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## Devanagari Typeface Inspired by Gender Equality

Srishti Mitra, National Institute of Design, Ahmedabad, India, [srishti\\_mitra@nid.edu](mailto:srishti_mitra@nid.edu)

**Abstract:** The aim of the project was to design a Devanagari typeface inspired by the Gender Equality Movement. A survey showed that people tend to associate Devanagari fonts with gender. The results reflected that the characteristics typically assigned to gender- such as males being associated with strength and stability, and females with gentleness and delicacy- also carried through into typefaces (with thin, high contrast fonts being viewed as feminine, and bold, square fonts being viewed as masculine). Inspired by this, I designed a typeface named 'Rani' ('queen' in Hindi) that combines femininity as well as strength, which was described as 'elegant', 'strong', 'royal', 'loud' and 'bold'.

**Key words:** *Devanagari, typeface design, typography, gender, gender equality, feminism.*

### 1. Introduction

Typography has always been a vessel for effective communication. The typeface and font chosen to communicate a message has a profound impact on how the message is perceived. Typefaces can evoke different emotions within the viewer based on their visual properties, eg. weight, contrast etc. This paper explores the relationship between gender and Devanagari typefaces, and also the designing of a Devanagari typeface inspired by the gender equality movement.

#### 1. 1 The Gender Equality Movement

The member states of the United Nations adopted the *2030 Agenda for Sustainable Development* in 2015. It outlined 17 Sustainable Development Goals (SDGs) to tackle pressing social, economic, and environmental problems faced worldwide. One of the goals, SDG#5 is to 'Achieve Gender Equality and Empower All Women and Girls' (United Nations, n.d)

The Gender Equality or Feminist movement stresses on achieving balance between men and women in all spheres of life- in the family, in the workplace, in access to proper healthcare and in access to justice, among other things. The ideological aspect of the movement deals with gender stereotypes, where women are seen as nurturing and family-oriented and men are seen as strong and ambitious. These stereotypes also lead to women being seen as the ‘weaker sex’ leading to violence against women, or being seen as less productive in the workplace, leading to less pay compared to men for the same amount of work. The movement calls for the dismantling of these harmful stereotypes.

## **1. 2 Taking Inspiration from the Gender Equality Movement**

To design a typeface inspired by gender equality, we would have to keep this aspect of breaking the stereotypes in mind. Some aspects of the gender equality movement that could be considered for the typeface design are-

- Equality. The letters would have to look visually balanced.
- Questioning existing norms. This could be explained in any description/introduction to the typeface.
- Breaking conventions. The letterforms would be slightly unexpected or queer, with a unique personality to them.
- Inclusivity- The typeface would represent diverse traits, reflecting how people have complex personalities and many characteristics, rarely falling into distinct societal boxes.

One way to represent a merger/equality between gender binaries, would be to combine visually opposing traits into a single typeface (such as sharp/soft, thin/thick, which would represent how the strict gender binaries in society can be softened). However, this led me to question whether there could be an implicit gender association in those visual traits and whether Devanagari typefaces were stereotyped as well.

## **2. Research**

### **2. 1 Gender and Visuals**

There is an implicit association between shape and gender, which leads to people viewing circles as feminine, and squares as masculine (Stroessner et al., 2020). There are also (subjective) views on the association of Latin typefaces with genders, such as thin, curvy typefaces being perceived as more feminine, and bold, wide typefaces being perceived as more masculine (Johnson, 2012) (Fig. 1). However, this does not guarantee that

Devanagari typefaces can be gendered too. For example, one characteristic in Latin typefaces associated with femininity is ‘curvy’, but the same cannot be said for Devanagari as Devanagari letterforms are more complex and feature abundant curves and loops. The need arose for a survey to find out the general public’s opinions on gender and Devanagari typefaces.

# Feminine

# Masculine

Figure 1. ‘Feminine’ and ‘masculine’ Latin fonts

## 2. Survey

### 2.1 Survey questions and methodology

A simple survey was created for primary research, to collect data on the gender perception of certain Devanagari typefaces. For the survey, responders were shown samples of 20 typefaces and fonts (Fig. 2) one by one, and then asked whether they perceived them as more masculine or feminine (Fig. 3). This survey was taken by 168 respondents from different ages and backgrounds.



