designate the sense of regularity which often characterizes verse.

3. On Level I, it is possible to define an Arabic meter as the string which constitutes a single hemistich and to stipulate that in most—but not in all—instances the meter is doubled to produce a divided line. Henceforth this definition will be adopted; it represents an economical way of accounting for the lines which al-Kḥalīl calls *al-mashṭūr* and *al-manhūk* (see B18, pp. 81 - 84).

4. It was stated above that the hemistichs of a divided line are identical on Level I; such is also the case on Level II. It is thus possible on Level II to define a meter as the string which constitutes a single hemistich, and henceforth we will adopt this definition. As will be seen later, the same definition holds true on Level III.

5. See B9, p. 63.

6. We shall talk of reduction as positioned or placed at a given point if it occurs at that point.

7. Medial reduction is "identically" placed in two feet if it is equidistant from at least one pair of corresponding extremities; each of the following sequences illustrates this definition (a dash stands for a long syllable, and U stands for a short syllable):

— — U — — — U —
 — U — — — U — —
 — — U — — — U —
 — U — — — U —

8. A dash stands for a long syllable, and U stands for a short syllable.

9. The names given here to the various meters are the ones used by al-Kḥalīl.

10. See B32, pp. 189 - 208.

11. ω patterns as a single long syllable, not as a sequence.

12. Notice that the seven standard feet result from applying the rules of standard reduction and analysis to the two theoretical feet (*maf'ūlun* and *maf'ūlātun*). Also notice that while the first two contrasts are shared by all standard feet, the last two are restricted to long feet.

13. See B18, p. 211.
14. Vol. II, p. 366.
15. See Restriction 21 in section 3.3.1.
16. See B32, pp. 54, 55, 189 - 199. The meter *al-muqṭaḍab* is used in approximately 1% of modern Arabic poetry; on the other hand, *al-muḍāri'* is almost non-existent in modern Arabic poetry (see B32, pp. 199 - 208). Also see B10, Vol. II, p. 368.
17. See B18, p. 14.
18. See item (2) under "Justification" in section 3.3.3.
19. See B18, pp. 109, 146, 147, 225 - 229, 279; also see B32, pp. 76 - 78, 90, 99, 115 - 117.
20. See B32, pp. 90, 189 - 208; also see B18, pp. 114, 115.
21. Far from being peculiar to Arabic poetry, symmetry seems to be a universal prosodic principle. See B9, p. 63.
22. See section 3.3.3.
23. In this context, a constituent is ω , U, or — .
24. See B10, Vol. II, p. 362; also see B18, pp. 196 - 204.
25. See B10, Vol. II, p. 362.
26. See B10, Vol. II, pp. 362, 363. Also see B32, p. 109.
27. See B10, Vol. II, p. 367; also see B18, pp. 109 - 120.
28. See B10, Vol. II, pp. 363, 364, 367, 368. Also see B18, pp. 256, 257, 279.
29. See B18, pp. 88 - 91.

30. See B18, pp. 291, 292.
31. See B18, pp. 92 - 306.
32. An *explicit pattern* is a syllabic configuration which is actually present in a given string; an *implicit pattern* is an underlying configuration invoked by type assonance. *Explicit "meter"* is the sense of regularity which results from explicit patterning, while *implicit "meter"* is the sense of regularity superimposed by implicit patterning.
33. Unless it recurs or pervades the entire hemistich, syllabic symmetry cannot give rise to "meter".
34. See B18, pp. 279, 280; also see B10, Vol. II, p. 368.
35. See B18, pp. 39, 40.
36. Each hemistich-final variant is also related to the Level II foot by type assonance.
37. See B18, pp. 85 - 87.
38. See B18, top of p. 220.
39. See B32, pp. 156, 157. A rare exception occurs in *majzū' al-kḥafīf* where — U — — — — U — becomes — U — — — — (B18, p. 254).
40. See B10, Vol. II, pp. 366 - 368.
41. See B10, Vol. II, pp. 367, 368. Also see B22, Vol. I, p. 138.
42. See B18, p. 46 (footnote 2).
43. See B11, pp. 141, 142.
44. See B18, pp. 137, 231; also see B18, pp. 73 - 77.
45. See B18, pp. 72 - 77.

