IP Review of Variants for the Proposed Latin LGR dated 2018-09-10

DATE: 2018-09-25

# Overview

This document reviews the ariants as defined in the proposed Latin LGR (Proposal-for-LatinScriptRootZone-LGR-V3-0-submitted-20180910-DT-MB.docx)

In order to conduct the review, the IP processed the proposal’s XML file (after removing a duplicate reference 151, an error condition according to RFC7940) in the context of a “trial integration” with the existing deferred LGRs for Cyrillic and Armenian.

Any existing cross-script variants between those LGRs and the Latin LGR would be imposed on the latter as part of integration and the Latin GP is requested to take due notice.

**IP recommendation:** the Latin GP to review the effect of already defined variants in deferred LGRs.

As there is as yet no draft of a Greek LGR, any variants defined by the Latin LGR would eventually be imposed on the Greek LGR. Therefore the opinion of the Greek GP should be solicited if possible.

Each section below reviews the variant relations for one or more Latin code points; they are presented in approximate code point order (with some exceptions).

The review excerpts the variant definitions as found in HTML representations generated by the integration tool. The comments were lightly edited to indicate the script for out-of-repertoire characters and to remove annotations about manually/automatically added variants in favor of retaining the rationale for the variant relation.

In a few cases, where there was no comment, the existence of an INSCRIPT variant was noted.

**IP recommendation:** The IP expects that all in-script variants be listed explicitly in a separate table in the main document, even if they can be inferred via transitivity from multiple cross-script variants.

Each section concludes with a discussion of the variants and an IP recommendation as to further action by the Latin GP.

Variant relations that are non-controversial and also match the deferred LGRs have not been listed.

Many variant relations lack a rationale (as given in a comment), some deserve additional discussion.

**IP recommendation:** complete the comments, provide additional documentation where requested

**Review of variant relations for Latin Letters U+0075 and U+028B**

**COMMON Variant Set 17 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0075 | u | 028B | ʋ | ↔ | blocked |  |  IN-SCRIPT-VARIANT |
| 0075 | u | 03C5 | υ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| 0075 | u | 057D | ս | ↔ | blocked |  | Cross-script homoglyph |
| 028B | ʋ | 03C5 | υ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| 028B | ʋ | 057D | ս | ↔ | blocked |  | (added for transitivity)  |
| 03C5 | υ | 03C5 | υ | ≡ | out-of-repertoire-var |  | Out-of-repertoire : GREEK |
| 03C5 | υ | 057D | ս | ↔ | blocked |  |  (added for transitivity) |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**ARMENIAN Variant Set 6 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0075 | u | 0075 | u | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| 0075 | u | 057D | ս | ↔ | blocked |   | Cross-script homoglyph |

**LATIN Variant Set 14 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0075 | u | 028B | ʋ | ↔ | blocked |   |  IN-SCRIPT VARIANT |
| 0075 | u | 03C5 | υ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| 028B | ʋ | 03C5 | υ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| 03C5 | υ | 03C5 | υ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |

The Latin LGR proposal sets up an in-script variant for Latin and imposes a new cross-script variant with Greek. It causes additional variants for Armenian (due to transitivity). It does not cause any new in-script variants for existing or deferred LGRs.

The Latin proposal does not contain a variant to Armenian U+057D. This variant will be imposed on the Latin LGR as part of integration.

The IP is doubtful about the proposed in-script variant between u and ʋ (U+0075 and U+028B) which seems to be a case of mere visual similarity. The case for U+028B/U+03C5 is also questionable (U+03C5 does not have a hook).

**IP recommendation:** Latin GP to review need for U+0075 / U+028B in-script variant, followed separately by review of U+028B / U+03C5 cross-script variant. Latin GP to add U+0075 / U+057D variant defined in the deferred Armenian LGR.

**Review of variant relations for Latin Letter U+00FA**

**LATIN Variant Set 28 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00FA](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#00FA) | ú | [03CD](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03CD) | ύ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [03CD](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03CD) | ύ | [03CD](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03CD) | ύ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |

This case depends on the resolution of the review for U+0075 and U+028B.

See also the case for 00FC.

