

# Designing of a geometric devanagari typeface in multiple weights

## VISUAL COMMUNICATION PROJECT 3

Guide

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By

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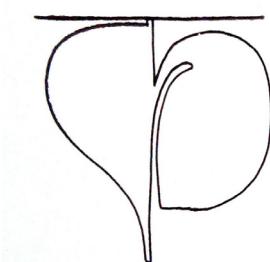
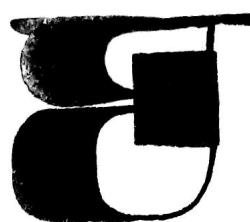
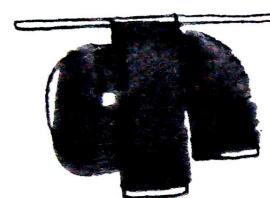
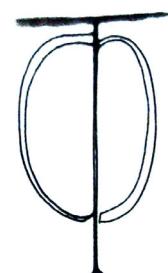
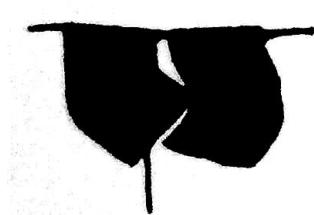
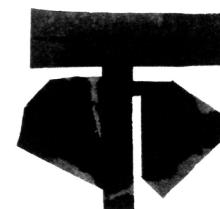
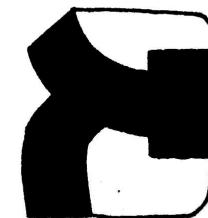
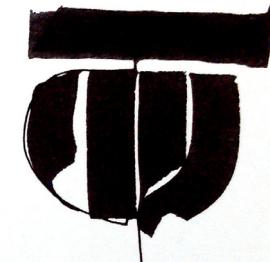
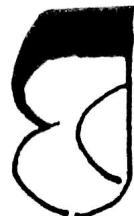
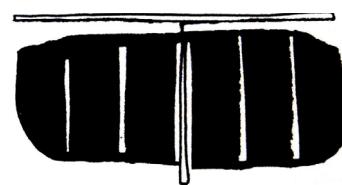
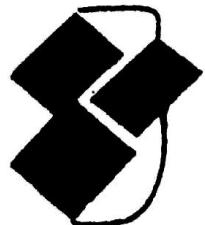
136250007

MDes batch 2013-15



Industrial Design Centre  
Indian Institute of Bombay





## Geometric Devanagari

### Type Design

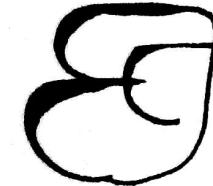
### Project 3

Snehal Patil | 136250007

Project Guide

Prof. Sreekumar

Dr. Girish Dalvi





## **Acacia**

A Devanagari Geometric  
Typeface

Acacia is the Project 3 of  
Snehal Patil for the Masters  
in Design Post Graduate  
course in IDC, IITB, 2015



Approval Sheet

This visual design project entitled "Devanagari Type Design" by Snehal Patil, 136250007 is approved in partial fulfillment of the requirements for Master of Design Degree in Visual Communication.

Project Guide:

Chair person:



Internal Examiner:



External Examiner:



Date: 28th April 2015

Place: Mumbai



### Declaration

I declare that this written submission represents my ideas in my own words and where others ideas or words have been included. I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/ data/ fact/ source in my submission.

I understand that any violation of the above will because for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been needed.

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Snehal Patil  
Roll No.:136250007  
Date: 5th February, 2015

Industrial Design Centre,  
Indian Institute of Technology, Bombay

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# ABSTRACT

## Design of a Devanagari Typeface in Multiple Weights

Needs of graphic design changes over a period of time, Typefaces are designers tool to create strong visuals for flawless communication. There is a growing need for fonts in multiple weights, which will cater to the requirements of different platforms. Typefaces are generally classified according to the wide usage of text and display. One of the objectives of this project is to bridge the gap between text and display typefaces. So that the requirement can be met with only one font family.

A brief study of devanagari letter structure helped in form exploration. Various calligraphic tools gave direction in creating potential designs. A set of styles of the letterforms were selected to set a guideline of the characteristics., which will suit the need of the project. One of such exploration was of geometric rounded letterforms. It

proved to be a distinct and an interesting approach which could possibly meet the purpose of the project.

Taking the geometric approach forward, sketches were made of the letters in various weights. Samples of stroke widths for various weights were developed. Digital versions of three weights of the font were created simultaneously. This helped in testing the letter proportions and widths across weights. Matras and letter combinations were coded by using OpenType.

A working typeface in three weights i.e. light, medium and bold was created. This typeface is legible in text, in small point sizes and is attractive in display sizes. The name of this geometric devanagari typeface is '**Acacia**'.



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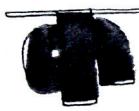
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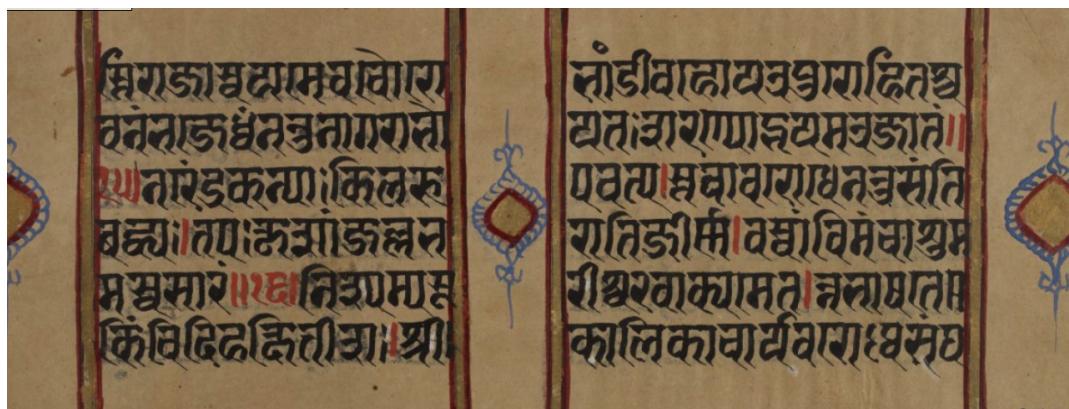
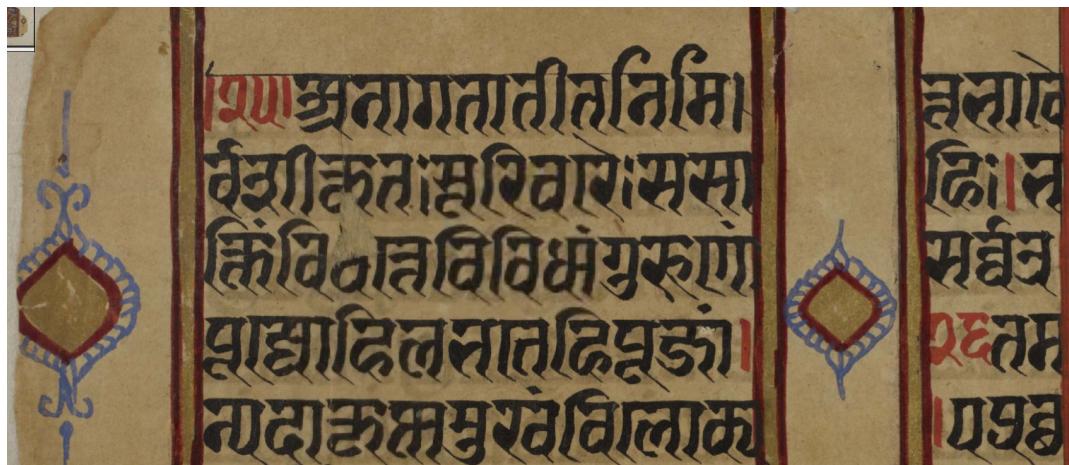
# INTRODUCTION

Devanagari script is familiar to majority of people in India. Living in Mumbai since childhood one is exposed to devanagari very often- Textbooks in schools, magazines, newspapers, banners, hoardings, advertisements packaging, shop signs, prayer books, manuscripts its everywhere. The variety one comes across is remarkable. As a design student specialised in calligraphy, typography and lettering collecting samples of good typography is a routine. Further analysing such samples and observing them is a great learning.

Lets study different forms which expose us to the world of devanagari letterforms.

 Pre Research

# वतेसाङ्कंपनतागगता



## MANUSCRIPTS

Shreenand Bapat from Bhandarkar Oriental Research Institute, Manuscripts Department, described manuscripts very beautifully in one of the Aksharsanvad Bimonthly session, *A manuscript is called 'Hastalikhit' in Marathi whereas in Hindi it is called 'Pandulipi' where 'panu' means old and 'lipi' means 'script'. The term 'manuscript' clearly indicates that it is a document written by hand, but what is important to understand here is that any handwritten document cannot be called a 'manuscript'.*

Indian Manuscripts are very old reference to Indian Graphic design. The study of illustrations, layout, grid, binding, paper, ink etc can be very useful to any graphic designer.

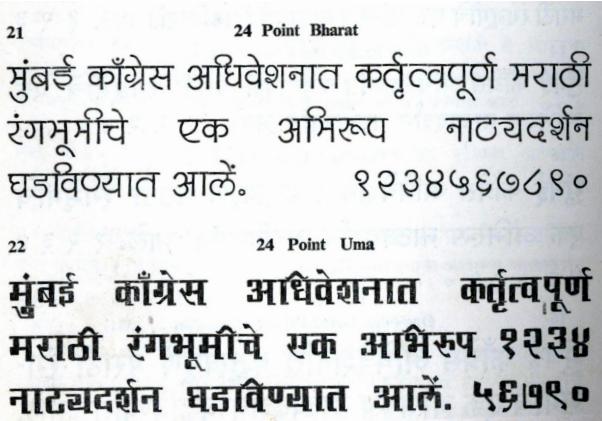
The reference shown besides are 'Fragments of Jain Manuscripts' found in western India, the date of creation is unknown. Medium is opaque watercolour on paper the tool used is a reed pen ('boru' traditional tool used for writing). The text is written in red and black. Without word spacing. The letterforms are squarish in shape. The text is quite dark. The knots are heavy. Ascenders and descenders are very small. Studying the manuscripts increases the understanding between the tool and the letter structures.

## LETTERPRESS ON OLD TEXTBOOKS

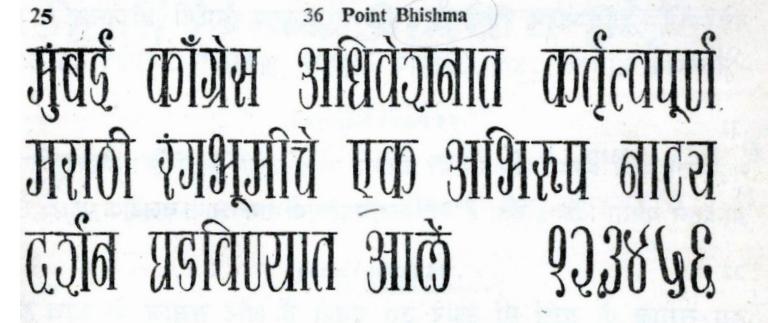
We can see many stylistic variations in old text books and prayer books which were printed in letterpress technology. This technology had few constraints which later evolved, the typefaces cut during that time were beautiful handlettered designs and calligraphic styles. There were few known type foundries such as Nirnaya Sagar Press, Prakash Type Foundry, Gujarati Type Foundry, Saraswati Press, Mouj Type foundry, Experto Engravers etc which contributed to the development of devanagri letterpress printing. These typefaces were used in publications.

