FUNCTION *and*
EXPRESSION: *Student typographic work in English and Indian languages*

Martha Scotford

Teaching typography in a cross-cultural setting poses particular conceptual and visual problems. Using a recipe as the content for a typographic assignment while teaching in India, the author explores typographic approaches that include functional, expressive and integrated perspectives in English, Hindi, Kannada, Marathi and to a lesser extent Malayalam and Tamil and various combinations of languages. This experience is documented through illustrations and commentary on the student solutions.

The students were amused: the American teacher was asking them to play with their favorite lunch food. This brought back all sorts of domestic and school memories, and discussions of family and regional variations. When translated from English, the recipe text was debated; how to render the word for 'leftover' that did not also imply 'stale'? The sensory experience of the dish was described for the teacher who had never eaten it: white, cool, smooth, mildly spicy, soothing in the heat of the day. The Indian lunch box, the multi-tiered and compartmented tiffin box, was remembered with fondness. The special shape of the vessel for making curd (or yogurt) at home was described. And by an amazing coincidence, on the day the project ended at the first school, we had Dahi Bhaat for lunch in the mess hall. Later, at another school, a student brought enough for the whole class to share on the last day. This was exactly what I had hoped for: a way for me into a new culture through language and food, a way for Indian students into experimental typography starting from some familiar ground.

Graduate and undergraduate students at four Indian universities and design schools worked on a typographic exercise using English and the Roman alphabet, Hindi and the Devanagari alphabet, and several other Indian languages and alphabets. The exercise was intended to explore some qualities of basic typographic composition, some aspects of expressive typography, the design assumptions and necessities of English/Roman compared to Hindi/Devanagari and others, and to prompt discussion of cultural and linguistic traditions in relation to typography.

The students were a mixed lot, coming from all regions of India: second year graphic design students at the National Institute of Design, Ahmedabad (the premier public design school in India) with some typography experience; first and second year graphic design students at the Shristi School of Art, Design and Technology, Bangalore (a new private design school) with some type experience; graduate students in visual communication at the Industrial Design Center, Indian Institute of Technology–Bombay (the only graduate design program in India) with moderate type experience; and first

tiffin treat

dahi bhaat

2 cups boiled rice (leftover)
1 cup curd
1 tbsp. oil
1/8 tsp. mustard seeds
1 green chili (optional)
1/4 tsp. chopped ginger
1 sprig curry leaves
salt to taste

the night before:

cook and cool rice, if there is none leftover

whip the curd
chop the chili
chop the ginger very fine
wash the curry leaves
heat the oil and splutter the mustard seeds in it
add the chili, ginger and curry leaves and fry for a minute
pour over the whipped curd
add the seasoning and rice
stir well
cover and chill
in the morning:
pack in the lunch box

note: a very cooling dish for summer

[added later: serves 4–6, preparation time 30 minutes]

RECIPE:

WORD LIST:

functional

Mechanical
Business-like
Unemotional
Basic
Readable
Practical
Clear
Comprehensive
Ordered
Useable
Purposeful
Structured
Efficient
Effective
Objective
Concise
Serious
Linear
Methodical
Hierarchy
Balanced
Comfortable
Direct
Instructive
Logical
Calculated
Symmetrical
Neutral
Transparent
User-friendly
Communicative
Approachable
Universal
Simple
Precise
Formal
Static
Literal
Framed
Monotonous
Contextual
Straightforward
Sequential
Unbiased
Directional
Obvious
Procedural
Persuasive
Boring
Denotation
Conventional
Traditional
Safe
Attractive
Expected
Workable
Appropriate

expressive

Simple
Radical
Erratic
Funny
Personal
Emotional
Playful
Aesthetic
Subjective
Unconventional
Daring
Exciting
Rule-breaker
Attractive
Effective
Quick
Poetic
Eye-catching
Contemporary
Special
Different
Extraordinary
Disturbing
Chaotic
Spontaneous
Beautiful
Controversial
Useable
Indirect
Misleading
Practical
Persuasive
Individualistic
Free
Informal
Non-functional
Incomprehensible
Biased
Deflected
Revolutionary
Artistic
Unusual
Customized
Abstract
Extreme
Meaningful
Experimental
Provocative
Evocative
Connotation
Appropriate
Metaphorical
Short-lived
Human
Opaque
Random
Impractical
Complex
Trendy
Uncomfortable
Dynamic
Moving
Sensation