**IP recommendation:** Latin GP to review in context with case for U+0075 and U+028B.

**Review of variant relations for Latin Letter U+0062 and Sequence U+0062 U+006C**

**LATIN Variant Set 2 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0062](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0062) | b | [044C](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#044C) | ь | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [044C](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#044C) | ь | [044C](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#044C) | ь | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

**LATIN Variant Set 3 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0062 006C](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0062_006C) | bl | [044B](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#044B) | ы | ↔ | blocked |   | String is visually similar to target glyph |
| [044B](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#044B) | ы | [044B](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#044B) | ы | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

The Latin LGR proposal would impose new cross script variant relations for the Cyrillic LGR.

Common to both is that Cyrillic U+044B and U+044C are only of x-height, despite the fact that the glyph for U+044C looks like a bowl plus ascender.

This difference in height would immediately become a distinguishing feature, if the remainder of the TLD contained any other Cyrillic letters (or the full domain name contained either Latin or Cyrillic letters). However, it is conceivable that a hypothetical ccTLD .bl could be spoofed by .ы if the FQDN contained only other scripts, such as Han. Likewise for a hypothetical gTLD “.bbb”.

While to some extent a judgment call, these would require additional discussion explaining the particular overriding rationale.

**IP recommendation:** Latin GP to review, with an eye to removal or, alternatively, to providing a particular, overriding rationale why these cases must be treated as variants.

**Review of variant relations for Latin Letter U+0067**

**COMMON Variant Set 6 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0067 | g | 0581 | ց | ↔ | blocked |  | Cross-script homoglyph |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**ARMENIAN Variant Set 1 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0067 | g | 0067 | g | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| 0067 | g | 0581 | ց | ↔ | blocked |   | Cross-script homoglyph |

The Latin proposal does not contain a variant to Armenian U+0581. This variant will be imposed on the Latin LGR as part of integration.

As the “hook”-style of g is a common font variant in Latin fonts, U+0581 can be successfully to spoof a Latin g, even if some Latin fonts use the “loop”-style of g.

**IP recommendation:** Latin GP to add this variant as “can be identical in some fonts”.

**Review of variant relations for Latin Letter U+0068**

**COMMON Variant Set 7 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0068 | h | 04BB | һ | ↔ | blocked |  | Cross-script homoglyph |
| 0068 | h | 0570 | հ | ↔ | blocked |  | Cross-script homoglyph |
| 04BB | һ | 0570 | հ | ↔ | blocked |  | Cross-script homoglyph |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**ARMENIAN Variant Set 2 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0068 | h | 0068 | h | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| 0068 | h | 04BB | һ | ↔ | blocked |   | Cross-script homoglyph |
| 0068 | h | 0570 | հ | ↔ | blocked |   | Cross-script homoglyph |
| 04BB | һ | 04BB | һ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |
| 04BB | һ | 0570 | հ | ↔ | blocked |   | Cross-script homoglyph |

**CYRILLIC Variant Set 4 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0068 | h | 0068 | h | ≡ | out-of-repertoire-var |   | Out-of-repertoire |
| 0068 | h | 04BB | һ | ↔ | blocked |   | Cross-script homoglyph |
| 0068 | h | 0570 | հ | ↔ | blocked |   | Cross-script homoglyph |
| 04BB | һ | 0570 | հ | ↔ | blocked |   | Cross-script homoglyph |
| 0570 | հ | 0570 | հ | ≡ | out-of-repertoire-var |   | Out-of-repertoire |

The Latin proposal does not contain a variant to Armenian U+0570 or Cyrillic U+04BB. These variants will be imposed on the Latin LGR as part of integration.

As there is a tendency towards alignment in glyph design across scripts, variability of these glyphs across fonts may well diminish rather than increase in future.

**IP recommendation:** Latin GP to add these variant as “Glyphs nearly identical due to font design”.

**Review of variant relations for Latin Letter U+006E**

**COMMON Variant Set** **11 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 006E | n | 0578 | ո | ↔ | blocked |  | Cross-script homoglyph |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**ARMENIAN** **Variant Set 3 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 006E | n | 006E | n | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| 006E | n | 0578 | ո | ↔ | blocked |   | Cross-script homoglyph |

The Latin proposal does not contain a variant to Armenian U+0578. This variant will be imposed on the Latin LGR as part of integration.

