

The Phonology of Classical Arabic Meter

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(1) Pre-Islamic bedouin poetic tradition.

Themes include description of deserted camp, love, camel, praise for the benefactor

Many meters (12-16) within the same poetic tradition

Tradition of analysis from the 8th century (al-Xaliil †c.791) until today (Halle 1966, Maling 1973, Prince 1989, Golston & Riad 1997).

(2) The meter is quantitative. Distinction between light (L) and heavy (H) syllable is important, while the distinction between stressed and unstressed is less important.

L = open syllables with short vowel: *I, ʔu, mi, du, hu*

H = all other syllables: *mar, lam, yad, luʔ, æir; daa, mii; daal*

(3) Traditional units of classical Arabic meter (pegs, cords, tents)

pegs: P = light + heavy syllable, LH

Q = heavy + light syllable, HL (i.e. P reversed)

cords: K = heavy syllable, H

L = double light syllables, LL (i.e. K resolved)

(k = light or heavy syllable, σ)

(4) Classical Arabic meters, traditional description

<i>Meter</i>		<i>Trad. circle</i>	<i>Traditional verse feet</i>	<i>Verse feet w/ variations</i>
tawiil	'the long'		PK PKK	Pk PkK
madiid	'the extended'	I	KPK KP	kPK kP
basiit	'the outspread'		KKP KP	kKP kP
kaamil	'the perfect'	II	LKP	LKP
waafir	'the exuberant'		PLK	PLK
rajaz, sariice	'the trembling the swift'		KKP	kkP
ramal	'the running'	III	KPK	kPK
hazaj	'the trilling'		PKK	PKk
mudaarice*	'the similar'		PKK QKK	Pkk QKk
xafiif	'the nimble'		KPK KQK	kPK kQK
munsarih	'the flowing'	IV	KKP KKQ	KkP KkQ
mujtattʔ	'the amputated'		KQK KPK	kQK kPK
muqtadab*	'the lopped'		KKQ KKP	KkQ KkP
mutaqaarib	'the tripping'	V	PK PK	Pk Pk
mutadaarik*	'the continuous'		KP KP	kP kP

(5) Example, tawiil (catalectic), two half-lines

P k P k K P k P k K P k P k K P k P k Ø
 ^ | ^ | | ^ | ^ | | ^ | ^ | | ^ | ^ |
 u - - u - - - u - - u - u u u - u u - - - u - u u - u Ø

Idaa lmarʔu lam yadnas mina lluʔmi æirduhu fakullu ridaaʔin yartadiihi jamiilu
 'When a man's honour is not defiled by baseness, then every cloak he cloaks himself in is comely'

(6) Circle, general idea:

but...

PKK tawiil, mudaarice, hazaj **PkK** or **Pkk** or **PKk**
KPK madiid, ramal, xafiif **KPk** or **kPK**
KKP basiit, rajaz, munsarih **kKP** or **kkP** or **KkP**

(7) Problems: ternary feet (**PKK, KKP, KPK**)

centerheaded feet (**KPK, KQK**)

hidden variation (e.g. **KK** = σH, σσ, Hσ)

frequency differences unexplained

(8) Program

- Phonological units in Arabic meter
- Metrics as phonology
- Central features of Arabic meters
- Rhythmic properties

Phonological units in Arabic meter

(9) Tawiil (catalectic), Al-Samawʔal ibn æAadiyaaʔ (6th century)

1	Idaa lmarʔu lam yadnas mina lluʔmi æirduhu	fakullu ridaaʔin yartadiihi jamiilu
2	waʔin huwa lam yahmil æalaa n-nafsi daymahaa	falaysa ilaa husni ttinaaʔi sabiilu
3	tuæayyirunaa ʔannaa qaliilun æadiidunaa	faqultu lahaa inna lkiraamu qaliilu
4	wamaa qalla man kaanat baqaayaahu mitlanaa	ʔibaabun tasaamaa lilæulaa wakuhuulu
5	wamaa darranaa annaa qaliilun wajaarunaa	æaziizun wajaaru lʔaktariina dæaliilu
6	lanaa jabalun yahtalluhu man nujiiruhu	maniiceun yaruddu ttarfa wahwa kaliilu
7	warasaa asluhu tahta ttaraa wasamaa bihi	ilaa nnajmi faræun laa yunaalu tawiilu
8	waʔinna laqawmun maa naraa lqatla subbatan	idaa maa raʔathu æAamirun waSaluulu
9	yuqarribu hubbu lmawti ʔaagaalanaa lana	watakrahuu ʔaagaaluhum fatatuulu
10	wamaa maata minnaa sayyidun hatfa anfihi	walaa tulla minnaa haytu kaana qatiilu

