Proposal for Bindi before Bihari in Gurmukhi

Manvir Singh
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Introduction

This document requests two changes to the Gurmukhi script in Unicode. These changes are:

1. Adding support for use of GURMUKHI SIGN BINDI and GURMUKHI TIPPI before GURMUKHI VOWEL SIGN II (ex: ੲੀਂ and ੲੀਁ)

2. Conversion of Vowel base + Dependent vowel signs to the appropriate Independent vowel (ex: ੲ + ਿ◌ = ਇ). Especially needed to support proposed change #1.
   Note: This may already be covered by unicode, but I haven't found any documentation or implementation, which is why it being included

1. Support for Bindi and Tippi before Bihari

Note: this issue has been brought up in L2/05-088 Section A2, where it was mentioned that further research is needed.

The foremost and primary use of Gurmukhi is for Sri Guru Granth Sahib (SGGS), the holiest scripture of the Sikhs. The first use of Gurmukhi fonts was for the purpose of digitalizing SGGS and other Sikh scriptures.

There is a need to move away from these Gurbani fonts and towards Unicode, but a few things stand in the way of that. One of those things is that SGGS contains the use of both Bindi and Tippi before Bihari, as opposed to their usually position after the Bihari (which is the way it shows up most in SGGS).

Proposed changes:

The current implementation of ਕ + ◌ੀ + ◌ਂ should continue to show up as ਕੀਂ

However, ਕ + ◌ਂ + ◌ੀ should show up as ਕੀਂ

Similarly ਕ + ◌ਁ + ◌ੀ should show up as ਕੀਁ

ਬਿਛੁਰਾ ਤਹ ਥਿਰੁ ਲਹੈ ॥੪੪॥ ਬਾਵਨ ਅਖਰ ਜੋਰੇ ਆਨਿ ॥ ਸਕਿਆ ਨ ਅਖਰੁ ਏਕੁ ਪਛਾਨਿ ॥ ਸਤ ਕਾ ਸਬਦੁ ਕਬੀਰਾ ਕਹੈ ॥ ਪੰਡਿਤ ਹੋਇ ਸੁ ਅਨਭੈ ਰਹੈ ॥ ਪੰਡਿਤ ਲੋਗਹ ਕਉ ਬਿਉਹਾਰ ॥ ਗਿਆਨਵੰਤ ਕਉ ਤਤੁ ਬੀਚਾਰ ॥ ਜਾ ਕੈ ਜੀਅ ਜੈਸੀ ਬੁਧਿ ਹੋਈ ॥ ਕਹਿ ਕਬੀਰ ਜਾਨੈਗਾ ਸੋਈ ॥੪੫॥

ੴ ਸਤਿਗੁਰ ਪ੍ਰਸਾਦਿ ॥ ਰਾਗੁ ਗਉੜੀ ਥਿਤੀਂ ਕਬੀਰ ਜੀ ਕੀਂ ॥ ਸਲੋਕੁ ॥ ਪੰਦ੍ਰਹ ਥਿਤੀ ਸਾਤ ਵਾਰ ॥ ਕਹਿ ਕਬੀਰ ਉਰਵਾਰ ਨ ਪਾਰ ॥ ਸਾਧਿਕ ਸਿਧ ਲਖੈ ਜਉ ਭੇਉ ॥ ਆਪੇ ਕਰਤਾ ਆਪੇ ਦੇਉ ॥੧॥ ਥਿਤੀ ॥ ਅੰਮਾਵਸ ਮਹਿ ਆਸ ਨਿਵਾਰਹੁ ॥ ਅੰਤਰਜਾਮੀ ਰਾਮੁ ਸਮਾਰਹੁ ॥ ਜੀਵਤ ਪਾਵਹੁ ਮੋਖ ਦੁਆਰ ॥ ਅਨਭਉ ਸਬਦੁ ਤਤੁ ਨਿਜੁ

Here are some references of how these show up in Sri Guru Granth Sahib (Taken from http://sgpc.net/downloads/, SGPC being the organization that prints SGGS) More references can be shared if needed.

2. Vowel base + dependent vowel sign convert to independent vowels

Given that placing a Bindi before a Bihari leads to the possibility of ੲੀਂ and ੲੀ (the former of which is shown in the one of the examples), there needs to be a way for this to be done without over complicating things. As mentioned in Action 106-A27 in response to L2/06-030, "that nasal sign placement in Gurmuhki should not be handled with variation selectors". Part 1 of this proposal would fix that issue by simplifying it to: ੲ + $\dot{}$ + ੀ to get ੲੀਂ.

This is problematic since ੲ + ੀ doesn't necessarily convert to ੲੀ (at least not from what I've seen in documentation or implementation, besides it being brought up in Proposal L2/05-088). Because of this I propose that vowel bases and their respective dependent vowel signs convert to their respective independent vowels. Here are the needed conversions:

ਅ	+	ਾ	≡	ਆ
ੲ	+	ਿ	≡	ਇ
ੲ	+	ੀ	≡	ਈ
ੳ	+	ੁ	≡	ਉ
ੳ	+	ੂ	≡	ਊ
ੲ	+	ੇ	≡	ਏ
ਅ	+	ੈ	≡	ਐ
ੳ	+	ੋ	≡	ਓ

ਅ   + $\overset{\circ}{\circ}$ ≡   ਅੈਂ

The other added bonus for this would be that typing unicode using a phonetic keyboard would result in easier typing for users since they wouldn't need to have an alternate key for just the independent vowel. Instead, the user can just naturally use the vowel base and dependent vowel signs (a lot like how they would with fonts).

This could also be useful for other Indic languages as well. ie: Devanagari उ + $\overset{\circ}{\circ}$ ≡ ऊ

Summary

Support for Bindi showing up before a Bihari is needed to properly encode important scriptures written in Gurmukhi. Because of this change, there is also a need for conversion of vowel bases joined with dependent vowel signs to independent vowels. That conversion would also be useful in general for user experience.