As there is a tendency towards alignment in glyph design across scripts, variability of these glyphs across fonts may well diminish rather than increase in future.

**IP recommendation:** Latin GP to add this variant as “Glyphs nearly identical due to font design”.

**Review of variant relations for Latin Letter U+006F**

**COMMON Variant Set 12 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 006F | o | 03BF | ο | ↔ | blocked |  | Cross-script homoglyph| |
| 006F | o | 043E | о | ↔ | blocked |  | Cross-script homoglyph |
| 006F | o | 0585 | օ | ↔ | blocked |  | Cross-script homoglyph |
| 03BF | ο | 03BF | ο | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |
| 03BF | ο | 043E | о | ↔ | blocked |  | Cross-script homoglyph |
| 03BF | ο | 0585 | օ | ↔ | blocked |  | Cross-script homoglyph |
| 043E | о | 0585 | օ | ↔ | blocked |  | Cross-script homoglyph |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**ARMENIAN Variant Set 4 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 006F | o | 006F | o | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| 006F | o | 03BF | ο | ↔ | blocked |   | Cross-script homoglyph |
| 006F | o | 043E | о | ↔ | blocked |   | Cross-script homoglyph |
| 006F | o | 0585 | օ | ↔ | blocked |   | Cross-script homoglyph |
| 03BF | ο | 03BF | ο | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| 03BF | ο | 043E | о | ↔ | blocked |   | Cross-script homoglyph |
| 03BF | ο | 0585 | օ | ↔ | blocked |   | Cross-script homoglyph |
| 043E | о | 043E | о | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILIC |
| 043E | о | 0585 | օ | ↔ | blocked |   | Cross-script homoglyph |

**CYRILLIC** **Variant Set 8 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 006F | o | 006F | o | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| 006F | o | 03BF | ο | ↔ | blocked |   | Cross-script homoglyph |
| 006F | o | 043E | о | ↔ | blocked |   | Cross-script homoglyph |
| 006F | o | 0585 | օ | ↔ | blocked |   | Cross-script homoglyph |
| 03BF | ο | 03BF | ο | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| 03BF | ο | 043E | о | ↔ | blocked |   | Cross-script homoglyph |
| 03BF | ο | 0585 | օ | ↔ | blocked |   | Cross-script homoglyph |
| 043E | о | 0585 | օ | ↔ | blocked |   | Cross-script homoglyph |
| 0585 | օ | 0585 | օ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: ARMENIAN |

**LATIN Variant Set 10 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 006F | o | 03BF | ο | ↔ | blocked |   | Homoglyph |
| 006F | o | 043E | о | ↔ | blocked |   | Homoglyph |
| 03BF | ο | 03BF | ο | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| 03BF | ο | 043E | о | ↔ | blocked |   |  (transitivity) |
| 043E | о | 043E | о | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

The Latin proposal does not contain a variant to Armenian U+0585. This variant will be imposed on the Latin LGR as part of integration.

Glyphs that represent a circle are common across scripts; even for unrelated scripts they represent a security concern as the shape gives little hint to a script origin. Note that there is one delegated TLD “.ooo” which would be easily spoofed by “.օօօ” in Armenian.

**IP recommendation:** Latin GP to add this variant as “cross-script homoglyph”.

**Review of variant relations for Latin Letter U+0070**

**COMMON Variant Set** **13 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0070 | p | 03C1 | ρ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| 0070 | p | 0440 | р | ↔ | blocked |  | Cross-script homoglyph |
| 03C1 | ρ | 03C1 | ρ | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |
| 03C1 | ρ | 0440 | р | ↔ | blocked |  |  (transitivity) |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**CYRILLIC** **Variant Set 9 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0070 | p | 0070 | p | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| 0070 | p | 0440 | р | ↔ | blocked |   | Cross-script homoglyph |

**LATIN** **Variant Set 11 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0070 | p | 03C1 | ρ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| 0070 | p | 0440 | р | ↔ | blocked |   | Homoglyph |
| 03C1 | ρ | 03C1 | ρ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| 03C1 | ρ | 0440 | р | ↔ | blocked |   |  (transitivity) |
| 0440 | р | 0440 | р | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

The deferred Cyrillic LGR does not contain a variant to Greek U+03C1. This variant would be imposed on the Cyrillic LGR as part of integration if the Latin LGR’s variant definitions remain as proposed.