Displayed are few glimpses of the different styles available.

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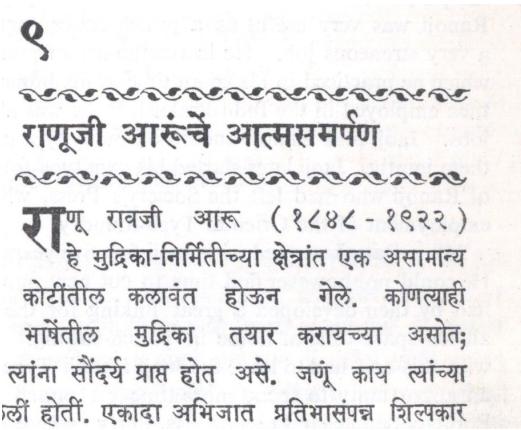
Gujrati type foundry 36 Point Bharat, 24 Point Uma



Gujrati type foundry 36 Point Bhishma

हरिःॐ दुषेत्त्वा। दुषेत्त्वोर्ज्ञेत्त्वां द्वायवस्थदेवोवः सविताप्पा  
पैयतुश्श्रेष्ठतमायुकम्मैण्डाप्पायद्धवमग्धन्याऽइन्द्रायभा

Above, Nirnaya Sagar Primer two



Nirnaya Sagar Devanagari Typography, 14pt. Balbodh Type.

**बडोदावत्सल**—हे पूर्वी अगर्दीं गरीब रिथर्टील असतांही आपल्या उद्दिचाप-  
ल्यांमें, दृढुर्योगांमें आणि मनमिळाऊ समावांमें फार भोव्या योग्यतेस चढले....यांच्या  
आंगीं व्यवहारज्ञान व विचारशक्ति इतकी उत्तम होती कीं, ते जें जें काम हार्ती घेत, ते तें  
फार सावधगिरीने व काळजीपूर्वक करीत असत. ....हातालालच्या लोकांस वागळून घे-  
ण्याची यांची रीत वर्णनीय होती. ....दुष्ट काळांने हजारांचे प्रियरल जे जावजी शेत लांस  
जगांतून नाहीसे केले.

**चिकित्सक**—यांनी कैवळ गरीब रिथर्टीत वाहून आपल्या उद्योग, दृढनिश्चय व  
चातुर्थबलावर लक्ष्याशीशांमध्ये आपली गणना करविली; मुंबई इलाल्यांतीलच नव्हे, परंतु  
आज हिंदुस्थानांतील मुद्रणकलेस खाचा जरित दरेस आणिले. ....शांतता, लोकप्रियता,  
गंभीरपणा, सचोटी या गुणांविषयीं मिं० जावजींनी आपले जगाकून वर्णन करून घेतले  
आहे. जावजींच्या मरणाने आज मुंबई इलाल्यांतील छापलानेवालांचे भूषणच गेले झूण-  
प्यास हरकत नाहीं.

**बांबे ग्याझेट**—स्थांस थोड्या दिवसांमागे मुंबईसरकारांने जरिस आफू थिं पीस हा  
मानाचा किताब दिला. त्याचा उपमोग वेण्यास व तस्तंबंधाने लोकांस उपयोगी पडण्यास ते  
फार दिवस राहिले नाहीत. जावजी मेल्यांमुळे मुद्रणकलेच्या घंघांतला एक भोठा खंडा व  
खटपटी मनुष्य नाहीसा शाळा आहे. स्थांसी अनेक उपयुक्त संस्कृत, हिंदुस्थानी, मराठी  
आणि गुजराठी शंख प्रसिद्ध केले आहेत. स्थांसा टैप पाडण्याचा आणि छापण्याचा कार-  
खाना फार भोठा आहे.

**सुधारक**—आमच्या इकडे छापलान्यांस जी जरित दशा आली आहे, ती बन्याच  
अंशाने यांच्या मेहनतीचे फळ होय. यांच्या आयुष्यक्रमांत विशेष लक्षांत ठेवण्यासारखी  
गोष्ट मुळी रुणजे लांची मूळची स्थिती फार मरीवीची असून केवळ आपल्या उद्यो-  
गाच्या व नेवीच्या व्यावर ते इतक्या प्रसिद्धीत आले. आजपैसत यांच्या साक्षाने जे अ-  
नेक संस्कृत मराठी शंखांचे प्रकाशन झाले आहे, ते मनांत आणित यांच्या हातून विद्या-  
वृद्धीच्या प्रसारास किती मदत झाली आहे हे कोणासही दिसून येणारे आहे.

**अरुणोदय**—तीन रुप्ये दरमहा घेऊन दगडावर टैप घांशीत वसणारे ल्या वेळचे ते  
पोर पुढे अशा योग्यतेस येईल, असे कोणाच्या रवमांतही नजहते....हे बुद्धीने तिस्त  
होते म्हणून छापलान्याच्या संवंधाच्या हरएक कामांत ते इतके प्रवीण झाले होते कीं या  
इलाल्यांतल्या छापलान्यांचे मूळ पुरुष जे टामस ग्राहाम ल्यांगीही पुढे पुढे मिं० जावजींच्या  
पुढे हात टेकले होते. ....ल्यांची जरी इतकी भरभराट झाली तरी आरभीच्या आपल्या वरो-

A page from the biography of Jaoji Dadaji, set in 8 pt. degree face cut by Aru.

## BOOK FACES ISSUED BY THE NIRNAYA SAGAR TYPE FOUNDRY

## 8 Point Marathi

विज्ञान शाप की वरदान : तसे पाहिले तर हा प्रश्नच होऊ शकत नाही. एके काळीं स्वभावतःच गति-  
शौल असलेला हा मानवप्राणी निसर्गशी कसेतरी जमबून घेऊन आपला जगत होता. त्यातच समाधान  
मुंबई कॅंग्रेस अधिवेशनांत कर्तृत्वपूर्ण मराठी रंगभूमीचे एक अभिरूप नाव्यदर्शन घडविण्यांत आले. ०००

## 2 8 Point Marathi black

भीतीच्या भावनेने स्वरक्षणासाठी उपाय शोधण्याला माणसाला प्रवृत्त केले. “स्वरक्षणाची ही  
गरज” विज्ञानशास्त्राची आदिमाता आहे. .... मुंबई कॅंग्रेस अधिवेशनांत कर्तृत्वपूर्ण  
मराठी रंगभूमीचे एक अभिरूप नाव्यदर्शन घडविण्यांत आले. १२३४५६७८ ०००

## 3 Long Primer (338)

निर्णयसागर हे महाराष्ट्रमुद्रणकलेचे, महाराष्ट्राब्द्याच्यांचे एक भूषण आहे. हे भूषणावह स्थान  
कायम राखण्याचे कायं शेठ तुकाराम जावजी शांनी फारच उक्कूष रीतीने पार पाढले. मुंबई  
कॅंग्रेस अधिवेशनात कर्तृत्वपूर्ण मराठी रंगभूमीचे एक अभिरूप नाव्यदर्शन घडविण्यांत आले.

## 4 Pica No. 1 (334)

दाईप तयार करण्याच्या कामांत मुंबईस जावजी दादाजी व गणपत कृष्णजी या  
दोघांनीच नंब मिळविले. (केसरी—१२-४-९२) मुंबई..... कॅंग्रेस अधिवेशनांत  
कर्तृत्वपूर्ण मराठी रंगभूमीचे एक अभिरूप नाव्यदर्शन घडविण्यांत आले. ०००

## 5 Pica Black No. 1 (332)

गौतमवुद्ध हा विहार प्रांताचा राजा शुद्धोदेन ह्याचा पक्कुलता एक पुत्र  
होता. .... मुंबई कॅंग्रेस अधिवेशनांत कर्तृत्वपूर्ण मराठी रंगभूमीचे  
एक अभिरूप नाव्यदर्शन घडविण्यांत आले. १२३४५६ ०००

## 6 Pica Black No. 2 (333)

निर्णयसागर छापलान्याचे मालक कैलासवासी जावजी दादाजी हे आपल्या  
उद्योगाने व श्रमाने भरभराटीस आले होते. .... मुंबई कॅंग्रेस अधिवेशनांत  
कर्तृत्वपूर्ण मराठी रंगभूमीचे एक अभिरूप नाव्यदर्शन घडविण्यांत आले. ०००

## 7 Pica Italic (384)

मुंबई कॅंग्रेस अधिवेशनांत कर्तृत्वपूर्ण मराठी रंगभूमीचे एक अभिरूप नाव्यदर्शन  
घडविण्यांत आले. १२३४५६७८९० ०००

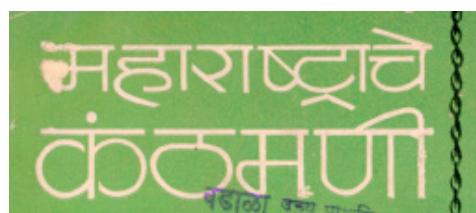
Book faces issued by the Nirnaya Sagar Type Foundry

## HANDPAINTED SHOP SIGNS

Hand painted signs found in India are eccentric and wholly indigenous. These signages and advertisements convey information pictorially and alphabetically. The letters themselves are decorated with flowers, arabesques, triple shadows, double dashes and animal art. Clearly seen in fruit juice shops in north India, local shop signs and anything hand painted anywhere on the streets. These signs are now becoming redundant by digital printing. Cheap, quick fixes like flex boards and vinyl prints have almost standardized signboard design.

6





## LETTERING STYLES ON BOOK COVER

Book covers demand a visual represtation which Should connect the readers to the book immediately. They should be attractive and interactive. Exclusivity is very essential. Hand lettered book titles make a instant mark of personalization. There is a unlimited resource of such handlettered styles which are restricted only to a particular word or few words. Few styles are very letter specific so the designs are hardly converted into full fledged characterset and into fonts.

## MOVIE POSTER LETTERING

Film industry in India started from the film Raja Harishchandra (1913) by Dadasaheb Phalke, the first silent film. Since then film posters are used as a part of publicity. A medium to advertise the movies in various parts of the country. Thus there was adaptation of movie titles in regional scripts. Less availability of fonts and limited technology could be a reason for random exploration of styles in lettering. The titling of movie posters go through gradual changes in form, colour, texture, composition, typeface design and expressive typography. Even when the adaptation is across many scripts the look and the feel of the lettering remains same considering diversity in the physical grammar of each script. The use of semiotics and lettering techniques have been replicated as it is from one script to the other. This trend in movie poster lettering is continued till date even when we are technologically much more advanced.