Figure 2. Typeface and font samples for the survey



Figure 3. One of the questions from the survey

## 2.2 Survey Results and Analysis

The survey results were obtained and viewed in the form of pie charts (Fig. 4). If there was no correlation between the fonts and their perceived gender, then the pie charts would have displayed a 50:50 split between masculine and feminine by sheer chance. However, from a quick overview of the results, it was evident that most of the fonts showed a clear leaning towards either masculine or feminine. The fonts were classified into two groups, 'Masculine fonts' and 'Feminine fonts' according to this result.

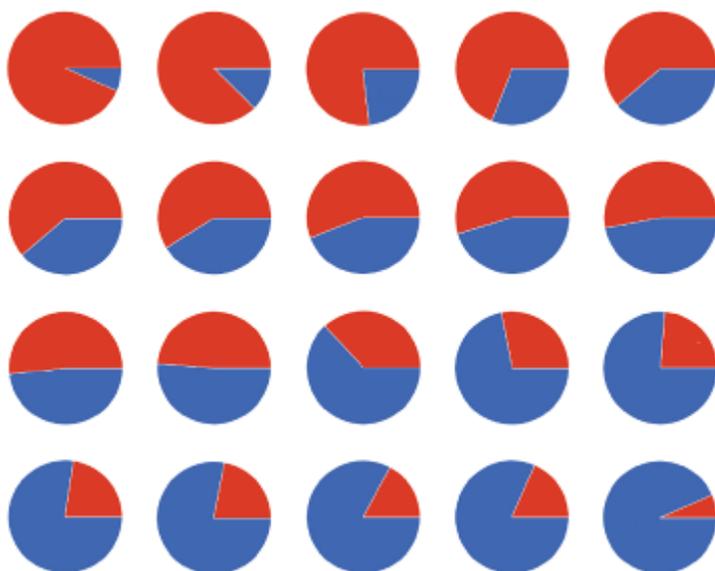


Figure 4. Results of the fonts



Figure 5. Samples of feminine fonts

Feminine fonts (Fig. 5):

- Rozha One Regular
- Baloo Regular
- Vesper Libre Regular
- Poppins Thin
- Poppins Italic
- Yatra One Regular
- Yantramanav Light
- Inknut Antiqua Regular
- Begum Medium

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Figure 6. Samples of masculine fonts

Masculine fonts (Fig. 6):

- Sarpanch Bold
- Teko Semibold
- Poppins Black
- Hind Semibold
- Yantramanav Bold
- Biryani Regular
- Rajdhani Regular
- Rajdhani Bold
- Ek Mukta Bold

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Figure 7. Samples of neutral fonts

Neutral fonts (Fig. 7):

- Hind Light

- Ek Mukta Regular

An interesting result of this grouping was that different fonts of the same typeface were perceived as being of different genders, eg. Poppins Thin and Italic were feminine, but Poppins Black was masculine. To see if there were specific facets of the type anatomy that could have contributed to this perception, each font was charted according to Devanagari Font Terminology (Fig. 8). All charts from one group (Masculine or Feminine) were then overlaid to visually analyse if there were any common facets in these groups (Fig. 9).

<b>Mukta Bold</b>					
<b>Grey Value</b>	Light	Regular	Medium	Semidark	Dark
<b>Width</b>	Condensed	Expanded	Normal		
<b>Contrast</b>	None	Low	Medium	High	
<b>Stress</b>	None	Vertical	Left	Right	
<b>Vertical terminal</b>	Horizontal	Right canted	Left canted	Serif	Rounded
<b>Horizontal terminal</b>	Vertical	Canted	Rounded		
<b>Angular terminal</b>	Horizontal	Vertical	Oblique	Rounded	
<b>Basic hand</b>	Humanist	Geometric	Calligraphic	Rationalist	Display
<b>Curves</b>	Oval	Circular	Square		
<b>Turns</b>	Curvilinear	Angular	Square		
<b>Counters</b>	Open	Closed			
<b>Vertical stems</b>	Parallel	Flared	Concave	Thick to thin	
<b>Inclination</b>	Vertical	Oblique			
<b>Curve to curve</b>	Un-looped	Looped			
<b>Stem to neck</b>	Acute	Angular	Horizontal		
<b>Middle knot</b>	Filled	Closed	Open		
<b>End knot</b>	Filled	Dragged	Open		
<b>Beginning loop</b>	Closed	Open	Filled		
<b>End loop</b>	Closed	Open	Filled		