In the context of TLDs, for example a TLD “.ρορ” might well spoof the TLD “.pop", particularly, if the remainder of the full domain name were in some unrelated script. However, this may be considered a case of mere visual similarity.

**IP recommendation:** Latin GP to review need for U+0070/U+03C1.

**Review of variant relations for Latin Letter U+0076**

**LATIN: Variant Set 15 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0076](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0076) | v | [03BD](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03BD) | ν | ↔ | blocked |   | Homoglyph |
| [03BD](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03BD) | ν | [03BD](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03BD) | ν | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |

The Latin LGR would impose a cross-script mapping to the Greek LGR.

While not an exact homoglyph for all fonts, the similarity is strong in general and a treatment as variant would be appropriate on security grounds, especially given that Latin/Greek share a considerable number of very close/ homoglyphs making spoofing a concern.

**IP recommendation:** Latin GP to change rationale from “Homoglyph” to “Glyphs nearly identical due to font design” and explicitly justify inclusion based on security

**Review of variant relations for Latin Letter U+0078**

**COMMON Variant Set 19 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0078) | x | [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03C7) | χ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0078) | x | [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0445) | х | ↔ | blocked |  | Cross-script homoglyph |
| [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0078) | x | [04B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#04B3) | ҳ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03C7) | χ | [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03C7) | χ | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |
| [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03C7) | χ | [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0445) | х | ↔ | blocked |  |   |
| [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03C7) | χ | [04B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#04B3) | ҳ | ↔ | blocked |  |   |
| [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0445) | х | [04B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#04B3) | ҳ | ↔ | blocked |  |   |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**CYRILLIC Variant Set 11 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0078) | x | [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0078) | x | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATN |
| [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0078) | x | [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0445) | х | ↔ | blocked |   | Cross-script homoglyph |

**LATIN Variant Set 16 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0078) | x | [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C7) | χ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0078) | x | [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0445) | х | ↔ | blocked |   | Homoglyph |
| [0078](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0078) | x | [04B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04B3) | ҳ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C7) | χ | [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C7) | χ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C7) | χ | [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0445) | х | ↔ | blocked |   |   |
| [03C7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C7) | χ | [04B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04B3) | ҳ | ↔ | blocked |   |   |
| [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0445) | х | [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0445) | х | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |
| [0445](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0445) | х | [04B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04B3) | ҳ | ↔ | blocked |   |   |
| [04B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04B3) | ҳ | [04B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04B3) | ҳ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

The deferred Cyrillic LGR does not contain a variant from U+0445 to Greek U+03C7 or U+04B3. These variant would have to be imposed on the Cyrillic LGR as part of integration if the Latin LGR’s variant definitions remain as proposed. In particular, this would impose an in-script variant for Cyrillic something that is of questionable acceptability given that the Cyrillic GP chose not to consider х and ҳ variants. Imposing a variant to Greek χ would be formally less objectionable.

However, the IP is not persuaded that the case for making x a variant of χ (U+03C7) or ҳ (U+04B3) is particularly strong. The Greek and Cyrillic glyphs seem readily distinguishable from the Latin one.

**IP recommendation:** Latin GP to review these variants with an eye towards withdrawing all but the mapping to U+0445 x.

**Review of variant relations for Latin Letter U+0079**

**COMMON Variant Set 20 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0079) | y | [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B3) | γ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0079) | y | [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0443) | у | ↔ | blocked |  | Cross-script homoglyph |
| [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0079) | y | [04AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#04AF) | ү | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B3) | γ | [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B3) | γ | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |
| [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B3) | γ | [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0443) | у | ↔ | blocked |  |   |
| [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B3) | γ | [04AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#04AF) | ү | ↔ | blocked |  |   |
| [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0443) | у | [04AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#04AF) | ү | ↔ | blocked |  |   |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**CYRILLIC Variant Set 12 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0079) | y | [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0079) | y | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0079) | y | [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0443) | у | ↔ | blocked |   | Cross-script homoglyph |

