

This paper discusses the readability, legibility, aesthetics and underpinning ideology of ThreeSix, an experimental optical/geometric type system designed by Hamish Muir and Paul McNeil. ThreeSix is an attempt to reconcile mathematics with visual perception and display type with text matter. It explores the possibilities of using regulatory procedures to generate geometric Roman fonts which are distinctive at large point sizes but which can also be read with ease at smaller sizes, in bodies of extended text.

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Since the late 19th century, a huge number of designers have explored the construction of typefaces and lettering whose individual forms are conceived as variable components in systems of difference regulated by underlying geometries. These preoccupations can be seen as either an exponent of, or a response to, communication practices predicated on a modernist world view.

The appearance of such types is determined largely by the technologies and mechanisms through which they are mediated. With certain notable exceptions, their formal simplicity restricts them to use as display typefaces which are only effective at large sizes and for short bodies of text.

This limitation contrasts with the broader functionalities of typeface designs based on much older humanist traditions, where there is an implicit interconnection between form, aesthetic value and the human body.

Traditional type design's deep roots in human proprioception are evident in the persistent conformity of all Roman letterforms to the stroke ductus – the natural trace of manual gestures – and in a wide range of almost imperceptible compensatory optical modifications in individual glyphs, such as, for example, the reduction of stroke weight at junctions or the swelling of curves used to create the necessary illusion of evenness in glyph sequences constituting words and sentences – the basic fabric of text.

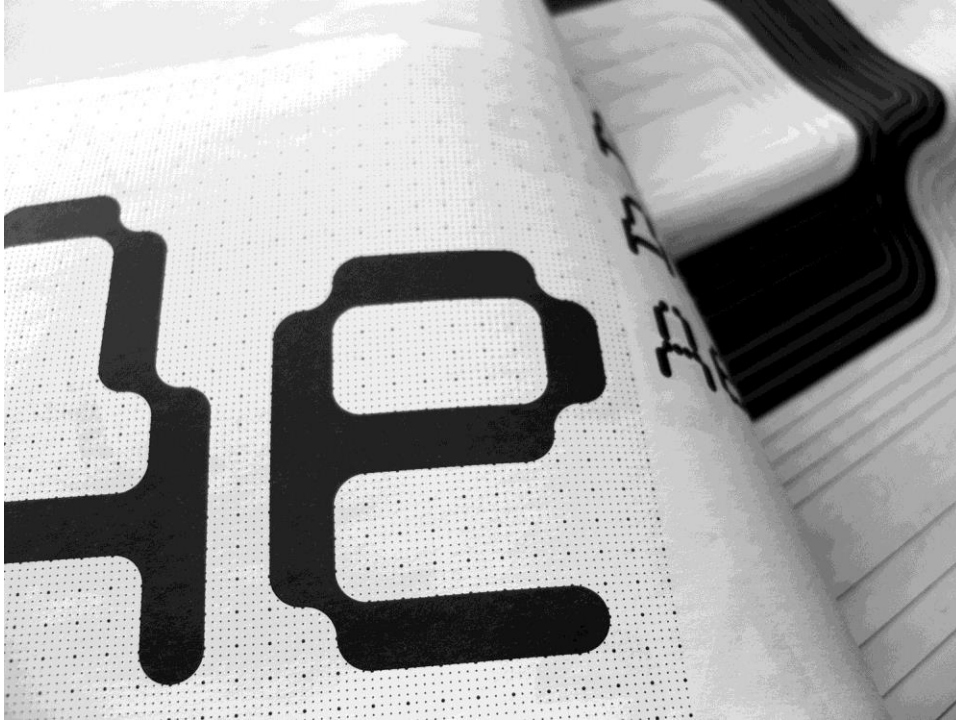
The ThreeSix project attempts to reconcile these two opposed approaches in the design of a single type family. It is based on the application of systematic geometric principles. These include an incremental series of optical and structural interventions intended to compensate for many of the intrinsic limitations of the basic forms.

These compensations operate in staged progressions on five key typographic characteristics:

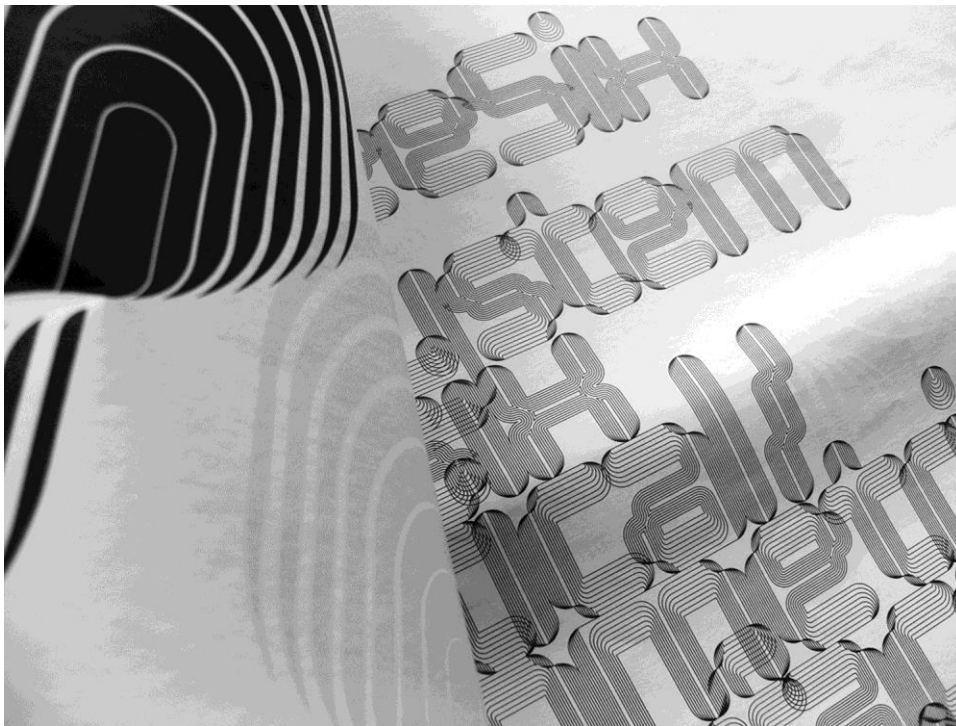
1/ letterform – the shape of individual glyphs,



2/ stroke modulation – the visual balance between horizontal strokes and vertical strokes,



3/ junctions – the optical effects at the intersections of two or more strokes,



4/ weight – the progressive increment of bulk on the skeleton of the letter,



5/spacing – the fit of the forms in linear sequences.

ThreeSix is based on a simple grid of 36 unit squares subdivided into 9 units. All of the fonts are constructed using only vertical or horizontal straight lines and circular arcs. Cap-height, x-height, ascent and descent measurements are consistent across all fonts and weights. The grid also determines character and word spacing, with all side-bearings and kerning pair values conforming to 9 unit increments.

There are six font families or sets in the system, each in eight weights. Basic proportions, letterforms, weight increments and spaces are established in a very basic '\root\' style designed to exclude any compensatory visual features. The subsequent font sets implement the optical and structural interventions outlined previously in stages of progressively increasing complexity. These compensatory modifications are visible at large sizes, but at small sizes, the eye perceives only the resulting overall effects on bodies of text rather than their specific causes.

ThreeSix received a ISTD Premier Award and a Certificate of excellence from the International Society of Typographic Designers in 2011. It has been released commercially in 2012 by FontFont, a major international type foundry.