46. See B32, pp. 256, 257.
47. See B18, p. 217; B21, pp. 68, 70, 121; and B32, pp. 98 - 103, 82 - 86, 124 - 126. Also see B10, Vol. II, pp. 363, 364, 366, 367.
48. The term *maṭla'* designates the first line of an ode.
49. Often the hemistich-final feet of the *maṭla'* are identical. Although popular, such identity is not obligatory (see B20, pp. 19, 20).
50. On page 280 of his *Shārah Tuḥfat al-Kḥalīl*, al-Rādī cites the following lines:
- | | |
|------------------------|-------------------------|
| masaktu qalbī lammā | masaktuhū madḥūrā |
| ba'du l-qulūbi ṭuyūrun | lam tastaṭī' 'an taṭīrā |
- Examining the first line reveals the following:
- (a) The first hemistich ends in — — — (which is derived from — U — —).
 - (b) Like the first, the second hemistich ends in — — — (which is derived from — U — —).
 - (c) Each hemistich comprises the string U — U — — — — (rather than — — U — — — —).
51. See B32, p. 160.
52. See B10, Vol. II, pp. 367, 368; also see B18, pp. 256, 279.
53. See B18, pp. 59 - 62. The available information concerning *al-kḥazm* is rather sketchy, and it is therefore impossible to formulate precise rules. Reportedly, the meters where *al-kḥazm* occurs are *al-basīṭ*, *al-kāmil*, *al-madīd*, *al-ṭawīl*, and *al-hazaj*; respectively, the additions are U, —, —, U —, and — —. From the information summarized in this footnote, it appears that canonical addition and *al-kḥazm* are mutually exclusive in the meters where they occur.
54. While the word *al-kḥazm* means 'stringing or threading (e.g., pearls)', the word *al-kḥ'arm* means 'producing a hole or a gap'.
55. See B18, pp. 63 - 67.
56. See B18, p. 302.
57. See B18, pp. 255 - 257; 279, 280; 60, 65.
58. See B18, pp. 59 - 67.

59. See B18, p. 303.
60. See B18, pp. 300 - 303.
61. See B18, p. 304.
62. See B18, p. 304.
63. See B18, pp. 17, 18.
64. See B19, p. 304. For other instances where theoretical (Deep Structure) forms have surfaced, especially in poetry, see B10, Vol. II, pp. 378, 379.
65. For the confining influence which linguists exerted on the composition of poets, see B15, pp. 121 - 124.
66. It is probable that editing old forms to achieve conformity with the linguistic rules of the day was a common practice; such editing, however, did not extend to Quranic texts though the oral rendition of certain reciters was condemned as grammatically erroneous. See B14, pp. 6 - 15; B19, p. 131; B15, p. 124; and B1, p. 241.
67. In this instance, the theoretical string which surfaced is — — — — — . Occasional use of the theoretical string was apparently motivated by no more than the intuitive reality of Level I.
68. A "position" is here defined as a slot where a foot occurs.

Chapter IV

1. See defusing application (a) under "Necessary application" (section 3.3.1).
2. 'Anīs makes no precise statement regarding the relative frequency of *al-rajaz*. The determination that *al-rajaz* follows *al-kḥafīf* in frequency is tentative; it seems to be implied by certain statements on pages 191 - 194 and 126 - 130 of B32.
3. See defusing application (f) in section 3.3.1.
4. See neutralizing application (c) under "Necessary application" (section 3.3.1).

5. The short syllable is hardly ever deleted from hemistich-final — U — — (see item 2b following the asterisks at the end of "Necessary application" in section 3.3.1). As the *ḍarb* of *al-madīd*, — — is more common than — U — (although both are very rare); the reason probably lies in the fact that a line of *al-ramal* may end in — U — but not in — — (see B10, Vol. II, p. 367). Here and elsewhere, the system takes pains to avert the possibility of confusing one meter with another.
6. 'Anīs makes no precise statement regarding the relative frequency of *majzū' al-rajaz*. The determination that *majzū' al-rajaz* follows *majzū' al-kāmil* in frequency is tentative; it seems to be implied by certain statements on pages 191 - 194 and 126 - 130 of B32.
7. The form U — — U is obligatory in the 'arūd position if *al-kḥarm* would otherwise generate an unmetrical sequence of long syllables.
8. See neutralizing application (a) under "Necessary application" (section 3.3.1).
9. See B18, pp. 137, 138.
10. The line is relatively common on account of its 'arūd.
11. See defusing application (e) in section 3.3.1.

Chapter V

1. On Level I, the rules are applied to generate a hemistich; in most cases, the hemistich is then doubled to produce a divided line. On Level II, a rule applies simultaneously to both hemistichs of a divided line. On Level III, a rule affects one foot per application; furthermore, changing a non-final foot in one hemistich does not usually require a similar change in the corresponding foot of the other hemistich.
2. See B18, bottom of p. 205 and top of p. 206.
3. See B23, pp. 39 - 139; also see Reynold A. Nicholson's *A Literary History of the Arabs* (Cambridge: The University Press, 1962), pp. 71 - 140, 181 - 253.

Appendix I

1. See B18, especially pp. 43 - 58. al-Kḥalīl also specifies the environments where the variants occur; for the sake of simplicity, the environments in question are excluded from this appendix.
2. al-Kḥalīl observes that in three meters (*al-kḥafīf*, *majzū' al-kḥafīf*, and *al-mujtathḥ*), the transformation — — U — → U U U — is never permitted and the transformation — — U — → — — U U or U — U U may occur; he also observes that elsewhere the first transformation may occur (though rarely) and the second is never permitted. Consequently, he writes — — U — as *mustaf'i-lun* in the three meters and as *mustaf'ilun* elsewhere—a convention which records but does not explain

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