**LATIN Variant Set 17 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0079) | y | [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B3) | γ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0079) | y | [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0443) | у | ↔ | blocked |   | Homoglyph |
| [0079](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0079) | y | [04AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AF) | ү | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B3) | γ | [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B3) | γ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B3) | γ | [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0443) | у | ↔ | blocked |   |   |
| [03B3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B3) | γ | [04AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AF) | ү | ↔ | blocked |   |   |
| [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0443) | у | [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0443) | у | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |
| [0443](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0443) | у | [04AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AF) | ү | ↔ | blocked |   |   |
| [04AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AF) | ү | [04AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AF) | ү | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

The deferred Cyrillic LGR does not contain a variant from U+0445 to Greek U+03B3 or U+04AF. These variants would have to be imposed on the Cyrillic LGR as part of integration if the Latin LGR’s variant definitions remain as proposed. In particular, this would impose an in-script variant for Cyrillic something that is of questionable acceptability given that the Cyrillic GP chose not to consider у and ү variants. Imposing a variant to Greek γ would be formally less objectionable.

While the similarities in question are noticeably closer than in the case for U+0078, the IP is concerned that the case for making a y variant of γ or ү may not be strong enough to overcome the formal objection to imposing an in-script variant for the Cyrillic script after the latter LGR has been finalized. (Insofar as the LGR has been deferred and not published, even such late imposition of a variant relation does at least not create any compatibility issues).

It may seem likely that Latin “.pay” can be spoofed by Cyrillic “.раү” as easily as with Cyrillic “.рау”. (More so, if the descender is partially obscured by an underline). This matter requires further review. At a minimum, the opinion of the Cyrillic community should be solicited (or the variant to ү removed).

**IP recommendation:** Latin GP to review these variants with an eye towards resolving outstanding concerns.

**Review of variant relations for Latin Letter U+00DF**

**LATIN Variant Set 18 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00DF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00DF) | ß | [03B2](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B2) | β | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [03B2](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B2) | β | [03B2](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B2) | β | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |

There being no Greek LGR, it is unknown whether the Greek GP would concur in treating these as variants. In the view of the IP, the similarity is rather marginal, with both German and Greek users likely to notice that something is “off”.

It is true that the root zone in particular is a shared resource and users that are not native may access a TLD and could be more easily fooled. However, there’s a general issue that the variant mechanism works best in cases where the two can be readily substituted (in this case, are fully visually equivalent). This requirement for the ability to substitute is in fact the operational definition of variant in the VIP report.

Other types of relations (similarity etc.) that stop short of this equivalence therefore may not qualify as variants and are better left to other mechanism.

**IP Recommendation:** Latin GP to review with an eye towards removal; however, if it is felt critical, explain overriding reason why this should be a variant. The opinion of the Greek GP should be solicited, or the variant removed.

**Review of variant relations for Latin Letters U+0061 and U+00E1**

**LATIN Variant Set 1 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0061](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0061) | a | [03B1](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B1) | α | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [0061](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0061) | a | [0430](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0430) | а | ↔ | blocked |   | Homoglyph |
| [03B1](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B1) | α | [03B1](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B1) | α | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| [03B1](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B1) | α | [0430](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0430) | а | ↔ | blocked |   |   |
| [0430](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0430) | а | [0430](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0430) | а | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

**CYRILLIC Variant Set 1 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0061](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0061) | a | [0061](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0061) | a | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| [0061](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0061) | a | [0430](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0430) | а | ↔ | blocked |   | Cross-script homoglyph |

The deferred Cyrillic LGR does not contain a variant from U+0430 to Greek U+03B1. This variant would have to be imposed on the Cyrillic LGR as part of integration if the Latin LGR’s variant definitions remain as proposed.

The IP is decidedly skeptical that the similarity between Greek α and Latin/Cyrillic a/а rises to a level where definition as a variant is appropriate.

The mapping to Cyrillic U+0430 is not controversial and in any case already defined in the deferred Cyrillic LGR.

**IP recommendation:** Latin GP to review with an eye toward removal of the mapping to Greek U+03B1. The opinion of the Greek GP to be solicited, or variant removed.

