## Kasra position relative to shadda

Note that everything said here about kasra also applies to kasratan.

## Introduction

The *shadda* is drawn above the consonant it modifies, and the *kasra* is normally drawn below the consonant it follows. When both *shadda* and *kasra* follow a consonant, there is a difference in traditions about where the *kasra* is drawn: in some traditions, including Sindhi, the *kasra* remains below the consonant. In other traditions, including Arabic, the *kasra* is drawn above the consonant but below the *shadda*.

## **UTR53** implications

Unicode Technical Report #53 (UTR53) does not address the raised *kasra* convention. As such it doesn't tell us what to do if there are other "above marks" on the base. But we can make some observations:

- 1. With a UTR53 implementation, in the absence of CGJ, the *kasra* will immediately follow the *shadda* (since we won't also have *damma* or *fatha*)
- 2. With CGJ, or in DirectWrite/Uniscribe, the results are unpredictable: the *kasra* could precede the *shadda* and there could be multiple marks between the two
- 3. If there is a kasra out beyond a CGJ, there are several possible interpretations we could make:
  - 1. The CGJ prevents the raised kasra
  - 2. The CGJ prevents the ligation (to allow *shadda* and *kasra* to be colored differently) but *kasra* remains raised (and just under the *shadda*)
  - 3. The CGJ has no impact (we go ahead and ligate shadda+kasra (or kasra+shadda) (This is the solution SIL has gone with in their fonts)
- 4. But an interpretation we cannot make is
  - 1. The *kasra* should -- because of the inside-out rendering assumed by UTR53 -- somehow be rendered above the *shadda*. (This cannot be correct since it would then appear to be a *fatha*)

## Language preferences

Languages known to use raised shadda+kasra ligature: Arabic, Northern Kurdish (kmr), Kyrgyz (kir).

Languages known to leave the *kasra* lowered in the context of *shadda*: Rohingya (rhg), Sindhi (snd), Urdu (urd), Wolof (wol), and all Ajami use.

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