Title:	Disposition of comments on "Summary of Voting on document JTC 1 N4877, DTR 15285, Information Technology, An Operational Model for Characters and Glyphs (JTC 1 N5097)"
Source:	Edwin Hart and Alan Griffee (co-editors)
Action:	For information and publication as a Technical Report
Distribution:	ISO Central Secretariat, SC 2

The co-editors thank the National Bodies and individual technical experts who took time to review and approve DTR 15285. This disposition of comments documents the actions taken by the editors to resolve the editorial comments provided in the ballot responses. This disposition report, along with the revised technical report, is being forwarded to ISO Central Secretariat for publication.

In this disposition of comments, we responded to comments from the national bodies of:

- Canada
- USA

In addition, the editors added one reference (Peter Lofting's paper) to the bibliography. This reference was the basis of clause B.4 and was inadvertently not included in the DTR.

Canadian National Body

Editorial comments:

1. Clause 6, Bullet 1:

   The German quotes at the end of page 6 are reversed, showing end quote followed by start quote, where the other two examples are start quote followed by end quote.

   RESPONSE: *Rejected*

   Technical experts agree the German quotes are correctly represented in the document. See the Duden "Rechtschreibung der deutschen Sprache und der Fremdwörter", 19th Edition, ISBN 3-411-20900-3, the current authoritative source for spelling rules. Thanks to Otto Stolz, University of Konstanz, Germany.

2. Annex B:

   There are a number of incorrect glyphs on the page in the examples

   RESPONSE: *Rejected*

   This comment is based on an incorrect printing of the August, 1996 working draft of the document and does not reflect the actual glyphs contained in the official ballot document. Because a number of glyphs used in this technical report require uncommon fonts, care must be taken when printing from softcopy distribution.

US National Body

Editorial comments:

1. General:

   The document needs to use a consistent style for presenting the jargon (terms used by SC 2 and SC 18). In some sections, the terms are italicized; in others, they are enclosed in quotation marks. Either italicize the terms or use quotation marks consistently through the entire document.

   RESPONSE: Accepted; the document will be revised to consistently use quotes and italics. In addition, references to the ISO/IEC 10646 numeric identifiers, as defined in amendment 9, will consistently use the "U+nnnn" convention.

2. Section 4, Character and glyph distinctions

   In paragraph 1, sentence 1, the sentence is malformed. Restore the text of the original sentence found in the January, PDTR text:

   The character and glyph definitions in clause 3, which were taken from ISO/IEC 10646 and ISO/IEC 9541, were developed independently and contain terminology that requires explanation.

   RESPONSE: Accepted

3. Section 4

   Consider moving the last paragraph to section 5.2 after the second paragraph on glyph selection.

   RESPONSE: Accepted

4. Section 5.1, Character and glyph domains

   Change Figure 1 as follows

   a. Remove "Optical" from "Optical Character Recognition" to comply with the previous Japanese comment on character recognition.

   RESPONSE: Accepted

   b. Correct the spelling of "Substitution".

   RESPONSE: Accepted

5. Section 5.2, Composition, layout, and presentation

   a. Consider updating Figure 2 to show three processing areas, which use character information, or glyph information, or both. Identify the area of overlap that must be aware of both content-based character information and the appearance-based glyph information.

   RESPONSE: Accepted; a revised figure was created and reviewed for accuracy.

   b. The following sentence from page 7 should be moved to the Introduction section because the concept is too important not to include in the Introduction.

   "The necessity for glyph selection, not its complexity, motivates the creation of this operational model for characters and glyphs."

   RESPONSE: Rejected; To incorporate this sentence in the introduction would require the addition of technical detail that we feel would be inappropriate in the Introduction. The subject sentence, since it is a clarifying comment, will be made into a note, and revised as follows:

   "NOTE: The necessity for mapping characters to glyphs (glyph selection), not its complexity, is one of the motivations for developing this operational model for characters and glyphs."

6. Section 6, Glyph selection

Bullet 4, correct the right quotation mark and add a space between the shape and "are". In the second paragraph, add a space between "ALEF" and the character and correct the left quotation mark.

Figure 4, add the glyph for the other Lam-Alef ligature.

RESPONSE: Accepted; In addition, the text of the previous sentence will be revised as follows: "... and then the two ligature forms used when Lam is followed by Alef."

7. C.3.2, Character to glyph mapping table

The requirement in the last sentence appears to be overly stringent.

"The glyph identifiers used in a character-to-glyph mapping must be the same as those used in the associated font resource."

RESPONSE: Accepted; the text will be revised to read:

"The glyph identifiers used in a character-to-glyph mapping may be the same as those used in the associated font resource, or may be indirectly mapped to the associated font resource."

8. Annex C and Annex D concerns

The font models in Annex D use *both* processes and data structures to render characters into glyphs. The previous Annex (C, Glyphs) describes the data structures in sections C.3.1, C.3.2, C.3.3 and C.3.4. Logically, description of the data structures may be more closely related to the font models than glyphs. Consider moving these descriptions to Annex D.

RESPONSE: Accepted in principle; The concern will be addressed by adding a sentence to the end of the first paragraph in Annex D to refer to the data structures identified in Annex C.

"These font models rely not only on the processes described in this annex, but also on the glyph data-structures described in Annex C.3, "Use of glyph identifiers".

9. Annex D.1, Coded Font Model

Consider renaming the "Coded-Font Model" to the "Character-Coded Font Model". All fonts are "coded" in the sense that they use code indices to access the glyphs they contain. The big difference for the "Character-coded Font" is that the index code to the glyphs, rather than being a glyph identifier logically different from the character code, is identical to the character code.

RESPONSE: Proposed solution rejected; however, the concern will be addressed by adding a parenthetic phrase after the first occurrence of the term "coded font", i.e., "A "coded font" (or a "character-coded font") is a data structure..."

10. Annex D, Font Models

The reader of Annex D would benefit by having a table to summarize and compare the three font models. The following table is one possible example.

Table 1. Comparison of Font Models

Characteristic	Coded Font	Font Resource	Intelligent Font
Glyph Selection Process (character-to-glyph mapping)	None (1-to-1)	Yes (1 Process) (1-to-1 or M-to-N)	Yes (2 Processes) (1-to-1 or M-to-N)
Font Structure			
Index to Glyphs	Code Position in Character Code Table	Glyph Identifier (private or registered)	Glyph Identifier (private)
Glyph Metrics and Shapes	Yes	Yes	Yes
Character-to-Glyph Mapping	No (implied by character code position)	Yes (external to font resource)	Yes (in font resource)
Additional Data	No	No	Feature Selection, Layout Transformation

RESPONSE: Accepted.

11. Annex E

Annex E gives several examples of mappings. Consider adding examples to ensure that all of the following cases are covered:

- 1 character maps to 0 glyphs (e.g. spaces of various sorts, etc.)
- 1 character maps to 1 glyph (e.g. most Latin letters, Han ideographs)
- 1 character maps to 2 or more glyphs (e.g. compatibility Roman numerals decomposed and rendered with individual glyphs)
- 2 or more characters map to 0 glyphs (e.g. sequence of format codes)
- 2 or more characters map to 1 glyph (e.g. combining sequence rendered with preformed glyph; Hangul jamo sequence rendered with Hangul syllable font, etc.)
- 2 or more characters map to 2 or more glyphs (e.g. typical case for Indic script rendered with high-quality font with conjunct glyphs, where rendering logic may map on a syllabic basis)

RESPONSE: Rejected; the editors have reviewed the annex and we believe that sufficient examples are provided.