**LATIN Variant Set 22 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00E1](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00E1) | á | [03AC](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03AC) | ά | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [03AC](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03AC) | ά | [03AC](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03AC) | ά | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |

**IP recommendation:** Treat consistently with the case for U+0061.

**Review of variant relations for Latin Letter U+00E7**

**LATIN Variant Set 22 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00E7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#00E7) | ç | [03C2](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C2) | ς | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [00E7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#00E7) | ç | [04AB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AB) | ҫ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [03C2](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C2) | ς | [03C2](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C2) | ς | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| [03C2](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03C2) | ς | [04AB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AB) | ҫ | ↔ | blocked |   |   |
| [04AB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AB) | ҫ | [04AB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04AB) | ҫ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

**CYRILLIC Variant Set 15 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00E7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#00E7) | ç | [00E7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#00E7) | ç | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| [00E7](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#00E7) | ç | [04AB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#04AB) | ҫ | ↔ | blocked |   | Cross-script homoglyph |

There mapping to Cyrillic U+04AB, is not controversial and already part of the deferred Cyrillic LGR. However, if the mapping to Greek U+03C2 is retained, this would impose an additional cross-script mapping on Cyrillic.

While the difference between a descender and a diacritic below may be further obscured by the presence of an underline, the IP remains not fully persuaded. However, this may be judgment call.

**IP recommendation:** Latin GP to review and to formulate a particular rationale if it is desired to retain this variant.

**Review of variant relations for Latin Letter U+00ED**

**LATIN Variant Set 24 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00ED](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00ED) | í | [013A](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#013A) | ĺ | ↔ | blocked |  |  IN-SCRIPT VARIANT |
| [00ED](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00ED) | í | [03AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03AF) | ί | ↔ | blocked |  | Homoglyph |
| [013A](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#013A) | ĺ | [03AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03AF) | ί | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [03AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03AF) | ί | [03AF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03AF) | ί | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |

This set also includes an in-script variant that is not designated explicitly in the overview. It would seem that consistency would require to also make U+0131 ı and 006C l variants of each other; something that the IP would be a rather skeptical of and which would require the GP to provide and explanation of the overriding rationale.

**IP recommendation:** Latin GP to review with an eye towards removal. Alternatively, a consistent policy and overriding rationale for all cases concerned.

**Review of variant relations for Latin Letter U+00EF**

**LATIN Variant Set 25 — 4 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00EF) | ï | [0390](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0390) | ΐ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [00EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00EF) | ï | [03CA](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CA) | ϊ | ↔ | blocked |  | Homoglyph |
| [00EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00EF) | ï | [0457](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0457) | ї | ↔ | blocked |  | Homoglyph |
| [0390](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0390) | ΐ | [0390](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0390) | ΐ | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |
| [0390](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0390) | ΐ | [03CA](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CA) | ϊ | ↔ | blocked |  |   |
| [0390](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0390) | ΐ | [0457](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0457) | ї | ↔ | blocked |  |   |
| [03CA](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CA) | ϊ | [03CA](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CA) | ϊ | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |
| [03CA](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CA) | ϊ | [0457](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0457) | ї | ↔ | blocked |  |   |
| 0457 | ї | 0457 | ї | ≡ | out-of-repertoire-var |  | Out-of-repertoire: CYRILLIC |

**CYRILLIC Variant Set 17 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#00EF) | ï | [00EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#00EF) | ï | ≡ | out-of-repertoire-var |   | Out-of-repertoire |
| [00EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#00EF) | ï | [0457](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Cyrillic-Script-2018-09-15-en.html#0457) | ї | ↔ | blocked |   | Cross-script homoglyph |

There is also a mapping to Cyrillic U+0457, which is not controversial and already defined in the deferred Cyrillic LGR. However, if the mappings to Greek U+0390 and U+03CA are retained, this would impose two additional cross-script mapping on Cyrillic.

More importantly, this set assumes an in-script variant relation between two Greek code points U+0390 ΐ and U+03CA ϊ. The opinion of the Greek GP would most definitely need to be solicited or the in-script variant between Greek U+0390 and U+03CA removed.

**IP recommendation:** Latin GP to review with an eye towards removal of U+0390. Alternatively, a consistent policy and overriding rationale for all cases concerned.