- When a man's honour is not defiled by baseness, then every cloak he cloaks himself in is comely;*
- And if he has never constrained himself to endure despite, then there is no way (for him) to (attain) goodly praise.*
- She (was) reproaching us, that we were few in numbers; so I said to her, "indeed, noble men are few.*
- Not few are they whose remnants are like to us – youths who have climbed to the heights, and old men (too).*
- It harms us not that we are few, seeing that our kinsman is mighty, whereas the kinsman of the most part of men I abased.*
- We have a mountain where those we protect come to dwell, impregnable, turning back the eye and it a-weary;*

- 7 *Its trunk is anchored beneath the soil, and a branch (of it) soars with it to the stars, unattainable, tall.*
 8 *We indeed are a folk who deem not being killed a disgrace, though AA Amir and Salūl may (so) consider it.*
 9 *The love of death brings our term (of life) near to us, but their term hates death, and is therefore prolonged.*
 10 *Not one sayyid of ours ever died a natural death, nor was any slain of ours ever left where he lay unavenged.*

(10) Tawiil, long and short syllables in groups

1	u - -	u - - -	u - -	u - u u	u - u	u - - -	u - u	u - u Ø
2	u - u	u - - -	u - -	u - u -	u - u	u - - -	u - u	u - u Ø
3	u - u	u - - -	u - -	u - u -	u - u	u - - -	u - u	u - u Ø
4	u - -	u - - -	u - -	u - u -	u - -	u - - -	u - u	u - u Ø
5	u - -	u - - -	u - -	u - u -	u - -	u - - -	u - u	u - u Ø
6	u - u	u - - -	u - -	u - u u	u - -	u - - -	u - u	u - u Ø
7	u - -	u - - -	u - u	u - u u	u - -	u - - -	u - u	u - u Ø
8	u - u	u - - -	u - -	u - u -	u - -	u - u -	u - u	u - u Ø
9	u - u	u - - -	u - -	u - u -	u - u	u - - -	u - u	u - u Ø
10	u - -	u - - -	u - -	u - u u	u - -	u - - -	u - u	u - u Ø
	LHσ	LHHH	LHσ	LHLσ	LHσ	LHσH	LHL	LHLØ

(11) Comparing:

P k	P kK	P k	P kK	P k	P kK	P k	P kØ
^	^	^	^	^	^	^	^
LHσ	LHσH	LHσ	LHσH	LHσ	LHσH	LHσ	LHσØ

σ = syllable, H or L
 φ = foot, H or LL
 Ø = catalexis (missing position)

(12) Classical Arabic meters, phonological description

Meter	Trad. circle	Traditional Verse feet	Metra	Vadet/Stoetzer corpus freq.
tawiil	I	Pk PkK	LH.σØ LH.σH	35
kaamil	II	LKP	φH.LH	19
waafir	II	PLK	LH.φH	13
basiit	I	kKP kP	σH.LH σØ.LH	12
rajaz, sariice	III	kkP	σσ.LH	5
xafiif	IV	kPK kQK	σL.Hσ σH.Lσ	4
mutaqaarib	V	Pk Pk	LH.σØ LH.σØ	4
munsarih	IV	KkP KkQ	Hσ.LH LH.σH	3
ramal	III	kPK	σL.HH	3
madiid	I	kPK kP	σL.HH σL.HØ	0,5
mujtatt?	IV	kQK kPK	σH.LH σL.HH	0,5
hazaj	III	PKk	LH.Hσ	0
muqtadab*	IV	KkQ KkP	Hσ.HL Hσ.LH	--
mudaarice *	IV	Pkk QKk	LH.σσ HL.Hσ	--
mutadaarik*	V	kP kP	σØ.LH σØ.LH	--

(13) A bird's eye view of the meters (based on examples in Arberry 1964)