Figure 8. Anatomy chart of one font

<b>Basic hand</b>					
<b>Grey Value</b>	Light	Regular	Medium	Semidark	Dark
<b>Width</b>	Condensed	Expanded	Normal		
<b>Contrast</b>	None	Low	Medium	High	
<b>Stress</b>	None	Vertical	Left	Right	
<b>Vertical terminal</b>	Horizontal	Right canted	Left canted	Serif	Rounded
<b>Horizontal terminal</b>	Vertical	Canted	Rounded		
<b>Angular terminal</b>	Horizontal	Vertical	Oblique	Rounded	
<b>Basic hand</b>	Humanist	Geometric	Calligraphic	Rationalist	Display
<b>Curves</b>	Oval	Circular	Square		
<b>Turns</b>	Curvilinear	Angular	Square		
<b>Counters</b>	Open	Closed			
<b>Vertical stems</b>	Parallel	Flared	Concave	Thick to thin	
<b>Inclination</b>	Vertical	Oblique			
<b>Curve to curve</b>	Un-looped	Looped			
<b>Stem to neck</b>	Acute	Angular	Horizontal		
<b>Middle knot</b>	Filled	Closed	Open		
<b>End knot</b>	Filled	Dragged	Open		
<b>Beginning loop</b>	Closed	Open	Filled		
<b>End loop</b>	Closed	Open	Filled		

Figure 9. All masculine charts overlaid

<b>Basic hand</b>					
<b>Grey Value</b>	Light	Regular	Medium	Semidark	Dark
<b>Width</b>	Condensed	Expanded	Normal		
<b>Contrast</b>	None	Low	Medium	High	
<b>Stress</b>	None	Vertical	Left	Right	
<b>Vertical terminal</b>	Horizontal	Right canted	Left canted	Serif	Rounded
<b>Horizontal terminal</b>	Vertical	Canted	Rounded		
<b>Angular terminal</b>	Horizontal	Vertical	Oblique	Rounded	
<b>Basic hand</b>	Humanist	Geometric	Calligraphic	Rationalist	Display
<b>Curves</b>	Oval	Circular	Square		
<b>Turns</b>	Curvilinear	Angular	Square		
<b>Counters</b>	Open	Closed			
<b>Vertical stems</b>	Parallel	Flared	Concave	Thick to thin	
<b>Inclination</b>	Vertical	Oblique			
<b>Curve to curve</b>	Un-looped	Looped			
<b>Stem to neck</b>	Acute	Angular	Horizontal		
<b>Middle knot</b>	Filled	Closed	Open		
<b>End knot</b>	Filled	Dragged	Open		
<b>Beginning loop</b>	Closed	Open	Filled		
<b>End loop</b>	Closed	Open	Filled		

Figure 10. All feminine charts overlaid

While this approach showed the common facets within each group quite clearly (such as Grey value: Dark for Masculine and Width: Normal for Feminine) and the degree of their prevalence by the relative darkness of the words, what it failed to show was whether there were any common facets in these two groups that could be discarded as they would have had no effect on the overall perception of these typefaces.

To negate the effect of common facets on the result, the two charts created for Masculine and Feminine fonts were then coloured with two additive complementary colours (here being magenta and green). The two charts were then combined into one, following the rules of additive colours: where the two colours when combined in equal quantities would become white. This led to the common facets between the two groups being lightened on the chart according to their degree of commonality (the more prevalent the facet was in both the groups, the lighter the word became) and brought out the uncommon facets between the groups (Fig. 11).