**Review of variant relations for Latin Letter U+00FC**

**LATIN Variant Set 29 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [00FC](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00FC) | ü | [03B0](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B0) | ΰ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [00FC](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#00FC) | ü | [03CB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CB) | ϋ | ↔ | blocked |  |  |
| [03B0](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B0) | ΰ | [03B0](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B0) | ΰ | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |
| [03B0](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B0) | ΰ | [03CB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CB) | ϋ | ↔ | blocked |  |   |
| [03CB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CB) | ϋ | [03CB](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03CB) | ϋ | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |

This set also assumes an in-script variant relation between two Greek code points, in this case U+03B0 ΰ and U+03CB ϋ. The opinion of the Greek GP would most definitely need to be solicited.

**IP Recommendation:** Latin GP to review with an eye towards removal of U+03B0 and to come up with a consistent policy jointly with the Greek GP.

**Review of variant relations for Latin Letter U+01A1**

**LATIN Variant Set 34 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [01A1](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#01A1) | ơ | [03C3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03C3) | σ | ↔ | blocked |  | Glyphs nearly identical due to font design |
| [03C3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03C3) | σ | [03C3](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03C3) | σ | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |

This would impose a cross-script variant on the Greek LGR.

This appears to be a case of simple visual similarity.

**IP recommendation:** Latin GP to review with an eye toward removal.

**Review of variant relations for Latin Letter U+0072, U+0155, and U+24D**

**LATIN Variant Set 12 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0072](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0072) | r | [0433](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0433) | г | ↔ | blocked |   | Homoglyph |
| [0433](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0433) | г | [0433](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0433) | г | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

**LATIN Variant Set 33 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0155](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0155) | ŕ | [0453](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0453) | ѓ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [0453](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0453) | ѓ | [0453](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0453) | ѓ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

**LATIN Variant Set 36 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [024D](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#024D) | ɍ | [0493](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0493) | ғ | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [0493](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0493) | ғ | [0493](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0493) | ғ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

The three preceding sets introduce a new cross-script variant each to Cyrillic. The similarity at small font sizes in typical UI fonts appears indeed strong. As Latin and Cyrillic share enough homoglyphs to allow for many whole-script homograph labels, including these variants may be an acceptable judgment call.

Note that the rationale given in the comments is slightly different.

**IP Recommendation:** Latin GP to review the rationale in comments and make consistent, and determine whether these are cases of visual similarity or stronger justifying variant sets.

**Review of variant relations for Latin Letter U+0269**

**LATIN Variant Set 37 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [025B](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#025B) | ɛ | [03B5](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B5) | ε | ↔ | blocked |   | Homoglyph |
| [025B](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#025B) | ɛ | [0454](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0454) | є | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [03B5](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B5) | ε | [03B5](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B5) | ε | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| [03B5](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#03B5) | ε | [0454](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0454) | є | ↔ | blocked |   |   |
| [0454](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0454) | є | [0454](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#0454) | є | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |

The Latin LGR would impose a cross-script variant to Greek U+03B5 which appears non-controversial. It would also impose a cross-script variant with both Latin and Greek on deferred Cyrillic LGR for U+0454.

While the latter was not added by the Cyrillic GP, it might be somewhat of a judgment call, especially, if it could be shown that the glyph alternation є / ε is an acceptable variation in font designs within one or more of these scripts.

**IP recommendation:** Latin GP to review and further research the visual similarity aspect.

**Review of variant relations for Latin Letter U+0269**

**COMMON Variant Set 42 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [0269](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0269) | ɩ | [03B9](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B9) | ι | ↔ | blocked |  | Cross-script homoglyph |
| [0269](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0269) | ɩ | [0582](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0582) | ւ | ↔ | blocked |  | Cross-script homoglyph |
| [03B9](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B9) | ι | [03B9](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B9) | ι | ≡ | out-of-repertoire-var |  | Out-of-repertoire: GREEK |
| [03B9](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#03B9) | ι | [0582](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CCommon%5Clgr-3-common-2018-09-15-en.html#0582) | ւ | ↔ | blocked |  | Cross-script homoglyph |