year graphic design students at the Indian Institute of Technology-Guwahati (the newest IIT campus, in the far east state of Assam) with little type experience. The core project was the same for each group, however adaptations were made based on student experience and time available (from two to three-and-a-half weeks). Technology was somewhat limited by United States standards; the students began with sketching, some with cut-and-paste compositions of photocopied text, and then moved onto computers using programs they knew (Corel Draw, Illustrator, and PageMaker) with limited fonts in Hindi and other languages.

The exercise used the short text of a simple and common Indian recipe for a rice and yogurt dish, called *Dahi Bhaat*, often served for lunch or snack. The text comprised a title, subtitle, list and quantities of ingredients, the procedural steps, and a serving comment (later two groups added serving size and preparation time). The structure of the exercise was to employ the admittedly artificial extremes of 'functional' and 'expressive' as beginning points for experimentation; then to arrive at an 'integrated' midpoint, with the possibility it would be better than either extreme.

To begin work a shared understanding of the terms was needed. The students brainstormed lists of words they associated with each of the extremes pertaining to typography. The lists remained on the blackboards for the duration of the project, to inspire and keep them on track. We discussed of the nature and purpose of a recipe, who would be using it, how it would be used (shopping list and cooking directions), when certain elements would be important (for example, the rice must already be cooked before starting). We analyzed the text: what were the parts (titles, ingredients list, steps, note) and how did each operate in the whole? What kinds of words and symbols were used? Part of the discussion was also the memories and associations elicited by the text; mothers preparing food, how certain spices react, other tiffin treats, and eating customs in different areas of India.

Working first in English, the students tackled the 'easy' Functional (closest to what they had already studied in typography), then moved to the Expressive, ending with Integrated compositions. Briefly, Functional was defined as easily readable, organized for understanding and following process. For Expressive the emphasis was on interpretation (of process, words, actions, associations, emotions, context) with readability not important. Integrated combined the best features of both, a useable text with increased visual, cultural, emotional interest and impact. Once they had cycled through the whole process, they could move through it again using Hindi or another Indian language with which they were familiar. For practical and pedagogical reasons, typeface choices were limited to a few sans serif faces. The students were given 'neutral' text in all lowercase, no punctuation; they were not allowed to add or subtract words, but could punctuate however they wished.

The educational levels, experiences and mindsets of each group made their responses different; different groups found certain parts easier than others. The students studying at the two IITs, India's technical universities known for their engineering and computer science programs, found working in the Expressive mode difficult, whereas the students in the art and design schools did not. Accompanying lectures in the history of western avant–garde typography of the early twentieth century suggested possibilities and helped some students understand better the freedom available for their work.
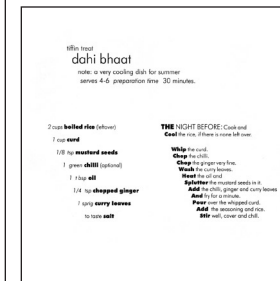
From among the many strong examples, these are chosen emphasizing design quality and variety of concepts with priority given to those concepts most directly connected with the specific content and context; some formal ideas might well pertain to other texts (and here represent part of the student's learning process).
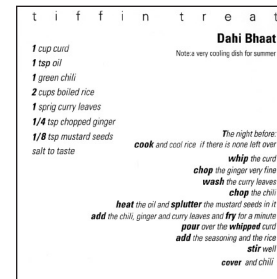
E ENGLISH FUNCTIONAL:
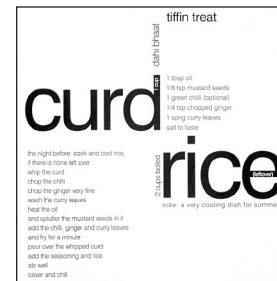
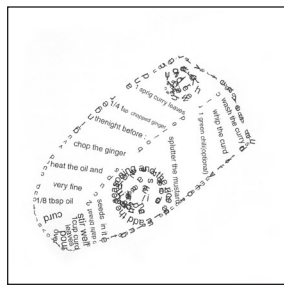1 : │ *Seema Seth, Shristi*