Figure 11. Visual representation of the addition process

From this chart (Fig. 11) we can isolate the facets associated with masculinity and femininity. These facets have been compiled in a final table (Table 1.) along with the facets that didn't belong to either, labelled as neutral facets. Some of the facets which were either very prevalent in a group, or which tend to have a bigger impact on the overall shape of the letterform have been marked with an asterisk (\*).

Facets	Feminine facets	Masculine facets	Neutral facets
Grey Value	Medium, Regular, Light*	Dark*, Semidark	
Width	Normal	Condensed*, Expanded*	
Contrast	High*, Medium, Low	None*	

<b>Stress</b>	Right	None	Vertical, Left
<b>Vertical terminal</b>	Right canted, Rounded, Serif	Horizontal	Left canted
<b>Horizontal terminal</b>	Canted, Rounded	Vertical	
<b>Angular terminal</b>	Oblique, Rounded	Horizontal, Vertical	
<b>Basic hand</b>	Calligraphic, Display	Geometric, Humanist	Rational
<b>Curves</b>	Oval	Square*	Circular
<b>Turns</b>	Curvilinear*	Square*	Angular
<b>Counters</b>	Closed	Open	
<b>Vertical stems</b>			Parallel, Flared, Concave, Thick to Thin
<b>Inclination</b>	Oblique*		Vertical
<b>Curve to curve joinery</b>	Looped		Unlooped
<b>Stem to neck joinery</b>	Acute, Angular	Horizontal	
<b>Middle knot</b>	Closed, Filled	Open	
<b>End knot</b>	Filled, Open	Dragged	
<b>Beginning loop</b>	Closed	Open	Filled
<b>End loop</b>	Closed	Open	Filled

Table 1. The facets categorized according to their perceived gender

From this table we can see that the facets such as lighter grey value, high contrast, rounded terminals, curves and loops are associated with feminine fonts. Facets such as a darker grey value, square curves and turns are associated with masculine fonts. The facets that represent femininity mirror the characteristics typically associated with femininity in society: gentleness and delicacy. The masculine traits also reflect this: darker, squarer shapes are associated with strength, boldness and stability which are also stereotypically traits associated with masculinity itself. In order to play with these perceptions, I decided to design a typeface that combined masculine as well as feminine facets into one.

### 2.3 Limitations of the Survey and Methodology

Something as abstract as the perception of gender is always subjective. The initial survey did not take into account the biases due to the respondent's own gender, age, familiarity with Devanagari and other personal causes. The typefaces and fonts used in the survey did not include all the facets of Devanagari type, which would have led to the absent facets being wrongly classified as 'neutral'. The analysis of the results also classified the fonts into two rigid groups, thus placing the same importance for fonts which were chosen as a certain gender by just 90% of respondents and those that were chosen by 60% of respondents.

## 3. Typeface Design

### 3.1 Ideation and Exploration

A program was created that randomly generated a set of masculine, feminine and neutral traits (Fig. 12). This program was used as a guide to explore and create a variety of letterforms that combined all these traits into one.

Width:	Normal
Turns:	Curvilinear
Vertical Stems:	Concave
Curves:	Square
Inclination:	Vertical

Figure 12. An example of the program output



The image shows two rows of Devanagari characters. The first row contains 'भभ भ इइ' and the second row contains 'घघघघ'. The characters are rendered in a bold, black, sans-serif style with a slightly irregular, hand-drawn appearance. The 'भ' characters are on the left and the 'इ' characters are on the right. The 'घ' characters are on the left and the 'घ' characters are on the right. The characters are arranged in a grid-like pattern, with two characters of each type in each row.

Figure 13. Exploration of letterforms

The set of letter explorations depicted in Fig. 13 combine a calligraphic hand and canted horizontal terminals (feminine facets according to the survey) with open beginning loops and horizontal vertical terminals (masculine facets). The letters seem to combine the opposing qualities of soft and sharp, with angles and curves and varying stroke widths.



Figure 14. Exploration of letterforms

The set of letters in Fig. 14 combine curvilinear turns and a normal width (feminine facets) with square curves and horizontal vertical terminals (masculine facets). These letters merge right angles and circular strokes to give slightly unexpected letterforms.



