Embedded Diversities: Design Explorations with the tool of Type and Expressions

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Abstract. A script in India conveys a symbolic glimpse into a particular culture and the associated beliefs. There is an attractive diversity due to appearance of various such scripts. The diversity is not only in the existence of the scripts; but also more critically in their visual representation. The aesthetic beauty and the traditional native identity are imbued as one harmonious unit in the multitude letterforms of any script. Indigenous 'Scripts' in India mirror the cultural essence of letterforms. Different forms of writing each script represent the origin of a script from the respective local context – where a particular language written in specific script defines the context [1].

This paper outlines the existence of three visual facets that are part of the representation of a script. The foremost facet is "Language", that provides a communicable/functional meaning to the form of the script. A language has a structure, syntax and a cultural basis that are associated with the style/form of a particular script. The second facet consists of "Tools or Techniques of production", that provide the mechanics of letter structure, its construction, design and style. The third facet consists of "Semantics (Expressions) and meaning based applications", that give a provision of a range of applications from unilingual to multi-lingual forms of visual display. The explorations of expressions of various local scripts and their type styles by design students; showcase a range of functional meanings, cultural meanings and tool influenced meanings that nuance the compositions to a new level of aesthetics. The present paper brings forth the trifold visual approach from "Language" to "Tools or Techniques of production" to the final type forms that communicate semantics in context of meaning based communication aims. The methodology provides a scientific lens to craft the design process for better designs with type and their expressions.

In conclusion, a conceptual approach in the form of an open framework has been discussed. This framework is envisioned to act as a scientific frame of reference to understand the design applications of scripts, languages, tools and techniques, type expressions, etc.

Keywords: Typography and Diversity, Language, Local Scripts, Semantics, Syntax, Type and Expressions, India

1 Introduction

Ban Comic Sans' Manifesto strongly asserts that, "Type is a voice; its very qualities and characteristics communicate to readers a meaning beyond mere syntax"[2]. And, this Type stands in affirmation – with the support of a language written in a certain script. Goes without saying, a language has its seed in the soil of a specific culture. Different languages (exhibiting a range of cultural ethos) have been living sources of continuous inspiration and motivation to develop meaningful forms in typography. History is full with revolutions in the forms as part of the individual scripts (in context of type design); as well as discoveries of new and better modes of typographic expressions with time (in context of diversity, type and expression tool).

People's Linguistic Survey of India under the supervision of Ganesh Devy (since 2010) identified 860 distinct languages in India. The Constitution of India does not give any language the status of national language [3]. The official languages of the Union Government of the Republic of India are Hindi in the Devanagari script[1] and English as an associate language. The Eighth Schedule of the Indian Constitution lists 22 languages at present, which have been referred to as scheduled languages and given recognition, status and official encouragement. Moving in depth to unravel the significance of a 'language' in context of India; there are certain points of note that come in the forefront as part of published literature on the specific Non-Latin script – Devanagari, as follows:

- Sanskrit Alphabet and Indian Languages: As a liturgical language of Hinduism, Buddhism, and Jainism, Sanskrit has played an outsized role in India's linguistic development. From the perspective of Phonetics, all Indian languages have essentially the same alphabet derived from the Sanskrit alphabet. This common alphabet contains 33 consonants and 15 vowels in general practice. Additional 3-4 consonants and 2-3 vowels are used in specific languages or in the classical forms of others. This difference is not very significant in practice. Individual consonants and vowels form the basic letters of the alphabet [4].
- Devanagari as a base script for most languages in India: The Devanagari script is the widest used one, being used to write Hindi (the most spoken language), Marathi, Konkani, and Nepali, the language of the neighboring Nepal.
- Graphemes are at the heart of the printed Akshara: Different scripts use different philosophies for the individual grapheme's and their combinations. Some have a headline or *shirorekha* that persists for a whole word. Others have non-touching graphemes [4].

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[1] Devanagari is a complex script and contains a large character set due to the behaviors of the script, and as Bapurao S. Naik describes in his introduction to the *Typography of Devanagari*, "[The] peculiar nature of the Devanagari characters and their combinations create many difficulties in type setting."

- Unique Typographical behaviors of Devanagari: Due to the unique typographical behaviors of Devanagari, typefaces have no pre determined character set and contemporary typefaces usually contain around 1000 glyphs. Although the character set charts can be accessed through the website of Unicode and may be helpful for determining the needed glyphs, in the case of Devanagari the majority of glyphs within the font are not listed in the chart as they consist of contextual forms such as half-forms and marks[2].