2 : │ *Ashish Sharma, IIT–G*

3 : │ *Surbhi Guleria, NID*

4 : │ *Prachi Kamdar, NID*

The essential parts of the message are clearly separated by space and alignments; other elements are treated for emphasis. The first emphasizes the main ingredients which become the English title (FIGURE 1). The second uses bold for ingredient names and the action verbs; the detail about cooking the rice first is separated (FIGURE 2). The third uses bold for quantities and actions (FIGURE 3). The fourth uses bold for ingredients and some actions; ingredients are distinguished by angled baselines; added space between actions defines the steps (FIGURE 4).
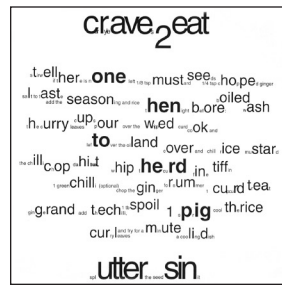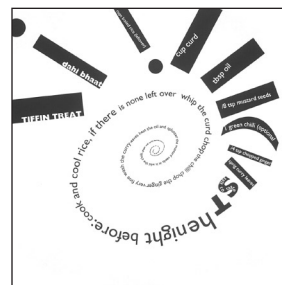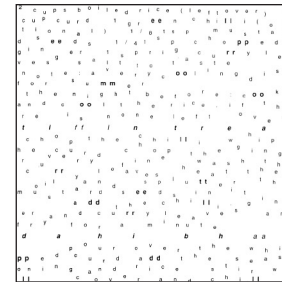
ENGLISH EXPRESSIVE:

5: | *Kruti Saraiya, Shristi*

6: | *Deepa V, NID*

7: | *Arvind Prabhakar, Shristi*

8: | *Kruti Saraiya, Shristi*

9: | *Shruti Shrivastava, IIT–G*
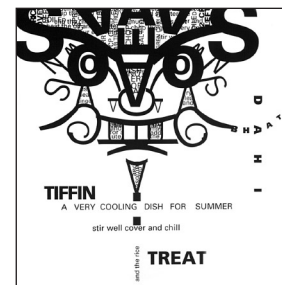
12: | *Arvind Prabhakar, Shristi*

13: | *Geetanjali Srivastava, NID*

10: | *Ekta Manchanda, Shristi*
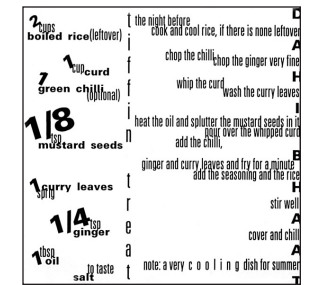
11: | *Aviral Saxena, NID*
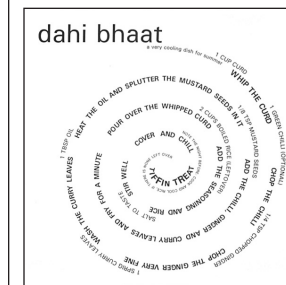
14: | *Charmaine D'Souza, Shristi*
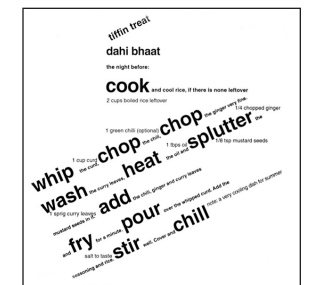
15: | *Mona Gonsai, NID*

The examples show a variety of strategies for exploring the content and context of the recipe. The fifth shows the surface of the prepared food: smooth white with specks of spices, the darkest the mustard seeds of letter pairs. See if you can find the title and subtitle (FIGURE 5). The sixth refers to the South Indian custom of eating from banana leaves with different foods arranged in piles (FIGURE 6). The seventh suggests the violence of cooking by highlighting one action; shared letters in the title and subtitle add menace (FIGURE 7). In the eighth, reordering the phrases and emphasizing certain letters by size and weight produces two more texts that make (some) sense (FIGURE 8). The ninth presents the prepared dish with tantalizing odors (FIGURE 9). The tenth pulls out the punctuation to start the stirring of ingredients; the reference is to a kitchen conversation (FIGURE 10). Maybe a kitchen god in the eleventh recommends the cooling dish (FIGURE 11).