Tawiil	LHσ	LHσH	LHσ	LHσH	LHσ	LHσH	LHσ	LHσØ
Kaamil mag	φHLH	φHLH			φHLH	φHLH		
Waafir	LHφH	LHφH	LHσØ		LHφH	LHφH	LHσØ	
Basiit	σHLH	σLH	σHLH	σLH	σHLH	σLH	σHLH	ØHσØ
Rajaz	σσLH	σσLH	σHLØ		σσLH	σσLH	σHLØ	
Sariice	σσLH	σσLH	HLHØ		σσLH	σσLH	ØHHØ	
Xafiif	σLHσ	σHLσ	σLHσ		σLHσ	σHLσ	σLHσ	
Munsarih	HσLH	HσHL	HσLH		HσLH	HσHL	HσLH	
Ramal	σLHH	σLHH	σLHØ		σLHH	σLHH	σLHØ	
Mutaqaarib	LHσ	LHσ	LHσ	LσØ	LHσ	LHσ	LHσ	LHσ
Madiid	σLHH	σLH	σLHØ		σLHH	σLH	σLHØ	
Hazaj	LHHσ	LHHσ			LHHσ	LHHσ		
Mujtatt?	σHLH	σLHH			σHLH	σLHH		
Muqtadab*	HLHL	HLLσ			HLHL	HLLσ		

Usually, tetrameter, hexameter or octameter.

These units are pairs of verse feet (metra), sometimes catalectic (no ternary feet)

Categories are binary (no centerheadedness)

Metrics as phonology

(14) A relation between meter and language is often assumed but seldom made explicit.

prose: syntax, morphology >> prosody
 verse: (some) prosody >> syntax, morphology

(15) Psalm 512 (Svenska psalmboken)

Gud som haver barnen kär
 God who holds the children dear

Se till mig som är liten är (prose: som är liten)
 See to me who little am (who am little)

(16) NOCLASH Stressed syllables are not adjacent.

(17) NOLAPSE-σ Unstressed syllables are not adjacent

(18) V+PRED The verb precedes the predicate adjective

(19) Prose: Gud som haver barnen kär syntax >> prosody

Se till mig som är liten	V+PRED	NOCLASH NOLAPSE
x . x . . x .		
☞ Se till mig som är liten		*
x . x . x . x Se till mig som <u>liten</u> är _____	*!	

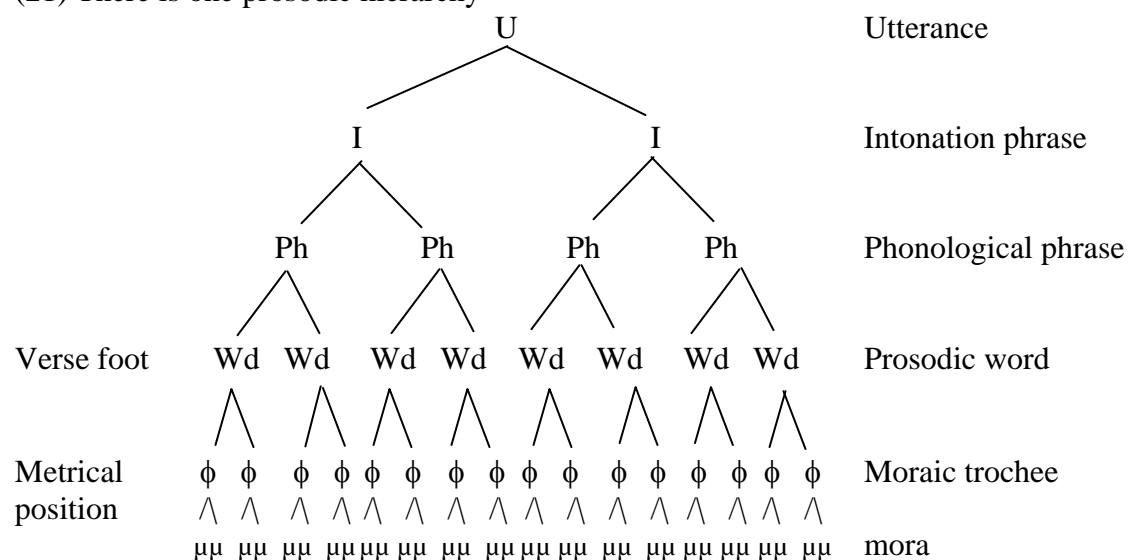
(20) Verse: Gud som haver barnen kär *prosody >> syntax*

Se till mig som är liten	NOCLASH NOLAPSE	V+PRED
X . X . . X . Se till mig som är liten	*!	
X . X . X . X ☞ Se till mig som <u>liten</u> är ____		*

For a discussion of metrically caused word order changes in Milton's verse, cf. Youmans (1989).