Dilwale Dulhania Le Jayenge

दिल्लूबालोदुल्हनिया  
लोहारेहे



## NEWSPAPERS



Newspapers in India are in multiple scripts and languages. Mastheads of all these newspapers reflects the aesthetic of a particular region and a particular community. There is enormous range of styles seen in the mastheads. Lettering, calligraphy, typefaces turned into logotypes. Number of typefaces in well designed newspapers is generally not more than one or two. Study of fonts used in a particular newspaper helps in understanding the legibility of a typeface used at various pointsizes, printed at such a large scale. Important is to observe the layouts and use of different typefaces to break up the page and separate out each little paragraph-bite, to grab the reader's attention. These tricks help in the newspapers multi-column blocks of text



Based on this study of devanagari letterforms. We can see that this script is widely used and is an integral part of our daily communication and visual culture. Till now we looked at the customised approaches of the script which were produced for a particular purpose for eg; book titles, Movie poster titles, manuscripts etc.



Apart from all the custom made approaches, There are devanagari text typefaces. Which are widely used in publications, advertisements, signages etc.

These fonts are used for the headers, sub heads and text blocks. A font should be compatible to be used in various pointsizes and weights to create a proper contrast and create hierarchy of information.

Do we have such fonts which are compatible with todays technology and needs of the users? A typeface which can be used for bi-lingual applications and stand out with its Latin counterpart.

 Approach

The approach to this project is to create a Devanagari typeface which will be contemporary. A typeface which can suffice for text as well as display usage. Multiple weights which meets all the typographic needs.

“You’re always a child of your time,  
and you cannot step out of that.”

~ Wim Crouwel  
Dutch Graphic Designer,  
Typographer,  
Type Designer

We can never predict what sort of design will be followed or what sort of aesthetics will rule the design community. Thus its impossible to foretell the demands of the industry, but we can create design which is meaningful and solves the right purpose for which it is made.

We can experiment with new technology and create original designs. Designs which will cross the time boundaries and will be used by generations to come. Because a typeface is an artwork which is constantly used to create different artworks. Its a product which helps in the creation of design useful for the mass. A means to deliver a message.

How effectively the message is delivered and how easily it is generated are two key factors of a Typeface.

# Process and methodology

Prof. Santosh Kshirsagar who teaches typography, calligraphy and lettering in J.J. School of Applied Art. Has chalked out one method of **Letter exploration**. This method helps one to understand the letter structures, play with the form and work in constraints.

## Step 1

This method requires selection of one letter from the following letters:

क, छ, य, ह, भ

There is a thought behind selecting these letters. This bunch of letters have the fundamental structure on which most of the devanagari letters are based.

## Step 2

After selecting a particular letter from step 1, now start drawing that particular letter with the help of various tools on small pieces of white paper.

## Step 3

Make sure that no letter design is repeated. come up with 10 different possibilities with all the tools.

## Step 4

Look at all the letters drawn at one glance and select four or five styles for further exploration.

## Step 5

Selected style should be then incorporated to rest of the characters. This step is very crucial because it requires adaptation one style to other letters. It is tricky for the letters with different grammar to adapt similar style treatment.

Further you can see glimpses of this process, used in understanding the letterforms and deriving a uniform style throughout the letters.

The tool dictates the ‘shape’ of a letterform.  
Its spirit and essences come from the spine  
of the character.

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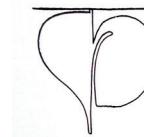
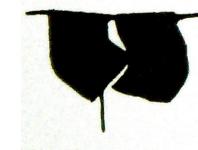
Hofstader’s comments on Donald  
Knuth’s article  
“The Concept of Metafont”



There can be nothing quite interesting in calligraphy like getting hands on experience of using various tools. Each tool gives a different effect and immense possibilities to try out different structures of letterforms.

Here we tried to experiment with as many tools as possible. To be formal as well as experimental. Though there is no constraints to the experiment but understanding the fundamental structure of the letters so well that even after experimenting with the skeleton of the letter it is still recognisable to what it is.

# Explorations with different tools & letters



This exercise is not to create examples for type design. But to understand the soul of the characters. Till what limit can you experiment with the strokes is the whole motive of this exercise.

Here we can see how thick and thin strokes merge to form a letter. How the spaces are divided to form certain negative and positive space and emerge into a letter.

# Adaptation of styles

According to Dr. Girish Dalvi's thesis अ, इ, ख, भ, द, ध, ष these characters are the most crucial letters as they define features of majority of the letters. Thus the thesis suggests that by designing these letters first the process of Devanagri font design can be simplified. As other letters can be derived from these.

Similarly we have chosen these five letters from the category to experiment with letter structures.

It is very essential to write a combination of letters, while exploring the styles. As we get to know how the spacing between letters interact with each other.

Here is a display of various styles created using multiple tools.





There is one grammar followed within devanagari script but multiple structures in the characterset. It is essential to know the letters so that the adaptation of style within the rest of the letters become easy. This method is important in knowing the importance of knots, loops, curvatures and joineries. It helps in defining a particular methodology for each set of characters.

## EXPLORATION AND ITS EXPANSION

Round sponge tool. Basic structure drawing. Geometric approach.

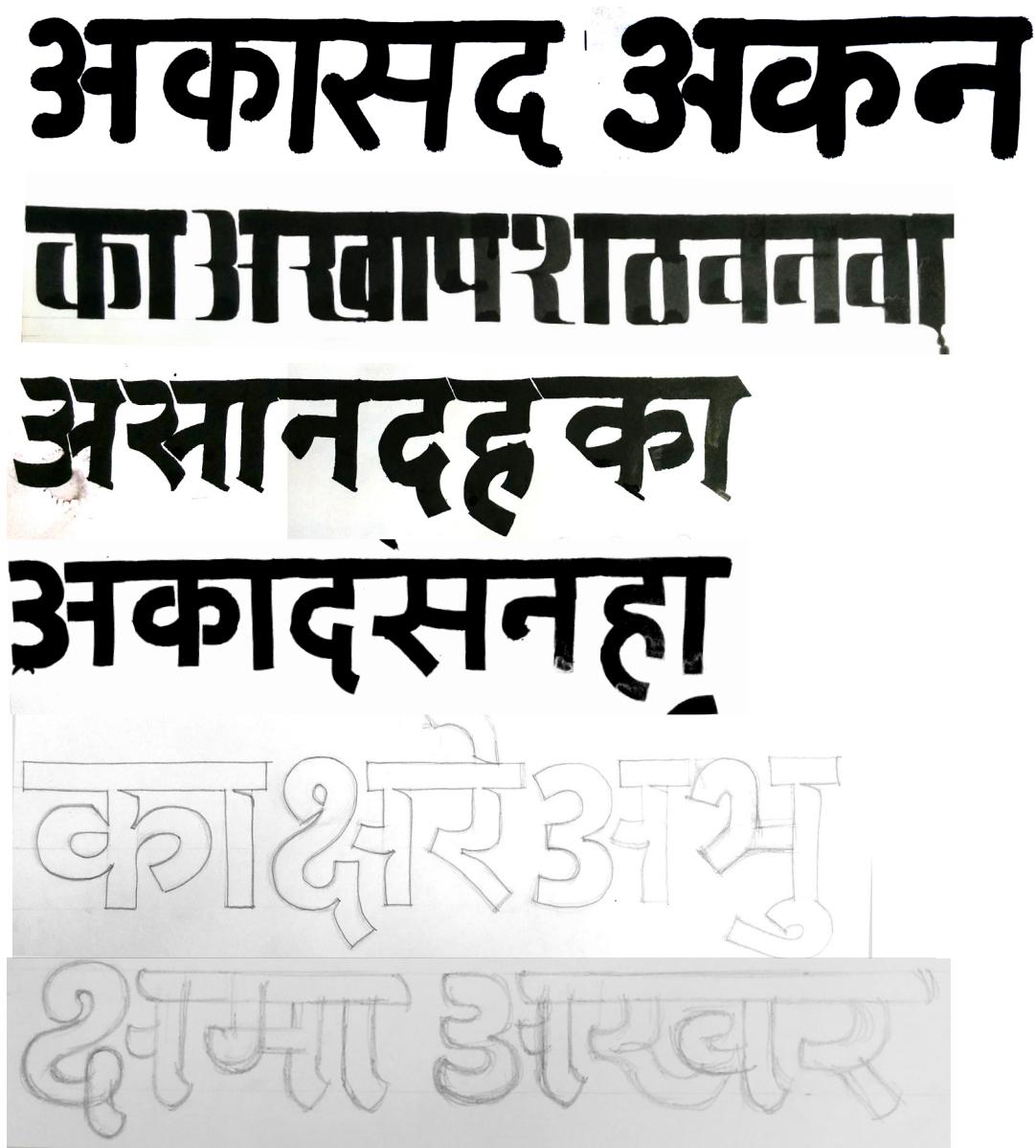
Calligraphic angle tool,  
High contrast. Structure  
exploration.

## Calligraphic angle tool, Experimenting with serifs.

Calligraphic angle tool,  
Used to create mono linear  
strokes. No experiment with  
the structures.

Hand drawn letters with pencil. Using traps as a characteristic feature.

Hand drawn letters with  
pencil. Fat face.



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## ∞ Project Direction

## AIM

The explorations are in various directions. All the styles are not legible. But the whole idea is to come up with as many varied ideas as possible. The key characteristics of all the exploration is originality and coming up with a different style of letters. So that they standout.

As we have already seen that there is a necessity to contribute in the collection of Devanagari typefaces. The necessity can be chalked down to a Type family with multiple styles. Ranging display to various weights for text. A design which is contemporary and new for the times now.