Combining the best ideas for communication and expression. In the twelfth the sections of the tiffin box organize the steps, the ingredients at top allowing the evocative name and odor to escape (FIGURE 12). The size of the numbers in thirteen show quantity in reverse and suggest the spluttering mustard seeds (FIGURE 13). The fourteenth attaches the ingredient quantities to the action when needed for the whole swirling mixture (FIGURE 14). In fifteen the actions are emphasized and the quantities tucked in (FIGURE 15).

हिन्दी

matras
sirorekha

A few basic characteristics of Hindi: the letters are consonants connected to make words by the top horizontal bar (*sirorekha*) above which the *matras* indicate the vowel sounds, as well as some *matras* attached to character bases. There is only one case. A sentence ends with a vertical bar, and Hindi has its own numbers. The letterforms, compared with English, tend to be slightly more complex, more curved and closer to their humanistic pen-form roots. The close viewer/reader will notice a repetition of short words at the end of sentences — these are the Hindi verbs. The words 'tiffin treat' have become a single five-letter word '*nashta*.'

HINDI FUNCTIONAL

In sixteen the comments and notes provide spatial divisions for the sections; the title is large at the bottom (FIGURE 16). The seventeenth contrasts the ingredients to the actions by size, nashta and the note are vertical (FIGURE 17). In eighteen the title words define spatial areas for the two text sections; the *sirorekha* provides a platform for *nashta* and the note (FIGURE 18). Words (title, subtitle and note) on the diagonal in nineteen divide the space and suggest alignments for the text groupings; the numbers for ingredient quantities are enlarged (FIGURE 19). Pinwheel-like movement has a cultural component; the swastika is an old and positive symbol in India.

HINDI FUNCTIONAL:
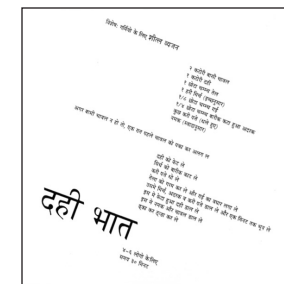
16: | *Gaurav Mathur, IIT–B*
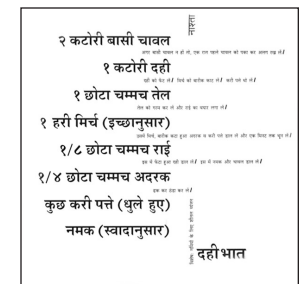
17: | *Dipannita Dutt, NID*

18: | *Smriti Mehra, Shristi*



19: | *Geetika Jaspal, NID*

HINDI EXPRESSIVE

The *sirorekha* works for and against typographic freedom. In twenty, Hindi numbers are sailors enjoying cooling breezes (like the food) from a Kerala student used to water and boats; the strong horizontal helps create a drawn line (FIGURE 20). The 'sh' sound in *nashta* suggests a figure and tray in twenty-one to support all the ingredients; the title is dropped out of the *sirorekha* and the cooling note is on its own pedestal (FIGURE 21). The primary recipe action is shown in twenty-two by shifting letterforms with their 'chopped' *sirorekhas* (FIGURE 22). In twenty-three, the Hindi numeral 'one' found in most of the ingredient quantities is used to separate the ingredients and orga-nize the procedural steps (FIGURE 23).
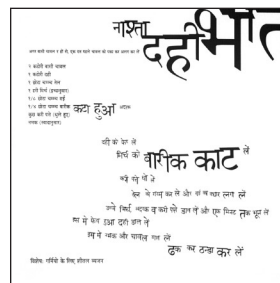
HINDI INTEGRATED