If some prosodic constraints are upgraded wrt syntax and morphology, then unmarked properties will show through in the relevant prosodic categories (cf. Prosodic morphology, McCarthy & Prince 1986, 1994).

(21) There is one prosodic hierarchy



(22) Relatively unmarked meter

- Greek: anapestic tetrameter
- Swedish: trochaic tetrameter

(23) The metrical position = a linguistic foot, full (H, LL) or degenerate (L).
Binarity yields 9 possible verse feet in quantitative meter.

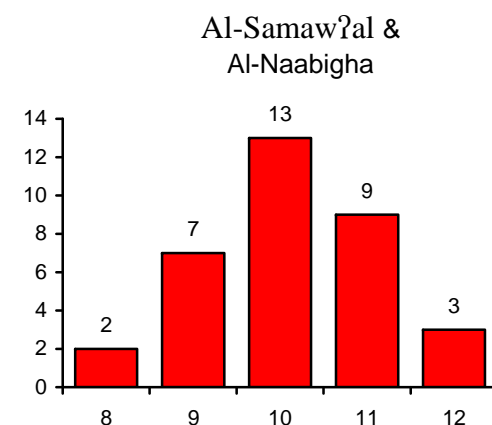
H H	H LL	H L
L H	L LL	L L
LL H	LL LL	LL L

(24) The verse foot = a prosodic word.

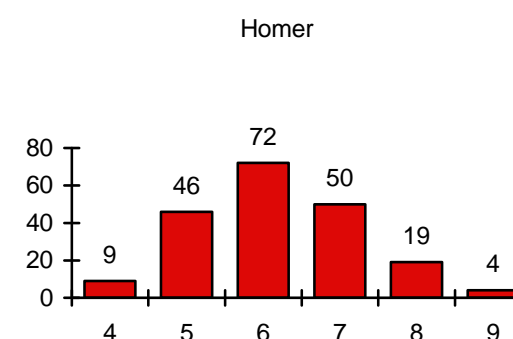
General expectation is that there should be a rough match between the number of prosodic words in the meter, and the actual number of prosodic words used.

Meter	Average # moras/line in 10-line samples	Predicted # words/line	Actual # words/line
Tawiil	42	10	10
Basiit	43	11	11
Kaamil	29	7	7
Waafir	37	9	9

(25) Number of prosodic words per line of tawiil



(26) Number of prosodic words per line of hexameter



Central features of Arabic meter

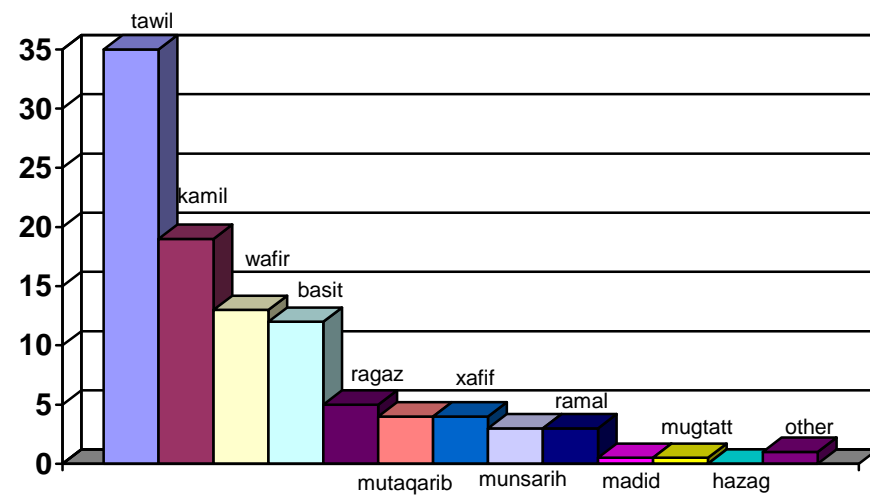
(27) Pattern 1: Arabic metra contain exactly one L (cf. Mester 1994 for Latin)