## VARIOUS STYLES



क्रीड़ावान्दी असाध्यात्म



असाध्यात्म

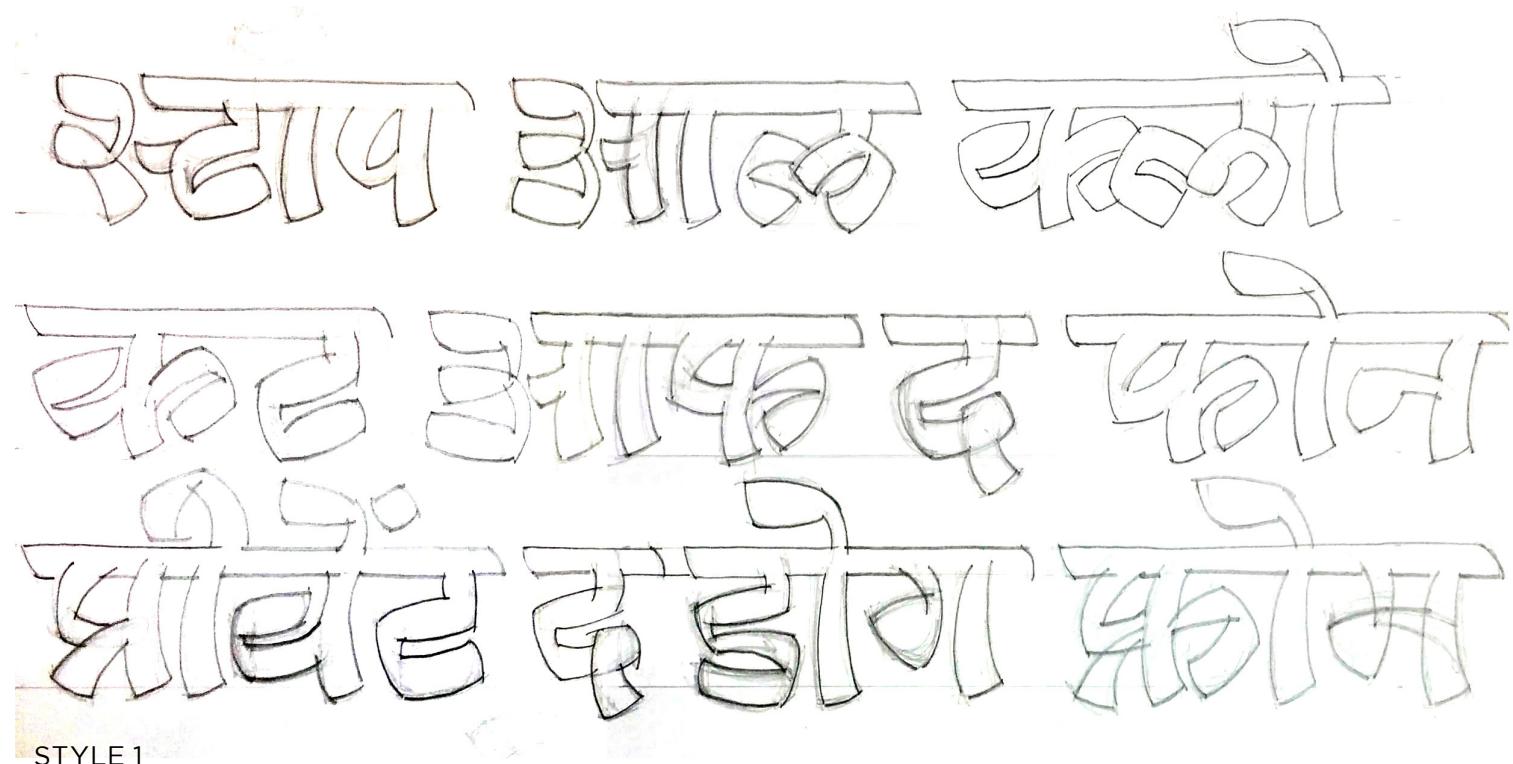


असाध्यात्म



असाध्यात्म

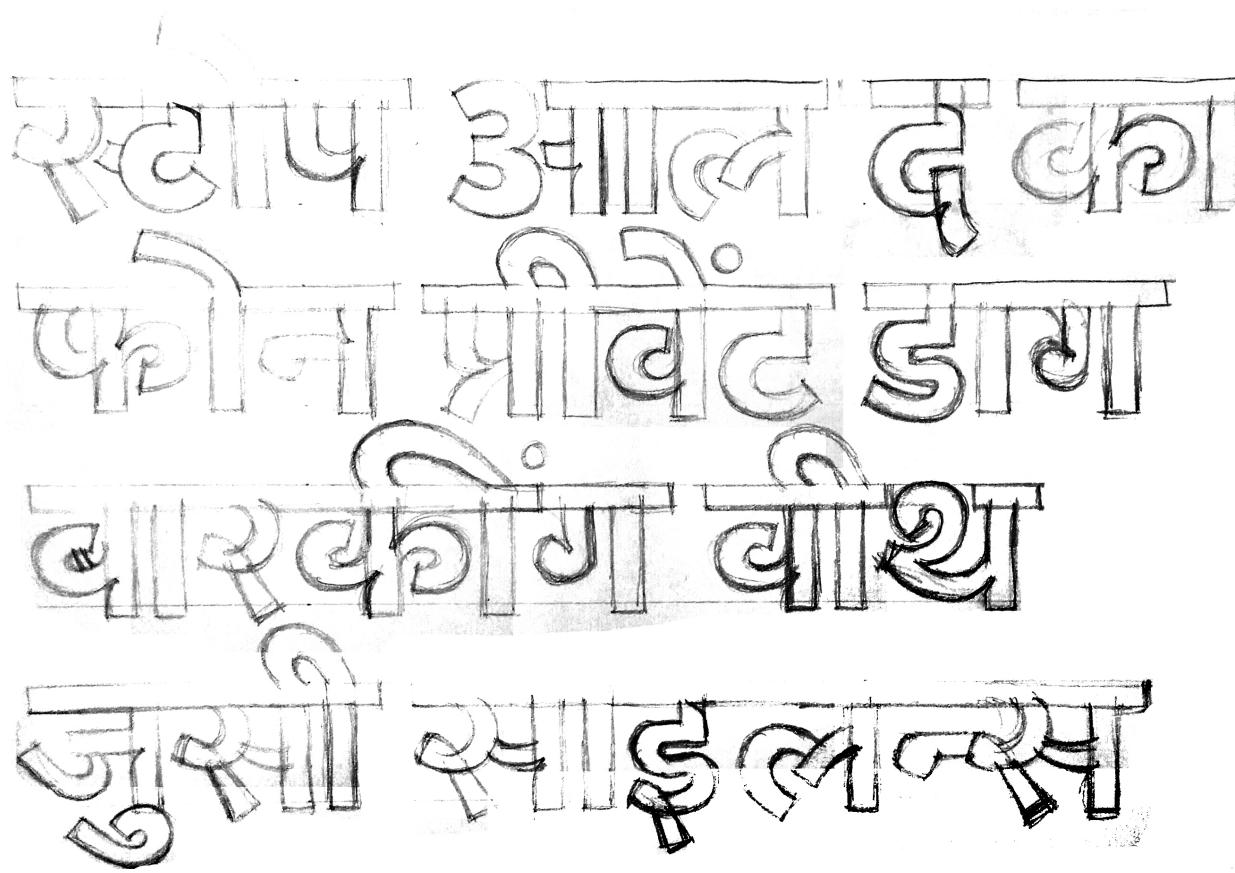
## APPROACHING A STYLE



STYLE 1

This style which we can see above is quite unique. It breaks the formal structures yet it's readable. It is difficult to find any existing style close to this one.

Above is an attempt of drawing all the letters with matras and conjuncts to get a better understanding of the letter formations.



## STYLE 2

This style focuses on the traps formed. Traps work as a characteristic to this style. The style emerges from the purpose. The thick on the spin is laid out in a very different manner though the structure remains pretty formal.

As the exploration is done in Bold weight, thought has been given on scaling and open apertures.

रत्नप आल दु का  
देवीफोन प्रीवेंट  
वार कींग वीरा औ  
दोंग जुरा **अकशम**  
**सप्रकृतहुआ अकशम**

### STYLE 3

Rounded ends are not explored in Devanagari Typefaces culture. Rounded and geometric is a combination which has been explored in latin but not in devanagari. This could be an interesting task to execute.

Geometricity in Devanagari structure is challenging and displayed here is the hairline version of the style. This could act and a Display as well as a text typeface.

“

These three styles are distinct from each other. The aim of our project is to develop a style which can be used at display and text sizes. Considering these three styles; style 3 has the most potential due to its clean and simple approach of adapting the visual treatment for a range of pointsizes as well as readability across sizes.

Style 3 is a rounded geometric approach. Lets have a look at the existing typefaces. This will help us in understanding the need of this particular style.

## DEVANAGARI TYPEFACES

Here are few Traditional devanagari typefaces which are widely used in newspapers and other publications.

About the typefaces.

Weights- Normal and Bold.

Styles- Calligraphic or monolinear based on rationalist approach.

These typefaces don't have contextual alternates. Extra matras which can be used for multiple combinations of conjuncts and wide letters need to be looked for in the glyphset it doesn't appear automatic.

The designs are based on the traditional structure of devanagari letters. The letter structure and form is not much explored.

ज्ञिखृफुद्धी बुद्धभीश् किट्रेन आंग्रै

Surekh by CDAC

ज्ञिखृफुद्धी बुद्धभीश् किट्रेन आंग्रै

Prakash by CDAC

ज्ञिखृफुद्धी बुद्धभीश् किट्रेन आंग्रै

Shridhar by CDAC

ज्ञिखृफुद्धी बुद्धभीश् किट्रेन आंग्रै

Sanskrit 2003 by Omkaranand Ashram revival of Nirnayasagar Press

ज्ञिखृफुद्धी बुद्धभीश् किट्रेन आंग्रै

Yogesh by CDAC

ज्ञिखृफुद्धी बुद्धभीश् किट्रेन आंग्रै

Natraj by CDAC

Ek Devanagari by Dr. Girish Dalvi & Yashodeep Gholap  
Versatile, contemporary, humanist, mono-linear typeface.  
7 weights.

This typeface can be used across various mediums and point sizes.  
The font contain an extensive set of conjuncts and matras and have  
been hand kerned and hinted.

~  
This font has a very neutral look to it. A typeface who can deliver the  
message without indulging into adding anything more or reducing  
the essence of the matter. It lacks playfulness.

# इडली, डोसा, अप्पम, उत्तप्पम, वडा सांबार गाजर का हलवा

पालक पनीर ₹ १६० | चिकन टिक्का ₹ २३० | दाल मखनी

काळी मिरी, पांढरी मिरी, शहाजिर, तमालपत्र, दालचिनी, लवंग, धणे, कढीपत्ता, बडीशेप, चक्रपूल,  
मेथीचे दाणे, कोकम, आमसूल, लसूण, आलं, वेलची, आवळा, काळं मीठ, पुदिना, जायफळ, केशर,  
ओवा, लाल मिरची, हिंग, हळद, रक्तमूळ, अजमोदा, चारोळ्या, नाग केशर, धणे पावडर, कसुरी मेथी

# वरण, भात आणि लोणचे

Artha by Yashodeep Gholap  
Versatile, contemporary, humanist, mono-linear typeface.  
'Artha' is a condensed Devanagari typeface designed for  
economic printing and online newspaper use. In spite of  
having a distinct contemporary look the typeface does not  
draw readers attention to its design. It gives importance to the  
content or the information for which it is used.

~  
The basis of this typeface is traditional devanagari structures.  
It is a refined version of the old typefaces plus it has narrow  
width which is of advantage in placing large quantity of text.



Lehiya by Pradnya Naik

Manuscript inspired calligraphic typeface.

5 weights

Font has compact, squarish look, it is inspired primarily by the calligraphic style of old Jain manuscripts. Essentially meant for book text reading.



A traditional style adapted to make a more contemporary face. Not easily compatible with Latin typefaces.

## संत कबीर के दोहे

५. कबीरा गर्व ना कीजिये,  
कबहूं ना हँसिये कोय, अज ये  
नाव समुद्र में ना जाने क्या होय.

॥ कल करे सो आज कर, आज करे सो अब,  
पत में प्रलय होयेगी बहूरी करोंगे कब ॥

बूरा जो देखन मैं चला, बूरा न मीलिया कोय,  
जो मन देखा आपणा, तो मूळ से बूरा ना कोय.  
॥ पोथी पढ़ पढ़ जग मुआ, पंडीत भयो न कोय, ढाई अक्षर  
प्रेम के, पढ़े तो पंडित होय ॥

Kunkun by ITF

KunKun is a Devanagari handwriting typeface, designed to convey informal and personal messages.

3 weights



This typeface cannot be used for formal text. It is a playful typeface. Limited scope of usage.