Ending with *nashta* and the title, twenty-four uses two sizes and two weights of Hindi; the process is large and bold with the specific ingredient same size, lighter weight, followed by the ingredient quantity in smaller type (FIGURE 24). In twenty-five, the 'hee' sound of *dahi* is the spatial organizer: along the curved side are the ingredients, under the hook is the note, under the arm is the leftover rice comment and the process is ranged along the stem; *bhatt* punctuates the end in the same size as the beginning 'da' (FIGURE 25).
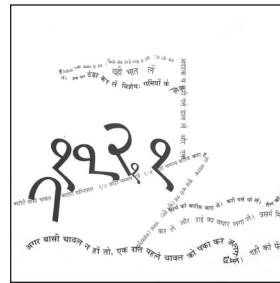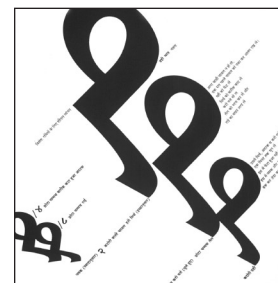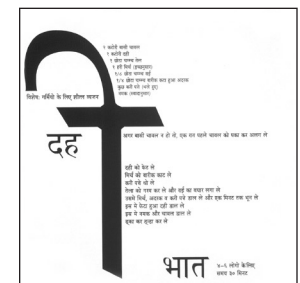

20: | *Deepa V, NID*

22: | *Arvind Prabhakar, Shristi*

21: | *Seema Seth, Shristi*

23: | *Rajorshi Ghosh, NID*

HINDI INTEGRATED:

24: | *Gauri Bajaj, NID*

25: | *Gaurav Mathur, IIT-B*

At Shristi in Bangalore, with students working in Hindi and Kannada, there was the opportunity to compare both languages with English/Roman in terms of alphabet forms, fonts, grammar, punctuation and general usage — all effecting typographic design. Both Hindi and Kannada have only one case and no italic. Both use phonetic alphabets, reading left to right with sentence structure beginning with nouns and ending with verbs. Kannada uses punctuation similar to English while Hindi uses the vertical bar (*purnaviram*) for a full stop. Hindi, with straight and curved, simple and complex forms, aligns along the horizontal *sirorekha* with *matras* above the line and below the letters like subscripts. Kannada, with mostly curved forms and a 'soft' slightly weighted baseline for alignment, has *matras* above and below letters. In Hindi certain sounds are formed with half characters joined horizontally; in Kannada subscript letters for combinations can be joined vertically. Because of so much information along the *sirorekha* and letter bases, Hindi is unreadable if cropped top or bottom. In contrast, Kannada readability can survive some top and bottom cropping. Hindi characters have a strong axis on the right, often a vertical stroke, but can create a strong left aligned edge; Kannada's soft forms create no strong edges and alignments are optical and easiest seen in mass.

For expressive purposes, English affords much greater distortions and flexibility while maintaining readability. In Hindi the necessary connection by *sirorekha* can be broken only slightly before words fall apart becoming meaningless; letterspacing is very limited as sound combinations are fragile. Nor can letterspacing be reduced by much before characters and *matras* pile up on one another. For the same reason, vertical stacking of Hindi characters is close to impossible. For Kannada, wide letterspacing is possible; *matras* can be distorted as long as they remain under the correct part of the character. Due to size differences among the characters most words cannot be stacked vertically. Given these conditions the students discovered what was possible, useful and expressive. Because of one case, larger characters or bolder characters could emphasize or define for both languages. The strong horizontal of Hindi allows close linespacing; Kannada needs greater separation between lines for definition.

ENGLISH:	HINDI:	KANNADA:
UPPERCASE, lowercase	one case	one case
italic	no italic	no italic
– – – read left to right – – –		
– begin with nouns, end with verbs –		
.!? (*punctuation*)	│ (*purnaviram*)	.!? (*punctuation*)

English   हिन्दी   ಕನ್ನಡ

 122–123

ಕನ್ನಡ — *matras*

KANNADA FUNCTIONAL

26: | *Nitya Rao, Shristi*

27: | *Kruti Saraiya, Shristi*

28: | *Krupa Thimmaiah, Shristi*

29: | *Kruti Saraiya, Shristi*

30: | *Anindita Saha, Shristi*

31: | *Krupa Thimmaiah, Shristi*
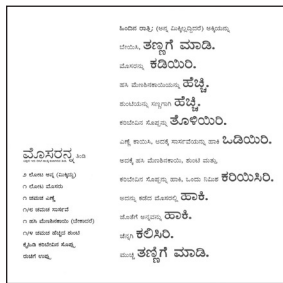
KANNADA EXPRESSIVE