Certain points of note that come in the forefront as part of published literature on the Latin script for Roman English are as follows:

- Letters in the modern-day alphabet also imply the reading of symbols [5]. The letters in contemporary alphabets represent sounds, but their varied representations are vivid in the different design compositions of letters - this is reminiscent of logotypes of famous brands (Fig. 1).

Fig. 1. Andrews K., Corporate alphabet. (Source: http://www.flickr.com/photos/91806538@N00/2314668364/)

- The research and development of Latin typeface suggests a better and more defined anatomy of Latin letterforms. Letters are made of linear and curvilinear strokes. Relative to Devanagari, the structural complexities are fewer in Latin. The strokes are uniformly simulated leading to unique structural arrangements in compositions using Latin (Roman English) letterforms. Based on the visual form of the Latin letter parts, they are easily relatable to the terms that define their identity (for instance, ascender, bowl, shoulder, ear, spur, bowl, swash, counter, crossbar, etc. to name a few anatomical parts of the letters in Latin in Fig.2).
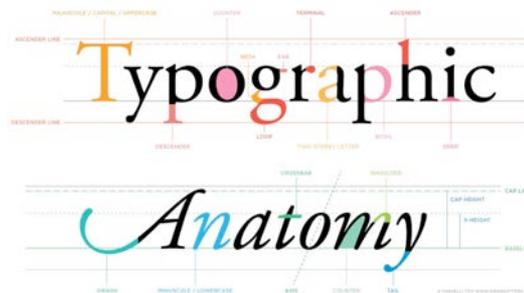

Fig. 2. Letterforms: Typographic Anatomy (Source: Chavelli, calligraphy studio, 2015)

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[2] Ross, "Non-Latin scripts: key issues in type design," 134.

- Letter formation and Technology association in Latin Script: The signs carved in stone are one of the first examples of typographic design. The way these symbols were built (flat brush and chisel) influenced the shape of each sign and of the alphabet. Function and technology work together to create characteristics, w h i c h make up the system [6].
- Latin Alphabet – an impression of sound: Latin alphabets have been impressionistically interpreted as sound segments and are mostly considered units of phonemic writing [7]. Thus, supporting a conception of language (our focus for the paper – English language); the Latin alphabet becomes both a model and an image in function (in context of phoneme-grapheme correspondences).

In a nutshell, the application of certain tools and techniques to develop Devanagari (Non-Latin) as well as Latin letterforms depends on the above-mentioned features associated as part of the letterform structure and syntax – that, in addition, guides the grammar of the language. The forthcoming section on the "trifold design approach" will showcase few such student designs in Latin and Non-Latin letter compositions and a few letter expressions as part of expressive alphabet design assignments – floated as part of the courses on Typography at the Department of Design, Indian Institute of Technology Guwahati, Assam, India.

2 Trifold Visual Approach

2.1 Language – the first fold

Structure: The structure in language helps make the comprehension of letters, words, paragraphs and texts better. Along with this, a structure in a language sets the context/ the ground for the reader/ consumer of the text. Structure also helps in making the space areas that help focus on certain features are part of words (in typographic terms, as part of the group of letterforms). See Fig. 3. for a master's student's design in typography course; the design explores the evolution of typefaces is seen through the direct and indirect influences of parallel design movements in the same interval of periods when respective typefaces emerged and evolved with time. Also, runs at the base of the design a parallel story of landmark designers – and how they incorporated the design movements and respective typographic evolutions in their landmark designs.
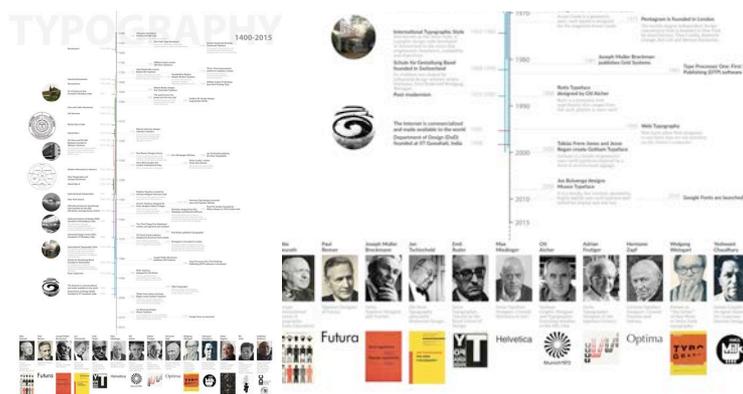