आदरणीय माताजी, सादर प्रणाम।

मैं यहाँ कुशलपूर्वक हूँ। आशा है वहाँ भी सब लं पढकर मुझे ज्ञात हुआ कि आप मेरी बहुत चिंत हूँ, मुझे भी घर की बहुत याद आ रही है। आरंभ था, परंतु विद्यालय में इतना काम होता है कि प

यहाँ शिक्षण की अत्यधिक आधुनिक तथा उचि के साथ विज्ञान, कंप्यूटर की प्रयोगशालाएँ अ अच्छे हैं। सफाई का यहाँ बहुत ध्यान दिया जात



Looking at the upcoming work done in devanagari typedesign scene it can be noted that there is very less exploration done in geometric devanagari style. There are various lettering styles which can be taken as reference but hardly any typefaces which can be considered as a substitute for rounded geometric contemporary typeface.

Lets have a look at the process of designing a devanagari geometric typeface.

कृकृकृ

# Brief for the typeface

Rounded Geometric Typeface,  
Original design which manifests clean, bold and simplified  
letter structures.

A typeface which can be readable at lower point sizes in text.  
Also should not lose its charm in display sizes.

5 Weights- Light | Book | Regular | Semi bold | Bold

Glyphset should include Basic characters i.e. vowels,  
consonants, punctuation marks, numerals, half characters,  
basic conjuncts, few dingbats.

OTF coded with spacing and kerning pairs.

# Study of Latin Geometric Typefaces

Geometric sans-serif typefaces are based on geometric shapes. Note the optically circular letter “O” and the simple, single-story construction of the lowercase letter “a”. Geometric sans-serif fonts have a very modern look and feel. Of these four sans-serif categories, geometric fonts tend to be the least useful for body text.



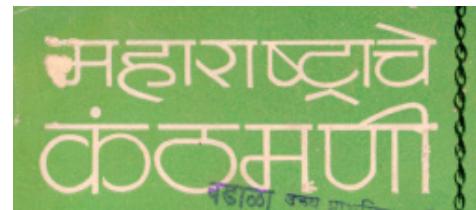
# Study of Devanagari Geometric Lettering



There are few references of geometric lettering in devanagari. The above examples are from 'Chitrakshara' a book by Kamal Shedge. This book is a compilation of letter design for various hindi and marathi plays and movie titles. The example on the side is from a textbook. There are no typefaces based on these designs.

There is a geometric grammar followed throughout the lettering styles. One of the example is rounded geometric. The characters are distinctly open and can be used only for Display purposes.

Taking this study forward lets explore the possibilities of rounded geometric devanagari for text and display.



STYLE 1

Devanagari Geometric typeface  
Rational approach.  
Taking circles very literally.

Open loops  
Open counters  
Circular matras

क्लॅमेंटाइन, बोतो  
आणि सारा पळुन

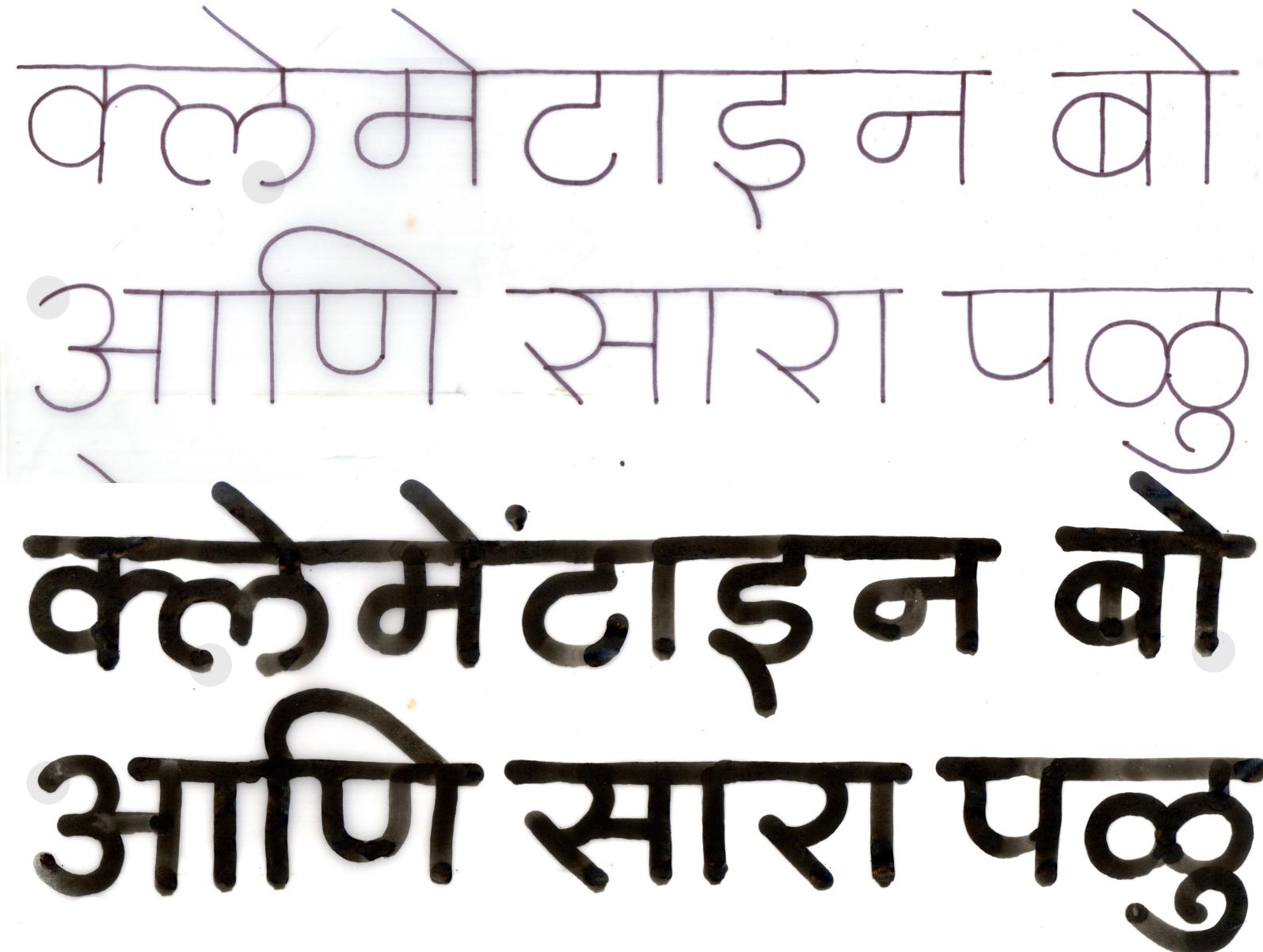
क्लॅमेंटाइन, बोतो  
आणि सारा पळुन

## STYLE 2

Devanagari Geometric typeface  
Humanist approach.  
Taking circles very literally.

Hollow loops  
Closed counters  
Simplified knots

Pointed matras



Handwritten Devanagari text in Style 2. The text is arranged in two rows. The top row contains the sentence: 'कृष्णमेंटाइन बो' (Krishna Menen). The bottom row contains the sentence: 'आपी सारा पाँ' (Aapee Saraa Paang). The characters are drawn with purple ink on a white background. The style features hollow loops, closed counters, and simplified knots, resulting in a geometric and rounded appearance. Pointed matras are used at the end of words. The text is written in a humanist approach, taking circles very literally.

STYLE 3

Devanagari Geometric typeface  
Humanist approach.  
Humanised curcular shapes

Open counters  
Open loops  
Drag knots

Circular matras  
Suggestion of being circular

क्लॅस्टाइल बोते

आणि सारा पळा

क्लॅस्टाइल बोनी

आणि सारा पळा

STYLE 3 BOLD

Devanagari Geometric typeface  
Black weight trial

कलमटाई न लोना  
आणि सारा पठा

3

कलमटाई न लोना  
आणि सारा पठा

3

STYLE 5

Devanagari Geometric typeface  
Humanist approach.  
Handwritten approach

कलेमेंटाइन बोने  
आणि सारा पक्कुन  
नदरलाइला जात  
खवरच छान शाभा

4



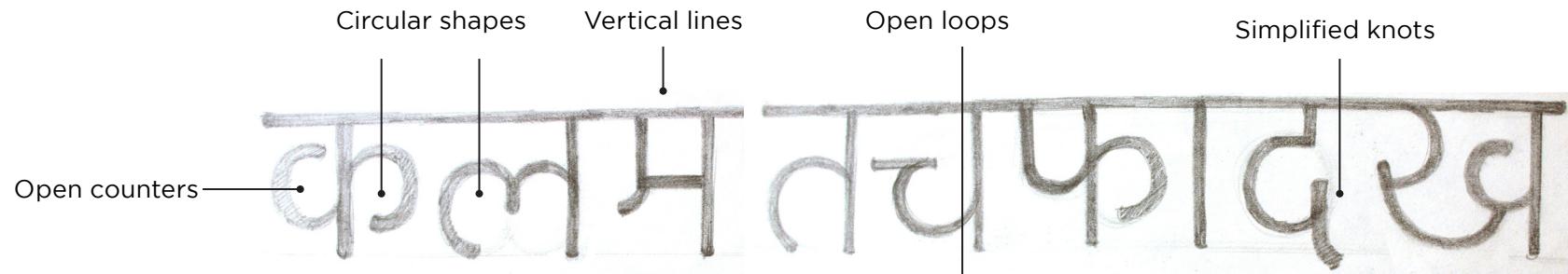
Looking at all the styles created. Style 3 is chosen on the basis of its adaptability in Display as well as Light weights. The knots and humanist approach to the typeface gives a fresh look.