Figure 15. Exploration of letterforms

Fig. 15 builds upon the previous exploration, adding high contrast to the letterforms. This makes them look delicate, but the right angles add a sense of stability in spite of the contrast. The letterforms look leafy and organic, yet geometric. As in Fig. 14, they also combine sharp angles and circular strokes.

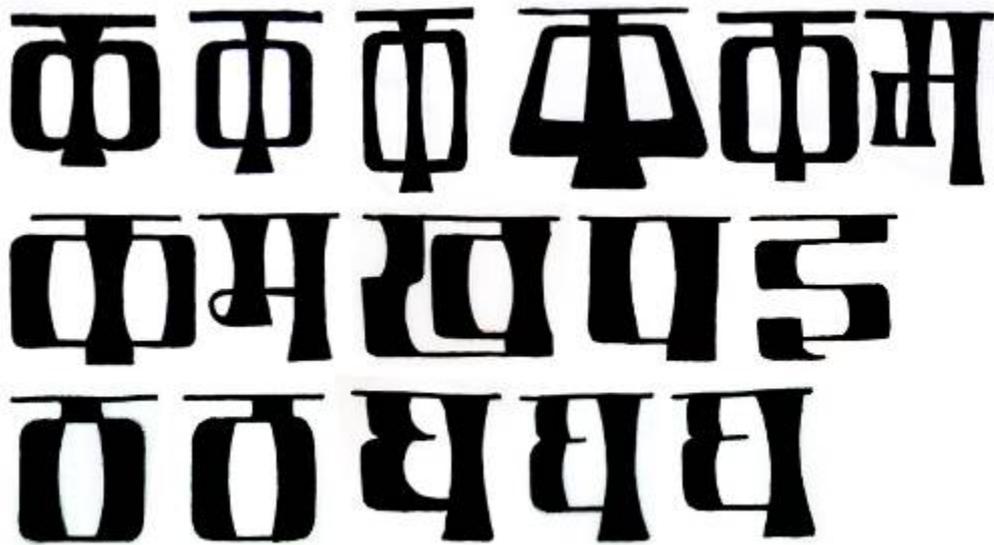


Figure 16. Exploration of letterforms

Fig. 16 shows the next exploration, which combines the feminine facets of closed middle knots and closed counters, and the masculine facets of square curves and horizontal stem to neck joineries. The letters also have the combination of high contrast and squarish letters like in Fig. 15. The concave stems evoke curviness and femininity while the wide, dark letters depict strength.



Figure 17. Exploration of letterforms

The next set of letters depicted in Fig. 17 combines looped curve to curve joineries and closed counters (feminine) with dragged end knots and a condensed width (masculine).

The letterforms are condensed and thus appear to have a darker grey value, which makes them look stronger. However, the loops make the letters seem playful at the same time.



Figure 18. Exploration of letterforms

Fig. 18 shows letterforms that combine the feminine facets of an oblique inclination and curvilinear turns, with the masculine facets of open counters and a condensed width. As in the previous one, the condensed letterforms make the letters look strong and stable, but the oblique inclination lends some dynamism to them.