(This shows the integration of Armenian, Cyrillic and Latin deferred LGRs/proposed LGR)

**ARMENIAN Variant Set 7 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0269 | ɩ | 0269 | ɩ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: LATIN |
| 0269 | ɩ | 03B9 | ι | ↔ | blocked |   | Cross-script homoglyph |
| 0269 | ɩ | 0582 | ւ | ↔ | blocked |   | Cross-script homoglyph |
| 03B9 | ι | 03B9 | ι | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |
| 03B9 | ι | 0582 | ւ | ↔ | blocked |   | Cross-script homoglyph |

**LATIN Variant Set 38 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| 0269 | ɩ | 03B9 | ι | ↔ | blocked |   | Homoglyph |
| 03B9 | ι | 03B9 | ι | ≡ | out-of-repertoire-var |   | Out-of-repertoire: GREEK |

The Latin proposal does not contain a variant to Armenian 0582. This variant is defined in then deferred LGR for Armenian and will therefore be imposed on the Latin LGR as part of integration.

As there is a tendency towards alignment in glyph design across scripts, variability of these glyphs across fonts may well diminish rather than increase in future. However, the match may be closer in a roman font style than a sans-serif one.

The fact that these variants are already defined in the Armenian LGR makes any detailed analysis somewhat moot in the context of the current LGR proposal.

**IP recommendation:** Latin GP to add this variant as “Glyphs nearly identical due to font design”.

**Review of variant relations for Latin Letters U+1EE5 and U+1EF1**

**LATIN Variant Set 40 — 3 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [045F](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#045F) | џ | [045F](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#045F) | џ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |
| [045F](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#045F) | џ | [1EE5](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#1EE5) | ụ | ↔ | blocked |   | Glyphs nearly identical due to font design  |
| [045F](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#045F) | џ | [1EF1](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#1EF1) | ự | ↔ | blocked |   | Glyphs nearly identical due to font design |
| [1EE5](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#1EE5) | ụ | [1EF1](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#1EF1) | ự | ↔ | blocked |   | Glyphs nearly identical due to font design |

The Cyrillic LGR does not contain a variant mapping for U+045F and if it was retained in the Latin LGR the variant would be imposed on the Cyrillic LGR during integration. The proposed variant between U+1EE5 and U+1EF1 would set up an in-script variant relation in the Latin LGR between two characters used in the same language (Vietnamese) even if one of them is also used in Igbo.

Note that the references listed for U+1EE5 should probably include the reference for Vietnamese [109].

The IP is decidedly skeptical about the proposed in-script variant. The distinguishing feature (horn) appears readily detectable (see also the IP comment on U+01A1). As for the variant to U+045F, there is a noted similarity, but also distinguishing features. The Latin GP would need to explain the overriding rationale why this should be treated as a variant.

**IP recommendation:** Latin GP to review the in-script variant with an eye towards removing it and also remove the cross-script variant unless there is a particular overriding rationale given why it should be retained.

**Review of variant relations for Latin Letter U+1EF9**

**LATIN Variant Set 41 — 2 Members**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Source** | **Glyph** | **Target** | **Glyph** |  | **Type** | **Ref** | **Comment** |
| [04EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04EF) | ӯ | [04EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04EF) | ӯ | ≡ | out-of-repertoire-var |   | Out-of-repertoire: CYRILLIC |
| [04EF](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#04EF) | ӯ | [1EF9](file:///C%3A%5Csrc%5Cidntables%5Ctest%5CLGR-3%5Cstaging5%5CElement%5Clgr-3-Latin-Script-2018-09-15-en.html#1EF9) | ỹ | ↔ | blocked |   | Glyphs nearly identical due to font design  |

It is unclear why this particular pair was singled out, other than that it happens to be cross-script. Consistency would require other pairs of characters with macron and tilde (for example ũ and ū) to be made variants as well, which would create in-script variants in Latin.

At that point, there would perhaps be a need to conflate other, similar pairs of diacritics.

**IP Recommendation:** GP to review the issue of similarity based on slight differences in diacritics. If an overriding rationale can be found that demands that these be treated as variants, then a need for a consistent policy follows. A future update of the LGR proposal would then be expected to implement such a consistent approach based on a documented policy.