

# Chapter 1

## Digital Typeface Design and Font Development for Twenty-First Century Bangla Language Processing

**Fiona G. E. Ross**  
*University of Reading, UK*

### ABSTRACT

*Typeface and font design are fundamental to textual communication, and therefore, such communication, whether for use in print or on screen, is greatly enhanced and facilitated by the development and application of high-quality designs. The chapter discusses the key issues that underpin best practice in Bengali digital type design—from a design's conception to its implementation, that is, the design concept and brief, the character set, the design dimensions, character fitting, and also the considerations for harmonious multi-script setting. The design methodology described is founded on research-based practice in non-Latin type design and font development. It considers how past practices in type-making and typesetting affected current Bengali typeforms and how an evaluation of these practices, in conjunction with the use of the existing and emerging font technologies, can inform the practitioner in the design of high-quality cross-platform OpenType Bengali fonts.*

### INTRODUCTION

Typeface design is a multi-disciplinary activity that sees the practical application of artistic, technical and, often, linguistic skills. Its outcomes, in the form of fonts, provide the bedrock for effective textual communication in the many and diverse writing-systems of the world that represent an

even greater range of languages. The existing and emerging font technologies now allow for the accurate rendering of complex scripts<sup>1</sup>, hitherto unattainable for many writing-systems, and so make this an apposite time in typographic history to redress the recognized dearth of high-quality non-Latin typeface designs. The recent availability of reliable yet relatively low-cost font-making tools,

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that are no longer limited to proprietary systems, enable the generation of Unicode<sup>2</sup> compliant cross-platform OpenType<sup>3</sup> fonts by independent designers as well as by design studios or software companies.

This chapter describes a design methodology which is founded on research-based practice in non-Latin typeface design (Ross, 2002) to achieve optimum readability in typographic compositions, whether in print or on screen. It considers the key issues of Bengali type design that arise from a design's conception to its implementation that come under the broader categories of the design brief, the character set, the design dimensions, and character fitting. Consideration is also given to the increasing requirement for multi-script setting. The chapter describes how the evaluation of past practices of type-making and typesetting, and the anticipation of further technological developments, can inform today's practitioners in order to achieve best practice in this field to answer the needs of over 250 million Bangla-language speakers.

## **BACKGROUND**

This chapter is written from a type designer's and font developer's point of view based on the premise that typeface and font design are fundamental to visual communication. The focus here is primarily on designing text typefaces since these are the workhorses of textual communication by means of pre-fabricated letterforms, and are the most challenging to execute. The current repertoire of Bengali typeface designs is noticeably limited<sup>4</sup>, and fonts often exist in incompatible formats. Furthermore, the quality in terms of readability and appropriateness of the design for its purpose is poor in comparison to Latin typefaces and in comparison to the early Bengali foundry types.

The urgency of addressing this subject for the Bengali language is underlined by the continued

apparent ubiquitous use of the Linotype Bengali digital typeface<sup>5</sup> in the majority of publications in the Bengali script although fonts of this typeface have not been available for purchase by legitimate means for over two decades. Furthermore, the typeface was originally designed for setting newspaper text on newsprint, yet it is nowadays used to answer a multiplicity of functions, however inappropriate its design, including for display purposes on billboard posters, and for text passages on Web pages<sup>6</sup>, albeit in a cloned form (see Figure 1).

Hitherto, little has been written on the subject, except by the author, and particularly in relation to the visual representation of the Bengali language. The focus has been on printing histories, publishing history in Kolkata (Khan, 1976; Shaw, 1981; Kesavan, 1985) and not on the design of Bengali typeforms for current technology. This chapter therefore develops further the new chapter in the author's re-published book (Ross, 2009), which highlights some of the issues that are covered here in greater depth. For want of other reference texts that are based on original research<sup>7</sup>, this work and other writings by the author are necessarily cited in order to provide further information that is helpful in substantiating particular assertions within the essay. In the field of Latin typeface design, Walter Tracy's work (Tracy, 1986), based on his many years of experience whilst working at Linotype-Paul Limited, provides useful insights into good practice that is applicable to Bengali and other non-Latin scripts, and is cited where appropriate.

## **Terminology**

Currently there is no standard terminology for discussing typeforms in non-Latin scripts and those used for the Latin are at times inappropriate (e.g. x-height) or fail to describe aspects peculiar to the Bengali script. For the purpose of this essay, the use of the terminology developed by the

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