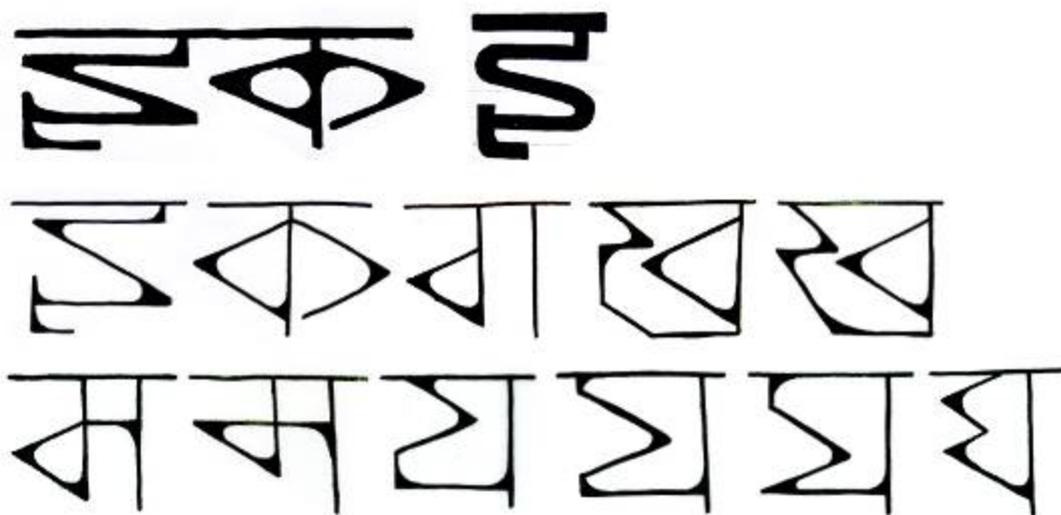


Figure 19. Exploration of letterforms

Fig. 19 shows some interesting letterforms that combine the feminine facets of a light grey value and closed middle knots with the masculine facets of an expanded width and a

geometric hand. The angles of the letters are filled in to give a rounded, softer finish to what would otherwise be sharp letterforms.

Out of all these explorations, the one depicted in Fig. 16 was chosen to be taken forward, as those letterforms were the most visually interesting and had the strongest sense of opposing traits merging. The idea of a typeface depicting femininity along with strength, as the letterforms in the exploration did, also best reflected the ideals of the gender equality movement.

### 3.2 Designing the Letterforms

Since the letterforms were roughly based on rectangles and arcs, a grid was used to design them consistently. Some initial rules were set up to make the typeface look cohesive:

- All right angled corners must have rounded edges.
- The typeface must have vertical stress (except for the loops, which would be hairline)
- All thick strokes must have at least one concave side.
- Must follow the following proportions (Fig. 20)

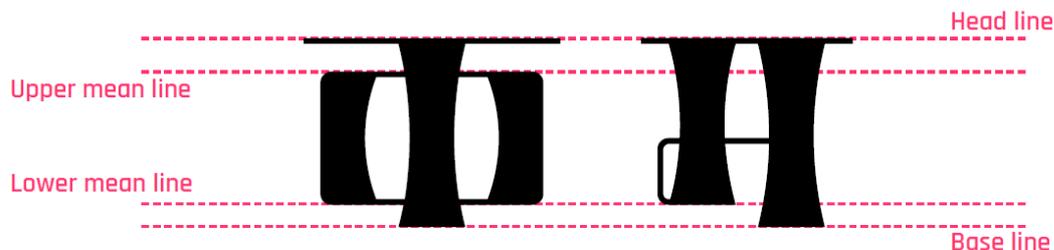


Figure 20. The proportions for the typeface

Once the rules were set, the root letters were designed (Fig. 21), from which the rest of the letterforms, mastras and ligatures were derived (Fig. 22, Fig. 23). The typeface is a work in progress.

31 5 6 N 10 11  
12 13 14 15

Figure 21. Root letters

16 17 18 19 20  
21 22 23 24 25

Figure 22. Derived letterforms (root letters in pink)



♦ रानी ♦

Figure 25. The name of the typeface in Devanagari



Figure 26. The typeface in use on a magazine cover



Figure 27. The typeface in use in a visual identity

## 5. Conclusion

### 5.1 Gender in Devanagari Typefaces

The survey undertaken in this project shows that there is an association of gender with certain facets of Devanagari typefaces and this can affect how they are perceived. Acknowledging that typefaces can be gendered will enable us to be more sensitive towards the potential of typefaces and their usage. The implications of fonts being gendered can help either to target a specifically male or female audience, or allow us to question why these stereotypes exist and try to break these associations entirely.

### 5.2 Future of the Typeface

In its current stage, the typeface is suitable for single words, phrases and large sizes, however it loses some legibility over longer sentences and medium-to-small sizes. The future scope of this typeface is in refining the letterforms to make them more legible and designing Latin glyphs for the typeface. There is also the possibility of creating an entire family of typefaces inspired by gender equality, each representing the merger of different opposing characteristics that reflect the wide range of traits found in humans.

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