KANNADA FUNCTIONAL

In Kannada 'dahi bhaat' becomes 'mosaranna' in five-letters and 'tiffin' becomes three-letter 'thindi'. In twenty-six, the ingredients are listed under the title and note while the steps are in larger type with the sentence-ending verbs much larger and looking bolder (FIGURE 26). Here you can see the variable visual density of the characters and the relative size of the bottom matras. 'Thindi' (tiffin) is stacked in twenty-seven enclosing the title; ingredients are listed at top and process below, the note at the base (FIGURE 27). 'Thindi' is again used as the focal point in twenty-eight; title, note, ingredients and steps rotate outward (FIGURE 28).
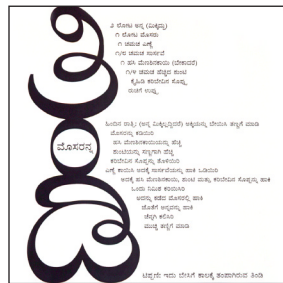
KANNADA EXPRESSIVE

By a student not familiar with the language, the essence of mixture, all the words and foods, is shown in twenty-nine, the title enclosed in 'thindi' (FIGURE 29). The title in thirty is set in a more informal font; along the top the ingredients flow; mixing around the letters are the recipe steps; 'thindi' can be seen in the medium-sized letters (FIGURE 30). Thirty-one emphasizes the forms of the Kannada numbers, even in fractions, the ingredients follow their forms; the steps are listed ending with the title (FIGURE 31).
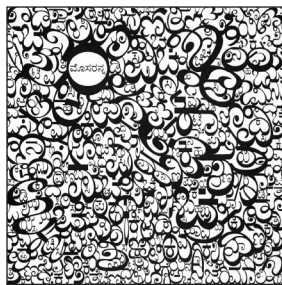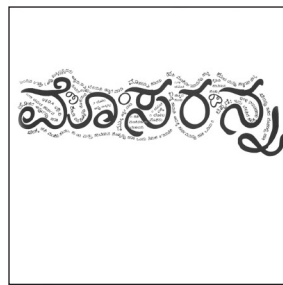
MARATHI FUNCTIONAL

Marathi uses the same Devanagari alphabet as Hindi.
The title in thirty-two with slightly overlapping words
creates the column for the grouped texts; the curved
note draws in the reader (FIGURE 32).

MARATHI EXPRESSIVE

Some of the title characters create a vessel for the
food, shown with its clumps and spices in thirty-three
(FIGURE 33). Another vessel created by one letterform
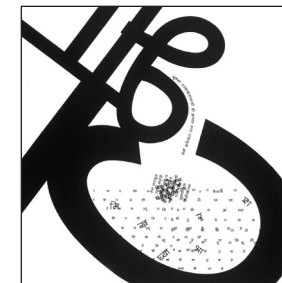pours the prepared food in thirty-four (FIGURE 34).

MARATHI INTEGRATED

The enlarged characters of *'bhaat'* in thirty-five provide
the spaces and alignments for the texts; ingredients sep-
arated from rice note, separated from procedures, from
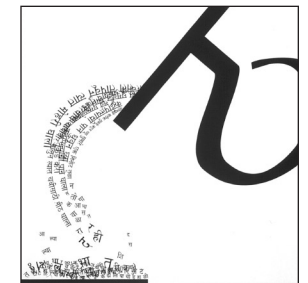cooling note and from servings and time (FIGURE 35).

MARATHI FUNCTIONAL:
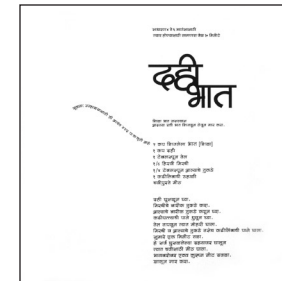
32: │ *Radhika Tipnis, IIT–B*

MARATHI EXPRESSIVE:
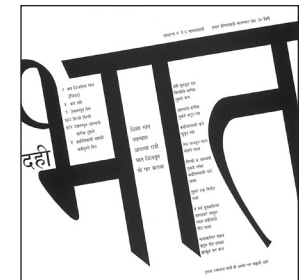

33: │ *Radhika Tipnis, IIT–B*

34: │ *Shweta Telang, IIT–B*

MARATHI INTEGRATED:

35: │ *Shweta Telang, IIT–B*

In contrast to Devanagari from pen forms, Malayalam and Tamil alphabets are derived from writings on palm leaves with a pointed tool; the curling motions are combined with few straight lines in Malayalam, more complex curves in Tamil with more straight strokes. These too have single cases and must rely on size and weight for visual emphasis. More spacing flexibility is possible as the characters are separated. Malayalam has some accents, while Tamil has elaborate ascenders and descenders.

