Optimality-theoretic approaches to the geminated verbs of Arabic, that is, verbs stems with doubled consonants, e.g., |samam|, retain McCarthy’s (1979) insight that these verb stems are derived from a biliteral root, e.g., \( \sqrt{sm} \). Gafos (1998), for example, proposes that consonant doubling is the result of reduplication. In this paper, I propose that a biliteral root for these stems cannot be maintained in an Optimality-theoretic analysis. Following traditional Arabic grammarians, I propose that the root is the triliteral \( \sqrt{sm} \). This proposal forces a reconsideration of the generalizations McCarthy’s biliteral analysis explained, namely, the absence of roots with initial doubling (e.g., \( \sqrt{ssm} \)) and the role of the OCP in the grammar. The analysis here crucially relies upon constraint evaluation over completely inflected verb paradigms. This is necessary because inflectional suffixes condition stem alternations in ways that cannot be accounted for serially. The ungrammaticality of initial doubling is due to the fact that no potential paradigm of this root satisfies the OCP.

The main problem with the reduplication analysis of geminated verbs is that it fails to maintain a contrast between geminated verbs and glide-medial weak verbs, e.g., |qa:l| ‘to call’. The reduplication analysis requires a disyllabic template to compel reduplication. However, the disyllabic template is violable, as is evident in the weak verb stem |qa:l|. The constraint that compels glide deletion must dominate the disyllabic template and since the template dominates reduplicative faithfulness, this predicts that the optimal candidate for a weak root should be |qalal|. Weak verbs and geminated verbs, in this analysis, should neutralize. Furthermore, there is no motivation for consonant doubling in the imperfective, e.g., |vmdl| \( \rightarrow \) [tamudna] ‘stretch (2fem.pl)’, because the verb stem is disyllabic. The reduplication analysis can work in the imperfective in a serial account of imperfectives, but this, as will be shown, is unnecessary in Optimality Theory.

The geminated verb stem, |samam|, and the weak stem, |qa:l|, are the result of the same constraint ranking, which ensures that the stem is some expansion of the iambic foot. The contrast between these stems is maintained in their underlying representations: \( \sqrt{ssm} \) versus \( \sqrt{qwl} \). Since only surface forms are constrained, there is no OCP violation in the lexicon.

Given Prince & Smolensky’s Richness of the Base, other potential inputs, such as initial doubling (\( \sqrt{ssm} \)) and a biliteral root (\( \sqrt{sm} \)), are possible. It is argued here that these roots would never be posited for a given verb stem, due to lexicon optimization, or these roots are neutralized by absolute ungrammaticality. An initially doubled root (\( \sqrt{ssm} \)) never surfaces because the constraint ranking is best-satisfied by a null parse. The crucial interaction involves the OCP and M-Parse, which assigns a morphological parse. Following Rose (2000), the OCP is violated by identical consonants separated by a vowel, i.e., CiV Ci. Note that violations of the OCP occur in geminated verbs when the verb is followed by a consonant-initial suffix, e.g., |samamta|, but the OCP violation with a vowel-initial suffix, e.g., |samama|, is not optimal. The distribution of OCP violations in Arabic is accounted for by considering OCP violations in different contexts. Crucially the OCP applies to identical consonants in adjacent onsets. Furthermore, the OCP is evaluated over fully inflected paradigms. For a \( \sqrt{ssm} \) root, there is no potential paradigm that satisfies the OCP/Onset because a stem with a consonant-initial suffix violates this constraint in all cases. The null parse is optimal.

\[
\begin{align*}
(a) & \quad sa.sa.ma. \quad sa.sam.ta. \quad \ast \\
(b) & \quad sas.ma. \quad sa.sam.ta. \quad \ast \\
(c) & \rightarrow \quad <sasama> \quad <samamta> \quad \ast
\end{align*}
\]
The root ṣmm, on the other hand, has the potential paradigm \{[ṣamma], [ṣamamta]\} in which there is no violation of OCP-Onset. In this case, the null parse is not optimal.

Turning to a potential biliteral root, e.g., ṣm, it would surface as [ṣa:ma]. This is identical to a weak root, e.g., ṣwl -> [qa:la]. Therefore, a biliteral root would never be assumed for the output [ṣa:ma].

A number of other issues are explored here as well, for example, initially doubled roots cannot have an optimal stem in the imperfective. In this case, the root neutralizes with a weak root. Also, the consequences of evaluating the OCP over verb paradigms are discussed.