## FINALIZING PRIMITIVES

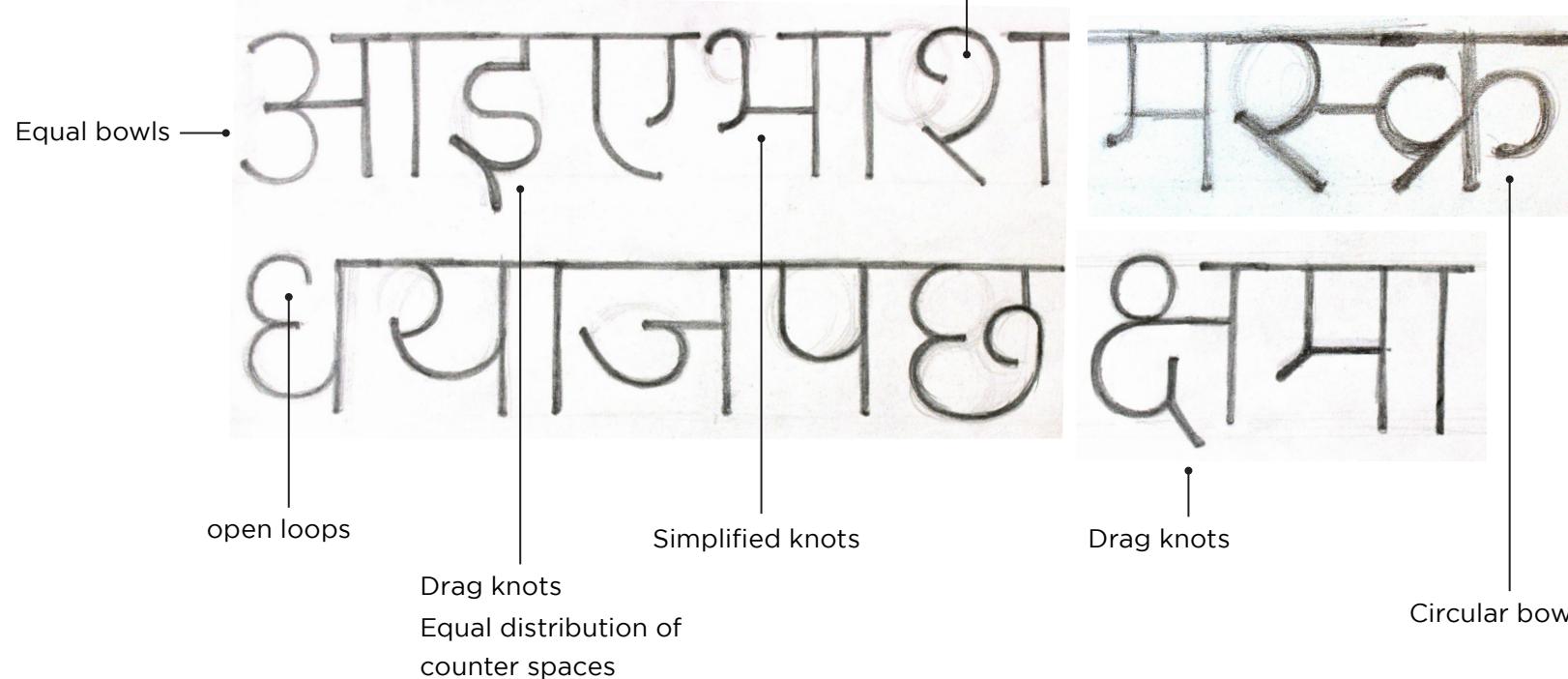
Pencil Lettering Renders

Light weight sketch

Root letters



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# Digitizing the sketches

Geometricity of characters was taken to literal sense while converting the sketch to digital version on illustrator.

But as we can see these characters have width problems and they lose their character because of the restriction of geometricity.

कलोमेटाइन् बोनोबो आणि सारा  
नेदरलैंडला जात आहेत. प्लेन  
सधुत. आकाशात उंच भरारी घेतली.  
खरच फार आनंद झाला छान!!!

# Study of Typefaces

Ek Mukta

UPM 1000 units

Ascender 500 units

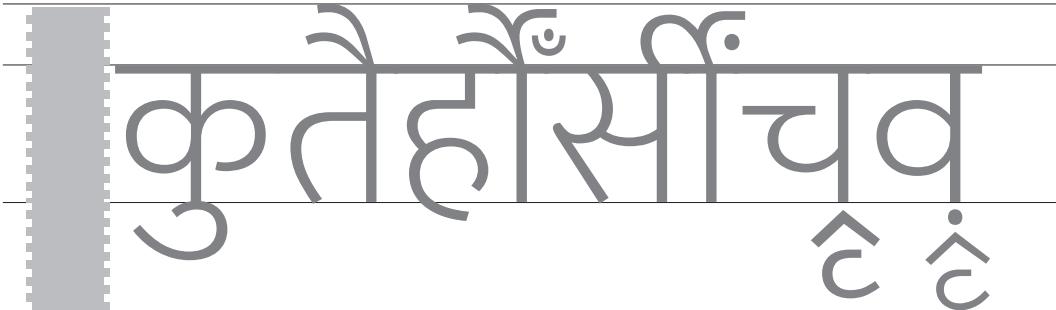
Descender 532 units

Kana height 630 units

Light

Regular

Bold



7 strokes

16.5 strokes

13 strokes

Ek Mukta Light font sample showing the characters 'कृतैर्हासींचव' and 'हं हं' on a ruled background. The font has a thin stroke weight. The first character 'क' has a vertical stroke and a horizontal stroke. The 'ृ' has a vertical stroke and a horizontal stroke. The 'त' has a vertical stroke and a horizontal stroke. The 'ै' has a vertical stroke and a horizontal stroke. The 'र्ह' has a vertical stroke and a horizontal stroke. The 'सी' has a vertical stroke and a horizontal stroke. The 'ं' has a vertical stroke and a horizontal stroke. The 'च' has a vertical stroke and a horizontal stroke. The 'व' has a vertical stroke and a horizontal stroke. The 'हं' has a vertical stroke and a horizontal stroke. The 'हं' has a vertical stroke and a horizontal stroke.



4 strokes

8.5 strokes

6.5 strokes

Ek Mukta Regular font sample showing the characters 'कृतैर्हासींचव' and 'हं हं' on a ruled background. The font has a medium stroke weight. The characters are thicker than in the Light version. The first character 'क' has a vertical stroke and a horizontal stroke. The 'ृ' has a vertical stroke and a horizontal stroke. The 'त' has a vertical stroke and a horizontal stroke. The 'ै' has a vertical stroke and a horizontal stroke. The 'र्ह' has a vertical stroke and a horizontal stroke. The 'सी' has a vertical stroke and a horizontal stroke. The 'ं' has a vertical stroke and a horizontal stroke. The 'च' has a vertical stroke and a horizontal stroke. The 'व' has a vertical stroke and a horizontal stroke. The 'हं' has a vertical stroke and a horizontal stroke. The 'हं' has a vertical stroke and a horizontal stroke.



2.9 strokes

6.25 strokes

4.7 strokes

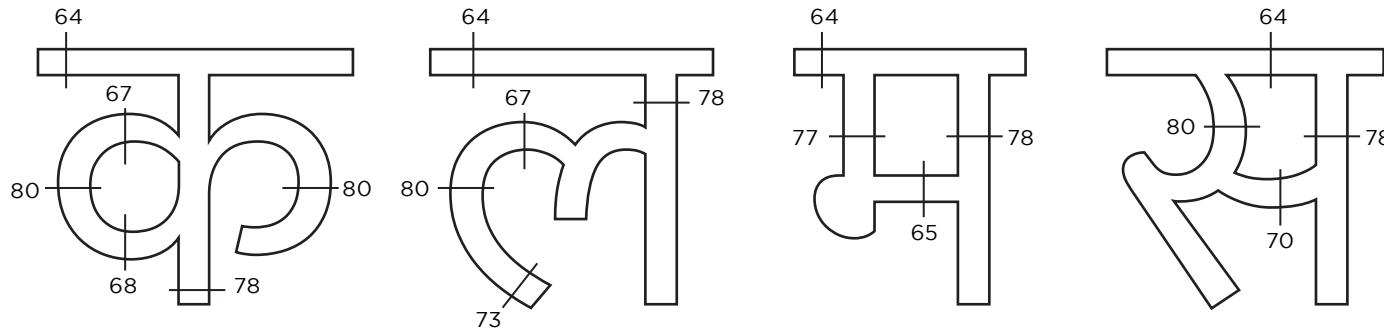
Ek Mukta Bold font sample showing the characters 'कृतैर्हासींचव' and 'हं हं' on a ruled background. The font has a thick stroke weight. The characters are the thickest among the three. The first character 'क' has a vertical stroke and a horizontal stroke. The 'ृ' has a vertical stroke and a horizontal stroke. The 'त' has a vertical stroke and a horizontal stroke. The 'ै' has a vertical stroke and a horizontal stroke. The 'र्ह' has a vertical stroke and a horizontal stroke. The 'सी' has a vertical stroke and a horizontal stroke. The 'ं' has a vertical stroke and a horizontal stroke. The 'च' has a vertical stroke and a horizontal stroke. The 'व' has a vertical stroke and a horizontal stroke. The 'हं' has a vertical stroke and a horizontal stroke. The 'हं' has a vertical stroke and a horizontal stroke.

Rounded Typeface  
UPM 1000 units  
Ascender 500 units  
Descender 532 units  
Kana height 630 units  
Light  
Regular  
Bold

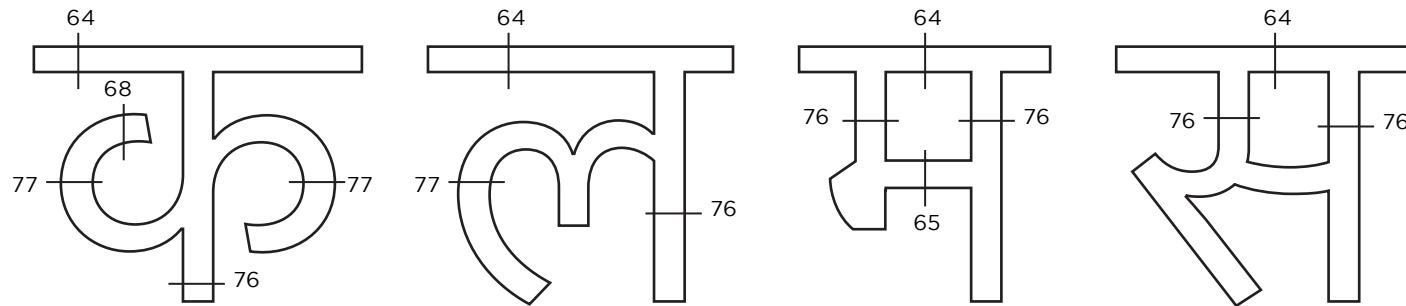


# Determining stroke widths.

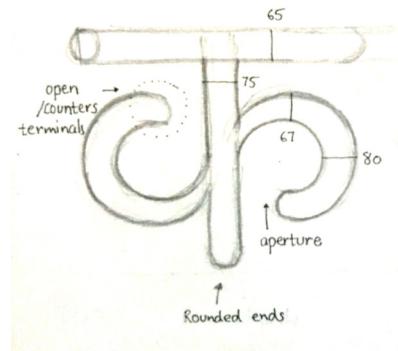
Ek Mukta regular stroke widths



Kohinoor regular stroke widths



Rounded geometric regular stroke widths



# Digitizing the sketches

Drawing basic characters in 3 weights.

Light, regular and bold.

कैलं मसुतचदखऐआपीश

कैलं मसुतचदखऐआपीश

कैलं मसुतचदखऐआपीश

કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
ચુએદં પાકા ખુપાકોલ ચાપી શદએઆ લીએલા કાકા દેખચુપી મસૌપુખંકા દેખ

કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
ચુએદં પાકા ખુપાકોલ ચાપી શદએઆ લીએલા કાકા દેખચુપી મસૌપુખંકા દેખ

કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
ચુએદં પાકા ખુપાકોલ ચાપી શદએઆ લીએલા કાકા દેખચુપી મસૌપુખંકા દેખ

8 pt

કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
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કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
ચુએદં પાકા ખુપાકોલ ચાપી શદએઆ લીએલા કાકા દેખચુપી મસૌપુખંકા દેખ

કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
ચુએદં પાકા ખુપાકોલ ચાપી શદએઆ લીએલા કાકા દેખચુપી મસૌપુખંકા દેખ

## 1st DRAFT CORRECTIONS

1st draft of the typeface was tested by repeating the basic letters plus matra drawn plus. Matras play an important role in judging the spaces between the lines and also the balance of the characters.

After printing the characters in smaller point sizes one can evaluate the font. Legibility and readability of letters can be instantly spotted in small point sizes.

Although there is no spacing done to the characters. A basic understanding of left and right space of the character is enough to test the font at this stage.