MALAYALAM FUNCTIONAL:

With title in the corner in thirty-six the notes encircle the ingredients and the process steps down (FIGURE 36).

36: | *Rajith Kumar, IIT–B*

TAMIL INTEGRATED:

In thirty-seven, the large title provides the center point for all notes and the ingredient list; process steps are listed to left (FIGURE 37).

37: | *Savavara Raja, IIT–B*

Some students explored the challenge of a bilingual composition. When attempting to balance weight and color between languages they discovered limitations in available fonts; type sizes are best matched optically between English and Indian faces as point sizes must include the *matras* making the x-heights different.

ENGLISH/KANNADA FUNCTIONAL

Both titles in thirty-eight are rotated and the two recipes lean toward each other in visual balance (FIGURE 38).

38: | *Krupa Thimmaiah, Shristi*

39: | *Arvind Prabhakar, Shristi*

ENGLISH/HINDI EXPRESSIVE

Politics (and humor) enter in thirty-nine where the student uses Hindi and its *sirorekha* to obliterate the colonial English and includes a banner of Hindi topped by 'jai' — short for the rallying cry of 'Jai Hind' or 'Glory to India' (FIGURE 39).

ENGLISH/HINDI INTEGRATED

Emphasizing the visual contrast of the letterforms by using a condensed English in forty alternates Hindi ingredients with English process along the left and the reverse along the right, with title to the edge (FIGURE 40). Hindi changes sizes and weight, the English changes only size.

40: | *Geetanjali Srivastava, NID*

In conclusion, with so many parts of the exercise new to the students, some progress was inevitable. Initially, some students found the exercise tedious, then got into the spirit. One of their usual teachers compared the whole exercise to cooking: not enjoyable unless your hands are smeared with ingredients. Here their hands were full of type, rules and text, and they began to enjoy. Some specific aspects they valued involved the structure of the exercise: using the extremes to create understandable boundaries that were subsequently blurred, the sanctioned rule breaking, and finally, knowing experimentation was acceptable and encouraged. The simplicity of the text led some to think the exercise limited but later were surprised at the level of creativity it generated. Working in two and three languages produced several rewards for students, in addition to pure novelty. Translating between the languages showed differences in sentence structure and hierarchy. They were confronted with aspects they took for granted in their primary language and now perceived differently in all languages. In the less familiar languages they began to look more closely at letterforms and at abstract qualities such as typographic color and texture. They found new visual ideas along with the new forms and structures and returned to the familiar with new eyes.

These students are preparing to take on the complexity of typographic design in a country with two official languages and more than twenty others, many dominant in their own regions. Through this short set of exercises they have discovered issues that will define their professional lives and problems that some may seek to address directly in their design. For example, currently the choice of typefaces for Indian languages is limited and within those available the variations in weight, structure and slant are not developed. Technology must address the fact that many Indian alphabets can have as many as fifty traditional characters. Hindi lost about ten characters when the British adapted it to the standard English keyboard. Those developing typefaces and typesetting programs have no standardized keyboards; manufacturers use their own variation on either key mapping or phonetic mapping onto English letters. There are important cultural and political ramifications to the creative and technical ability of designers to produce inventive and successful communication materials for the formidable range of voices among a billion people.

AUTHOR NOTE

Martha Scotford teaches graphic design and design history at North Carolina State University. She is author of Cipe Pineles: a life of design (Norton, 1999). Her visual translations instigated Lissitzky's and Mayakovsky's 'For the Voice,' comprising a volume of essays, a facsimile of the original Russian book, an English translation (The British Library, 2000). She was a Fulbright Lecturer in India for four months in 2001 during which these workshops took place.