## Designing the morphological types of the major parts of speech in Arabic

Below is the morphological types design for noun, Verb and adjectives in Arabic language based on a grammar textbook (Ryding, 2014). Also, the table below compares between the design that are based on the grammar textbook and the features that appears in the PUD. Differences are shown in red color.

POS	Deigned Feature	Values	Feature Type	Features in PUD
Verb	Gender	Masculine Feminine	Inflectional	Masc: 644 Fem: 1063
	Number	Singular Dual Plural	Inflectional	Sing: 1634 Dual: 21 Plur: 127
	Person	First Second Third	Inherent	1: 6 2: 0 3: 6
	Tense	Present Past Future	Inherent	Pres: 769 Past: 942 Not found in pud
	Voice	Active Passive	Inherent	Act: 1606 Pass: 175
	Aspect	Imperfect Perfect	Inherent	Imp: 886 Perf: 894
	Mood	Indicative Subjunctive Jussive Imperative	Inflectional	Ind: 722 Sub: 111 Jus: 50 Imp: 1
				Case=Acc: 1 <sup>(b)</sup> Case=Nom: 1 <sup>(b)</sup> Definite=Ind: 1 <sup>(b)</sup>
Noun	Gender	Masculine Feminine	Inherent & Inflectional	Masc: 3693 Fem: 1800
	Number	Singular Dual Plural	Inherent & Inflectional	Sing: 3987 Dual: 73 Plur: 1390
	Case	Nominative Genitive Accusative	Inflectional	Nom: 883 Gen: 3832 Acc: 728
	Definiteness:	Definite Indefinite	Inherent	Def: 4293 Ind: 1236
	Humanness	Human non-human	Inherent	Animacy: Hum: 584 Animacy: Nhum: 4774 Verbform=Part: 22 <sup>(a)</sup>
				Features from verb class <sup>(c)</sup>

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Adjectives	Gender	Masculine	Inflectional	Masc: 923
		Feminine		Fem: 1017
	Number	Singular	Inflectional	Sing: 1867
		Dual		Dual: 14
		Plural		Plur: 62
	Case	Nominative	Inflectional	Nom: 414
		Genitive		Gen: 1230
		Accusative		Acc: 370
	Definiteness:	Definite	Inflectional	Def: 1255
		Indefinite		Ind: 764
	Comparison	Positive	Inherent	Not found in pud
		Comparative		
		Superlative		
				Verbform=Part : 119 <sup>(a)</sup>
				Features from verb class <sup>(c)</sup>

a. A feature called "Verbform" which has a value of "Part" is founded for some nouns and adjectives. These nouns and adjectives —which are marked with "Verbform=Part"— are the "Passive Participle" and "Active Participles". They act as verbs as they make their agent in the nominative case.

The participles themselves are not verbs, meaning that they can be definite and indefinite, and they do not have Tense, Aspect, and Mood, but they have active or passive voice.

These nouns and adjectives have an XPOS of "VBN". The PUD shows the following features:

- Feature that are from nouns and adjectives:
  - Case
  - Definite
  - Gender
  - Number

- Feature that is from verbs:
  - Voice=Pass
- VerbForm=Part
- b. There are two participles that have POS of "VERB". They have the same features that are described in (a) except for the" VerbForm" feature. It is not clear to me why these two particular participles are tagged to be a VERB. In traditional grammar, the active and passive participles are treated as nouns or adjectives according to their syntactic rules— but they act like verbs as discussed in part a.
- c. Some verbs are found to have POS value of "NOUN" or "ADJ", which is strange for me. These verbs have XPOS of "VBC," and the documentation does not show what is meant by VBC. The documentation stated that gerunds and infinitives could be marked as VERB or NOUN depending on the language. The same concept applies for participles as they can be characterized as ADJ or VERB according to the language. It is not clear for me why there are some verbs tagged as nouns or adjectives. These words are verbs, and they are neither gerunds nor infinitives nor participles. The feature for these verbs is the same as standard verbs, as shown in the above table, except for the Mood. The absence of the Mood feature is strange for me because, as far as I know, all verbs should have the Mood features.

## Works Cited

Ryding, K. C. (2014). Arabic inflectional morphology. In K. C. Ryding, *Arabic: A Linguistic Introduction* (pp. 89-106). Cambridge: Cambridge University Press. doi:10.1017/CBO9781139151016.009