10 pt

કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
ચુએદં પાકા ખુપાકોલ ચાપી શદએઆ લીએલા કાકા દેખચુપી મસૌપુખંકા દેખ

કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
ચુએદં પાકા ખુપાકોલ ચાપી શદએઆ લીએલા કાકા દેખચુપી મસૌપુખંકા દેખ

કાલૌ ખાએલસ દાખી આશપો કામતં પલુકા તેચાખં એપ આમપૈ આકાદીલુ  
દએચુ કદલં એઆપુ ચૈખાદૌ આપકાએ મેચલશુ એદતુ ખચાકેપંલા ખાકા તેખી  
ચુએદં પાકા ખુપાકોલ ચાપી શદએઆ લીએલા કાકા દેખચુપી મસૌપુખંકા દેખ

12 pt

# Grey value test

This is a very important test to determine stroke widths. This helps us judge the weight of our font. The stroke widths play an important role in making the grey of any font. So we set the text in 8 pt in all the available characters set.

कालौ खाएलस दाखी आशपो कामतं पलुका तेचाखं एप आमपै आकादीलु दएचु कदलं एआपु चैखादौ आपकाए मेचलशु एदरु खचाकेपंला खाका तेखी चुएंदं पाका खुपाकोल चापी शदएआ लीऐला काका देखचुपी मसौपुखंका देख कालौ खाएलस दाखी आशपो कामतं पलुका तेचाखं एप आमपै आकादीलु दएचु कदलं एआपु चैखादौ आपकाए मेचलशु एदरु खचाकेपंला खाका तेखी चुएंदं पाका खुपाकोल चापी शदएआ लीऐला काका देखचुपी मसौपुखंका देख कालौ खाएलस दाखी आशपो कामतं पलुका तेचाखं एप आमपै आकादीलु दएचु कदलं एआपु चैखादौ आपकाए मेचलशु एदरु खचाकेपंला खाका तेखी चुएंदं पाका खुपाकोल चापी शदएआ लीऐला काका देखचुपी मसौपुखंका देख कालौ खाएलस दाखी आशपो कामतं पलुका तेचाखं एप आमपै आकादीलु दएचु कदलं एआपु चैखादौ आपकाए मेचलशु एदरु खचाकेपंला खाका तेखी चुएंदं पाका खुपाकोल चापी शदएआ लीऐला काका देखचुपी मसौपुखंका देख कालौ खाएलस दाखी आशपो कामतं

Light 8 pt

In previous chapters we have studied the standard stroke widths for a regular weight of Ek mukta and Kohinoor devanagari font. From there we took inferences to have standard widths for our font.

काल खाएलस दाखी आशपो कामतं पलुका तेचाखं एप आमपै  
आकादीलु दएचु कदलं एआपु चैखाद आपंकाए मेचलशु एदतु  
खचाकेपंला खाका तेखी चुएं पाका खुपाकोल चापी शदएआ लीऐला  
काका देखचुपी मसपुखंका देखकाल खाएलस दाखी आशपो कामतं  
पलुका तेचाखं एप आमपै आकादीलु दएचु कदलं एआपु चैखाद  
आपंकाए मेचलशु एदतु खचाकेपंला खाका तेखी चुएं पाका खुपाकोल  
चापी शदएआ लीऐला काका देखचुपी मसपुखंका देखकाल खाएलस  
दाखी आशपो कामतं पलुका तेचाखं एप आमपै आकादीलु दएचु कदलं  
एआपु चैखाद आपंकाए मेचलशु एदतु खचाकेपंला खाका तेखी चुएं  
पाका खुपाकोल चापी शदएआ लीऐला काका देखचुपी मसपुखंका  
देखकाल खाएलस दाखी आशपो कामतं पलुका तेचाखं एप आमपै  
आकादीलु दएचु कदलं एआपु चैखाद आपंकाए मेचलशु एदतु  
खचाकेपंला खाका तेखी चुएं पाका खुपाकोल चापी शदएआ लीऐला  
काका देखचुपी मसपुखंका देखकाल खाएलस दाखी आशपो कामतं

Regular 8 pt

After the test we could figure out that the weight should be slightly more because this font has got big counters and open loops. This adds up to the empty spaces in the font and which eats up the negative portion and makes it look lighter in weight.

कालौ खाएलस दाखी आशपो कामतं पलुका तेचाखं एप आमपै  
आकादीलु दएचु कदलं एआपु चैखादौ आपंकाए मेचलशु एदतु  
खाचाकेपंला खाका तेखी चुएंदं पाका खुपाकोल चापी शदएआ लीऐला  
काका देखचुपी मसौपुखंका देख कालौ खाएलस दाखी आशपो कामतं  
पलुका तेचाखं एप आमपै आकादीलु दएचु कदलं एआपु चैखादौ  
आपंकाए मेचलशु एदतु खाचाकेपंला खाका तेखी चुएंदं पाका खुपाकोल  
चापी शदएआ लीऐला काका देखचुपी मसौपुखंका देख कालौ  
खाएलस दाखी आशपो कामतं पलुका तेचाखं एप आमपै आकादीलु  
दएचु कदलं एआपु चैखादौ आपंकाए मेचलशु एदतु खाचाकेपंला खाका  
तेखी चुएंदं पाका खुपाकोल चापी शदएआ लीऐला काका देखचुपी  
मसौपुखंका देख कालौ खाएलस दाखी आशपो कामतं पलुका तेचाखं  
एप आमपै आकादीलु दएचु कदलं एआपु चैखादौ आपंकाए मेचलशु  
एदतु खाचाकेपंला खाका तेखी चुएंदं पाका खुपाकोल चापी शदएआ  
लीऐला काका देखचुपी मसौपुखंका देख कालौ खाएलस दाखी

**Bold 8 pt**

# Basic Character Set

ਅਆਈਤਕਾਏਓਐਂਅ:  
ਕਖਗਘਡ·ਚਛਜਝਟਠਡਣਤਥਦਧਨਪਫਬਮਯ  
ਰਲਵਸ਼ਾ਷ਸਹਕਕਝ

The widths of the characters are imbalanced. Characters are not in proportion to each other. The letters with knots need a change in their structure.

Scaling of letters should be taken care of.

Letters with loop should have some similar grounds.

ਅਆਈਤਕਾਏਓਐਂਅ:  
ਕਖਗਘਡ·ਚਛਜਝਟਠਡਣਤਥਦਧਨਪਫਬਮਯ  
ਰਲਵਸ਼ਾ਷ਸਹਕਕਝ

Stroke widths should be worked out.

Few letters have legibility issue.

Letter widths.

Matras look too fat.

# Width comparison

CDAC Yogesh

आकाश चाचा टमाटर आणतोय बदक कुठे गेला तीकडे कोण हाते आई डी सी  
राग का आला उंच भरारी घेणार जेवन नाही मीळणार तुला कधीच रसता खुप  
लांब जातोय अचंबा ईजी मलेशीया कंबोडीया खार बसली होती मङु मेस  
सकाळ रीकशा पाऊस पडला जोरदार पटपट जा

Acacia

आकाश चाचा टमाटर आणतोय बदक कुठे गेला तीकडे कोण हाते आई डी सी  
राग का आला उंच भरारी घेणार जेवन नाही मीळणार तुला कधीच रसता खुप  
लांब जातोय अचंबा ईजी मलेशीया कंबोडीया खार झाडावर बसली होती मङु  
मेस सकाळ रीकशा पाऊस पडला जोरदार पटपट जा

Ek Mukta

आकाश चाचा टमाटर आणतोय बदक कुठे गेला तीकडे कोण हाते आई डी सी  
राग का आला उंच भरारी घेणार जेवन नाही मीळणार तुला कधीच रसता खुप  
लांब जातोय अचंबा ईजी मलेशीया कंबोडीया खार बसली होती मङु मेस सकाळ  
रीकशा पाऊस पडला जोरदार पटपट जा

Here we compare Acacia with other typefaces, there is a clear width difference. CDAC yogesh and Ek mukta are narrow compared to Acacia. We need to keep a tab on the widths within the characterset and also in comparison to other typefaces.

Lets have a comparative width study.

# Width Comparison Chart

Study of widths is very essential. It decides the letter proportions and gives stability to the typeface. Thus here we have taken few standard fonts and taking any of the letter as unit one we have compared the rest others. O that we can have a comparison.

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	EK Mukta		Yogesh		Kohinoor		Sanskrit 2003	
ଅ	575	1	1391	1	584	1	1299	1
ଆ	813	1.4	1953	1.4	856	1.4	1780	1.3
ଇ	421	0.7	894	0.6	402	0.6	752	0.5
ଈ	421	0.7	894	0.6	402	0.6	752	0.5
ଢ	421	0.7	1181	0.8	414	0.7	1024	0.7
କୁ	718	1.2	1581	1.1	663	1.1	1491	1.1
ଏ	380	0.6	821	0.5	372	0.6	1066	0.7
ୟେ	380	0.6	821	0.5	372	0.6	1066	0.7
ଙ୍କ	710	1.2	1926	1.3	798	1.3	1553	1.1
ଲ୍ଲ	609	1	1523	1	640	1	1253	0.9
ଓ	813	1.4	1953	1.4	856	1.4	1780	1.3
ୟୌ	813	1.4	1953	1.4	856	1.4	1780	1.3
କ	677	1.1	1440	1	680	1.1	1205	0.8
ଖ	651	1.1	1530	1	642	1	1327	1
ଗ	441	0.7	950	0.6	394	0.6	1046	0.8
ଘ	430	0.7	1066	0.7	459	0.7	1007	0.7
ଙ୍କ	542	0.9	1471	1	557	0.9	1344	1
ଚ	518	0.9	1144	0.8	529	0.9	1154	0.8
ଛ	587	1	1371	1	548	0.9	1184	0.9

	Ekmukta		Yogesh		Kohinoor		Sanskrit 2003	
ଜ	577	1	1356	0.9	614	0.9	1238	0.9
ଝ	614	1	1252	0.9	616	0.9	1167	0.8
ବ୍ର	568	1	1293	0.9	594	0.9	1151	0.8
ଟ	433	0.7	1082	0.7	436	0.7	976	0.7
ଠ	500	0.8	1049	0.7	481	0.8	950	0.7
ଙ୍ଗ	429	0.7	1240	0.8	453	0.7	1074	0.8
ଙ୍କ	482	0.8	1051	0.7	428	0.7	888	0.6
ଣ	549	0.9	1129	0.8	572	0.9	1118	0.8
ତ	427	0.7	1005	0.7	406	0.6	909	0.6
ଥ	475	0.8	1231	0.8	514	0.8	1018	0.7
ଦ	453	0.7	920	0.7	488	0.8	957	0.7
ଧ	475	0.8	1078	0.8	459	0.7	985	0.7
ନ	411	0.7	969	0.7	387	0.6	945	0.7
ପ	371	0.6	798	0.6	377	0.6	795	0.6
ଫ	674	1.1	1393	1	668	1.1	1224	0.9
ବ୍ରା	425	0.7	864	0.6	423	0.7	848	0.6
ଭ୍ରା	521	0.9	1121	0.8	507	0.8	1073	0.8
ମ	434	0.7	992	0.7	425	0.7	1002	0.7
ୟ	444	0.7	1000	0.7	464	0.7	961	0.7
ର	304	0.5	721	0.5	291	0.4	767	0.5
ଲ	562	0.9	1223	0.8	562	0.9	1299	1
ଙ୍ଗା	648	1.1	1363	0.9	636	1	1374	1
କ	420	0.7	860	0.6	404	0.6	814	0.6
ଶ	554	0.9	1274	0.9	604	1	1233	0.9
ଷ	381	0.6	822	0.5	387	0.6	801	0.6
ସ	557	0.9	1250	0.8	563	0.9	1117	0.8
ହ	406	0.7	974	0.7	386	0.6	1003	0.7
ଙ୍ଗା	542	0.9	1187	0.8	596	1	1092	0.8
କ୍ଷ	554	0.9	1206	0.8	611	1	1088	0.8
ଶ୍ରୀ	550	0.9	1307	0.9	573	0.9	1163	0.8



Study of width groups is essential. It is a way to formalise the widths within the typeface. The chart above gives a general format of widths. It can vary from a typeface to the other depending upon the need of the typeface. But the widths in between the characters generally remain the same.