Fig. 3. Design of Evolution of Typefaces (Design by: Hriday Gami, M.Des., 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)

Syntax: The syntax in a language sets the quality of the content, the purpose of communication (backed by the message itself). Syntax/Order/Sequence of meanings together in words or group of letterforms as part of varied compositions – helps provide a pattern that readers may identify with. Syntax gives a visual channel to the letterforms to convey an order of expressions (sometimes directly - denotations and sometimes in a subtle way - connotations). See Fig. 4, 5 and 6; for three master's student's design in typography course; the designs explore a visual structure and syntax to communicate famous quotations by 10 path breaking Typographers of their times. The assignment was to design an entire ten quotations pocket booklet as a source of inspiration and idea generation with designing type for the young design students' at any given time in their design professions.

Fig. 4. Design of Type Quotations booklet (Design by: Nilutpal Buragohain, M.Des., 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)

Fig. 5. Design of Type Quotations booklet (Design by: Honlung Ragui, M.Des., 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)
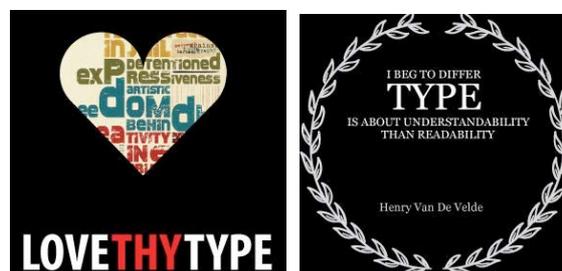

Fig. 6. Design of Type Quotations booklet (Design by: Senthil Kumar, M.Des., 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)

Cultural Basis: The subtle (or connotative) pattern is a deliberate choice of a designer / typographer to set the message as part of a familiar group of letterforms. This is the essential cultural basis that is associated with the language of the script. Figures 7 and 8, represent visual designs of different alphabets by students as part of their typography course at IIT Guwahati, wherein – the 'type forms' in designs of the alphabets have been a form inspiration from geometric forms/objects/artifacts/architecture, etc. or organic (nature-inspired) forms of construction around us with some cultural basis (social, religious, place-specific, historical, ornamental, locally popular, etc. etc.); and show its application poster so that the theme of the alphabet design matches with the genre of the poster (movie/magazine/other forms of posters as per the alphabet).
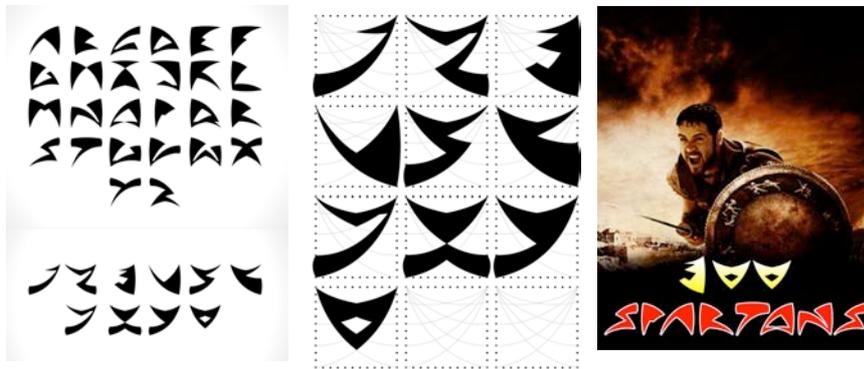

Fig. 7. Design of Alphabet inspired by Gothic door arch (Design by: Shweta Gupta, M.Des., 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)

Fig. 8. Design of Alphabet inspired by natural Banana leaf (Design by: Poonam Wagle, M.Des., 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)