Arabic meters

- tawiil $\underline{L}H.\sigma \underline{L}H.\sigma H$
- kaamil $\phi H.\underline{L}H$
- waafir $\underline{L}H.\phi H$
- basiit $\sigma H.\underline{L}H \sigma.\underline{L}H$
- rajaz, sariice $\sigma\sigma.\underline{L}H$
- xafiif $\sigma\underline{L}.H\sigma, \sigma H.\underline{L}\sigma$
- munsarih $H\sigma.\underline{L}H, \underline{L}H.\sigma H$
- ramal $\sigma\underline{L}.HH$
- mutaqaarib $\underline{L}H.\sigma$
- madiid $\sigma\underline{L}.HH \sigma\underline{L}.H$
- hazaj $\underline{L}H.H\sigma$
- ?mujtatt $\sigma H.\underline{L}H, \sigma\underline{L}.HH$
- *mudaarice $\underline{L}H.\sigma\sigma, H\underline{L}.H\sigma$
- *muqtadab $H\sigma.H\underline{L}, H\sigma.\underline{L}H$
- *mutadārik $\sigma\emptyset.\underline{L}H, \sigma\emptyset.\underline{L}H$

The unifying feature of this tradition is the presence of exactly one L position, rather than P/LH or Q/HL.

(28) Frequencies



(29) Pattern 2: Prosodic words (verse feet) should end in H

	--H	--σ	--L	--φ	--LL
tawiil	LH.σH				
kaamil	φH.LH				
waafir	LH.φH				
basiit	σH.LH				

rajaz, sariice		σσ.LH			
xafiif		σH.Lσ	σL.Hσ		
munsarih	LH.σH	Hσ.LH			
ramal			σL.HH		
mutaqaarib	LH.σ	or L.Hσ			
madiid			σL.HH		
hazaj		LH.Hσ			
mujtatt?	σH.LH		σL.HH		
mudaarice*		LH.σσ	Hσ.Hσ		
muqtadab*		Hσ.LH	Hσ.HL		
mutadārik*	σ.LH		or σL.H		

(30) Pattern 3: Phonological phrases (metra) should end in H

	-----H	-----σ	-----L	---φ	---LL	Mirror image
tawiil	LH.σH					basiit
kaamil	φH.LH					waafir
waafir	LH.φH					kaamil
basiit	σH.LH					tawiil
rajaz, sariice	σσ.LH					*LH.σσ
munsarih	Hσ.LH					hazaj
	LH.σH					basiit
ramal	σL.HH					*HH.σL
madiid	σL.HH					*HH.σL
mujtatt?	σH.LH					tawiil
	σL.HH					*HH.σL
mutadārik*	σ.LH					mutaqaarib
mutaqaarib		LH.σ				basiit
xafiif		σL.Hσ				*Hσ.σL
		σH.Lσ				*Lσ.σH
hazaj		LH.Hσ				muqtadab*
mudaarice*		LH.σσ				rajaz, sariice
		HL.Hσ				muqtadab*
muqtadab*	Hσ.LH		Hσ.HL			hazaj, mudaarice*

Alternatively: PrWds, PhPh shouldn't end in {σ, L, φ, LL}

Note the absence of dactyls in Arabic (Hφ)

Rhythmic properties

(31) Top four in four corpora (%)

	Vadet I	Vadet II	Stoetzer	Bauer
tawiil	50	21	35	39
kaamil	17	17	20	11
waafir	14	10	14	14
basiit	11	13	13	11

(33) Rhythmic properties

Meter	Metron	NO LAPSE-WD	NO CLASH-WD	NO LAPSE-PH	NO CLASH-PH
tawiil	LH.σH		(*)	(*)	(*)
basiit	σH.LH		(*)	*	
kaamil	φH.LH		(*)	*	
waafir	LH.φH		(*)		*

All other meters have occasional violations of NO LAPSE-WD.

Rhythmic properties are responsible for the strong bias against trochees and the complete absence of dactyls in Arabic.

(34)

Verse foot	NO LAPSE-WD	NO CLASH-WD
LH		
σH		(*)
φH		(*)
Hσ	(*)	(*)
HL	*	
HH		*
Hφ		*

(35) Stress system of Classical Arabic (Hayes 1995)

Stress last H, otherwise initial L (final mora extrametricality)

We don't know anything about secondary stresses (Gordon 2004)

Conclusion

The extant Arabic meters can be understood as cut from the same cloth (one L/metron)

The space of possible meters can be reduced on the basis of wellformedness (final H in PrWd and PhPh) and rhythm (avoid lapse and clash).

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