# Formalising characters

Here we compare the typeface based on few parameters such as;

Vertical proportion

Curvature

Knots

Loops

Neck joinery

Turns

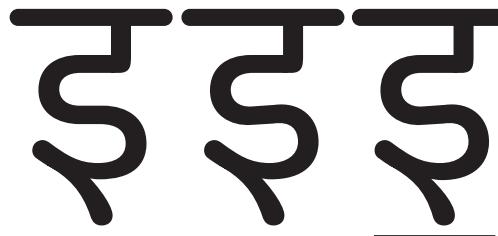
Counters.

These terminology are defined in 'Conceptual model of Devanagari typefaces' by Dr Girish Dalvi. The comparison is done with Ek devanagari and CDAC Yogesh which are widely used for text and display.

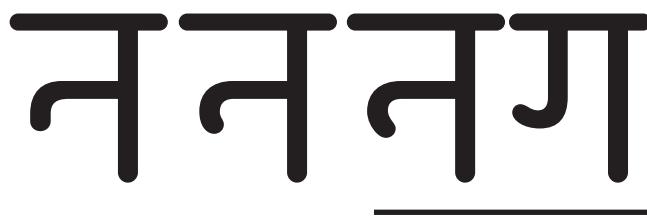
# Form exploration

Various decisions are taken when the typeface is tested in small pointsizes. Legibility of letterforms is crucial and the design decisions are easy when it is tested with similar looking characters.

This is a similar study of letter structures.

Three stylized letterforms, each consisting of a horizontal bar with a vertical stroke extending downwards from the center. A horizontal line is positioned below each letterform.

treatment to the knots

Three stylized letterforms, each consisting of a horizontal bar with a vertical stroke extending downwards from the center. A horizontal line is positioned below each letterform.

Similarity across characters

Two stylized letterforms, each consisting of a horizontal bar with a vertical stroke extending downwards from the center. A horizontal line is positioned below each letterform.

Defining loops

Two stylized letterforms, each consisting of a horizontal bar with a vertical stroke extending downwards from the center. A horizontal line is positioned below each letterform.

Defining loops

# Form exploration

Defining loops

ଠଠଠଠଠ

Defining loops

ଘଘଘଘ

Defining knots

ଭଭଭଭ

Similarity across characters

ସଗଗଗ

	Vertical Proportion	TurnsC	ounters	Neck Joinery
CDAC Yogesh			Open Counters	
	कि झ ह ड झ		क व ब	ट ठ द ठ
Acacia			Open Counters	
	कि झ ह ड झ		क व ब	ट ठ द ठ
Ek Mukta			Closed Counters	
	कि झ ह ड झ		क व ब	ट ठ द ठ

	Loops	Knots	Middle knots	
CDAC Yogesh	ਧ ਭ ਸ਼ ਫ	ਦੱਈ ਝ	ਖਰਸ	ਸਗਨ ਭ
Acacia	ਧ ਭ ਸ਼ ਫ	ਦੱਈ ਝ	ਖਰਸ	ਸਗਨ ਭ
Ek Mukta	ਧ ਭ ਸ਼ ਫ	ਦੱਈ ਝ	ਖਰਸ	ਸਗਨ ਭ

## FONT DISPLAY

### Regular weight

अआइईउऊऐओऔअंअः

कखगघडंचछजझटठडठणतथदधनपफबभময়ৱল  
বশষসহ়ক্ষজ্ঞ

কাখাগাধাঙ্গাচাষাজাঙ্গাটাঠাঙ্গাণাতাথাদাধানাপা  
ফাবাভামায়ারালাবাশাষাসাহাঙ্গাক্ষাঙ্গা  
চচাচিচীচুচেচৈচৌচৈচংচঃ

অআউऊओঔঅংঅঃইঈড়জ্ঞড়হ়জ্ঞএখৱসকববশত  
লভগনমদটঠড়ক্ষ়ল়ধ়়়ছজথয়য়পষফণ

আকাশ চাচা টমাটৰ আণতোয় বদক কুঠে গেলা  
তীকড়ে কোণ হাতে আই ডীসী রাগ কা আলা উঁচ ভৰারী  
ঘেণার জেবন নাহী মীঠণার তুলা কধীচ রসতা খুপ  
লাংব জাতোয় অচংবা ঈজী মলেশীয়া কংবোড়ীয়া খার  
ঝাঙ্গা঵ৰ বসলী হোতী মডু মেস সকা঳ রীকশা পাঊস  
পডলা জোরদার পটপট জা কৈরী ঝৱঝৱ কলকল  
ঠক্ক ছক্ষক বকাসুর করম রমণ দাদৰ টীকটীক  
গণৱাজ পীৱীৱ লোলা নাব শালমলী ক্ষমা জ্ঞান

### Bold weight

अआइईउऊऐओऔअंअः

কখগঘড়চছজঝটঠড়ণতথদধনপফবভময়ৱল  
বশষসহ়ক্ষজ্ঞ

কাখাগাধাঙ্গাচাষাজাঙ্গাটাঠাঙ্গাণাতাথাদাধানা  
পাফাবাভামায়ারালাবাশাষাসাহাঙ্গাক্ষাঙ্গা  
চচাচিচীচুচেচৈচৌচৈচংচঃ

অআ�ऊওঔঅংঅঃইঈড়জ্ঞড়হ়জ্ঞএখৱসকব  
বশতলভগনমদটঠড়ক্ষ়ল়ধ়়়ছজথয়য়পষফণ

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FONT DISPLAY  
Light weight  
80pt

अआइईएउऊओऑअंअः  
कखगঘড় চছজঝাটঠড়ণ  
তথদধনপফৰ ভস্ময়ৰৰ নব  
১সহশাক্ষজ১২৩৪৫৬৭৮৯০

Medium weight  
80pt

આઇએઉકોઓઅંઅઃ  
કખગઘડચછજઝટઠકટણ  
તથદધનપફબભમયરરલવ  
શસહશક્ષઝ૧૨૩૪૫૬૭૮૯૦

Bold weight

80pt

अआइईएउऊओऔअंअः  
कखगঘড়্যছজঝটঠঠঠণ  
তথদধনপফৰৰভস্যৰৰলৰ  
শসহশক্ষঝ৯২৩৪৫৬৭৮৯০

Comparison of all three weights

Medium weight

80pt

ਤ ਕਖ ਧ ਦ ਸ਼ ਘ ਥ ਅ ਔ

ਠ ਸ ਟ ਛ ਰ ਜ ਢ ਣ ਵ

ਖ ਠ ਨ ਤ ਕ ਲ ਵ ਤ ਚ

ਝ ਷ ਟ ਬ ਝ ਏ ਭ ਫ ਠ

## Display of extra matras

Default ukar matras  
It clashes with the letter

ਸੁ ਕੁ ਤੁ ਦੁ

Customized matras

Default ekar matras. The  
matra doesn't fit exactly on  
the madhya danda.

ਕਿਫਿ ਕੀਫੀ

ਕਿਫਿ ਕੀਫੀ

Customized matras

Default ukar matras. The matra  
doesn't fit exactly on the  
bottom of the madhya danda.

ਕੁਪੁ ਕੁਪੁ

ਕੁਪੁ ਕੁਪੁ

Customized matras

Default ekar matras. The  
matra doesn't fit exactly on  
the madhya danda.

ਕਫਿ ਕਫਿ

ਕੈਪੈ ਕੈਪੈ

Customized matras

Matras according to different  
widths of the letters

ਖਿ ਣਿ ਸ਼ਿ ਦਿ

ਖਿੰ ਣਿੰ ਸ਼ਿੰ ਦਿੰ

ਖਿੰਂ ਣਿੰਂ ਸ਼ਿੰਂ ਦਿੰਂ

light, medium and bold weights  
in 21pts.

जिंदगी जीने के दो ही तरीके  
होते हैं। एक जो हो रहा है होने दो,  
बरदाश करते जाओ। या फिर  
उठाओ जीम्मदारी उस्से बदलनेकी।

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# स्लोवाकिया देश के एक शहर में,

दो नहीं बल्कि जुड़वां बच्चों का २०० जोड़ा मौजूद है। करीब २० हजार की आबादी वाले इस शहर में इतनी अधिक संख्या में जुड़वां बच्चे मौजूद होने की वजह से वहां के अधिकारियों ने इस शहर का नाम बूजिम से बदलकर ट्रिवन टाउन रखने की बात कही है। दरअसल जुड़वां बच्चों वाली यह बात तब सामने आई जब एक पत्रकार नेडिज़ब बच्चों को पत्नी एमायरा ने १९९२-९५ के दौरान जुड़वां बच्चों को घुमने वाली बग्गी लेने के लिए पड़ोसियों के घर गए। वहां उन्होंने देखा परिवार में पहले से कई जुड़वां बच्चे थे। व्यूसेल के मुताबिक घर के झगड़े के दौरान बोस्निया में जुड़वां बच्चों के २१ जोड़ मौजूद थे। अब उन्होंने फेसबुक पर एक पेज बनाया है जिसका नाम बूजिम, द टाउन ऑफ ट्रिवन्स है।

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जिंदगी जीने के दो ही तरीके  
होते हैं। एक जो हो रहा है होने दो,  
बरदाश करते जाओ। या फिर  
उठाओ जीम्मदारी उस्से बदलनेकी।

 Conclusion

Type designers work on there typefaces for years. It takes dedication and tremendous amounts of patience. My project was for the duration of 3 months. Working on this project helped me deepen my understanding about the font design process.

I started with an aim of having a fully functional typeface at the end. That included Visual design, drawing weights, drawing all the characters, interpolation, kerning, spacing, coding, testing on various platforms, hinting. One should plan according to the time in hand and divide the efforts needed to finish a functional product.

I invested a fair amount of my time in taking the Visual decisions. Much work went into the structural aspect of the project and less in making it functional technically. Visual design depends upon the aesthetics of a particular person and it keeps evolving every day. But there is not much progress in technology every single day. Hence a deadline for each stage can help finish the project on time.

Devanagari typography and type design needs good workable typefaces. As designers we should work towards fulfilling the demands of a growing field.

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