2.2   Tools and Techniques of Production

Calligraphy: The spontaneous and expressive art of beautiful writing – calligraphy encompasses a world of tools and techniques. Historically, the need to communicate interpersonally was embedded in the symbolic forms – starting from the cave art paintings in Lascaux, France till the forms of modern 'picture writing' (or 'pictograms' to be specific). A few abstract lines came into modern day representations of an object or thing and could be recognized by the audience - who too evolved parallel to the evolutions of tools – from bamboo and feather to brush and steel (metal make to now Biro/Modern pens such as the roller ball) [8]. Represented in Figure 9 is an alphabet design using the calligraphic tool of brush and later digital metal pens to refine the final identity of the characters inspired from inorganic natural Ivy plant stems and leaves.
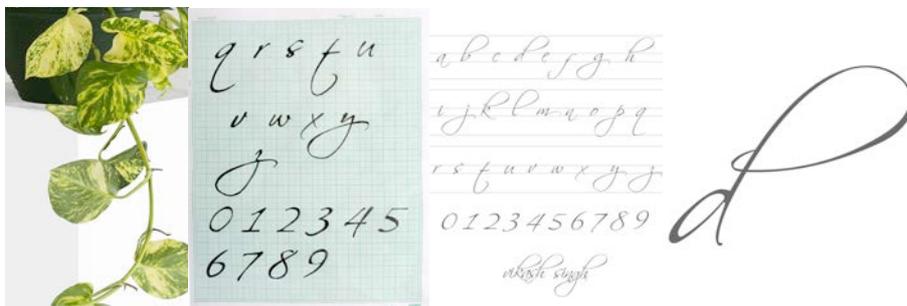

Fig. 9. Design of Alphabet inspired by the English Ivy Plant form (Design by: Vikash Kumar Singh, M.Des, 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)

Manual Embossing and Engraving: To create a deeper impression and raised expressions of letterforms in paper, or other materials like wood, metal, clay, plastics, etc. – both engraving and embossing (relief) enhances the craftsmanship of the artist/designer and gives viewers/audience a long-lasting form representing a heritage / culture of making design language manually. The third fold of the visual approach on Semantics (expressions) in student designs showcase embossed and engraved techniques, digitally reproduced (Fig. 10 and 11 ahead).

Digital Printing: It has been a remarkable journey in digital tools and techniques – a contrast to the old press technologies in function; but following the same typographic principles of typesetting in much better, faster and easily mass-produced identities in-built in modern digital printing machines and equipments. The digital-to-print connection, once paramount, is now only one task among many. This change affects all aspects of design, but perhaps none more than typography, where the readability of digital fonts depends so much on the environment of display [9].

2.3   Semantics (expressions) and meaning-based applications

Studies of linguistic signification through pre-established conventional signs formed the basis of important trends in the formation of semiotics [10], and as such familiarity with a sign on some level has always been a vital consideration of semiotics. In relation to this Van Leeuwen identifies the two fundamental principles that govern signification in typography, 'connotations and experiential metaphors' [11] Connotation is grounded socially in the prior use and practical history of the typeface, while experiential metaphor locates meaning in metaphorical connections to other objects and phenomena. Both of these sites refer to prior experience, but experiential metaphor, based on Lakoff and Johnson's conceptual metaphor theory, is a more complex and flexible process [12].

Sets of tri-digit Devanagari (Non-Latin) and Latin (English language) numerals were allotted to students. There was an approach of both connotation as well as experimental metaphor used in the design concepts developed by students for the respective typography assignment. Represented are two visual designs of assignments (the connotative and experimented metaphoric designs respectively in Fig. 10 and 11) that required students to design the insignia (sign) plate visualized as part of their future homes in Devanagari Numerals.

Fig. 10. Design of Future Home Number Plate in Devanagari numerals ४७१ - 471 (Design by: Hriday Gami, M.Des, 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)

Fig. 10. Design of Future Home Number Plate in Devanagari numerals ६७२ - 672 (Design by: Shweta Gupta, M.Des, 2014-16, IIT Guwahati, Source: Advanced Typography course, Department of Design, IIT Guwahati)

3 Conclusions

Studies in the domains of type design and typography at large have encompassed around semiotics, tools and techniques, designing fonts for print/web and new dynamic interfaces and environments. There has been a dearth of probes and visual approach models being investigated and brought forward to the design community openly. This is an area that design educators and practitioners, teaching as well as practicing Typography and Type Design need to investigate and create new knowledge for future young designers, educators and practitioners in the field.

Delving a little further, the purpose of this paper is to serve a new role in igniting interests of new age type design educators and practitioners more towards making information on "design approach" accessible to design community and evolve it continuously. Researching and gaining knowledge before designing a complex set of letter designs and/or ambitious explorations with typefaces as part of higher graphic design communication project; it is pertinent and very crucial for a better, effective and successful design that the new influx of approaches – such as, the three-fold visual approach of Language, Tools and Techniques of Production and Semantics (expressions) and meaning-based applications becomes a standard practice. With the potential technology of the digital age and better research methods, typographers and type designers will also be able to harness innovations in typography with new visual approaches in form of functional frameworks for design interventions and applications.

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