Background

The character U+4039 is a unification of two different glyphs, one written as 昱 (i.e. mù 目 radical and jiā 夾 phonetic) and one written as 昱 (i.e. mù 目 radical and shān 夷 phonetic). It is the former of these two glyph forms that is used to represent this character in the code charts.

There is also a simplified form of the jiā phonetic glyph (U+25174 昱), as well as two compatibility ideographs that are canonically equivalent to U+4039: U+FAD4 昱 and U+2F949 昱.

We believe that the two characters 昱 (jiā phonetic) and 昱 (shān phonetic) are lexically distinct, and so should not have been unified according to the rules for CJK unification (see ISO/IEC 10646:2003 Annex S, S.1.1).

The character written with the jiā 夾 phonetic is used as an alternate form for a number of different characters, and has the following pronunciations and meanings:

- jié = 昱 jié "eyelash"
- zhā = 赂 zhā "to blink"
- jiā = to close one's eye(s)"
- shè = 嘦 shè "to blink"
- yà in the compound 嫡瞭 shà yà "teasingly"

On the other hand the character written with the shān 夷 phonetic has only a single pronunciation and meaning:

- shān = 昱 shān "to blink" or "to twinkle"

Whilst there is some semantic overlap between the two characters, it is clear that the characters are not cognate, and that the graphic similarity between them is coincidental. The lexical separation of these two characters is clearly demonstrated by the examples below, taken from various authoritative modern and traditional dictionaries. In smaller modern Chinese dictionaries such as Xinhua Zidian 新华字典 and Xiandai Hanyu Cidian 现代汉语词典, the character with the jiā 夾 phonetic (i.e. the representative
glyph form of U+04039) does not occur, and only the character with the shān 夾 phonetic is found.

《説文》: “映，目旁毛也。从目，夾聲。”
（一）jié 《廣韻》即葉切，入葉精。韋部。
同“睫”。《説文·目部》: “映，目旁毛也。”《廣韻·葉韻》: “映”，同“睫”。《史記·扁鵲倉公列傳》: “流涕長嘆，忽忽承映。”司馬貞索隱: “映，音接。映即睫也。”
（二）zhǎ 《集韻》除洽切，入洽莊。
同“眨”。眼睛很快地一閉一開。《集韻·洽韻》: “眨，目動也。或从夾。”鲁迅《故事新編·補天》: “粉红的天空中，曲曲折折的飘着许多条石绿色的浮云，星便在那后面忽明忽灭的映眼。”李季《王貴與李香香》: “白天放羊一整天，黑夜不映一眼眼。”
（三）shè 《集韻》失涉切，入葉書。
同“瞬”。眨眼。《集韻·葉韻》: “瞬，目動兒。或作映。”
（四）jié 《集韻》訌洽切，入洽見。怐部。
同“瞪”。秒。一说目瞬动。《集韻·洽韻》: “瞪，秒也。一曰目瞬動。或从夾。”《韓非子·說林上》: “惠子見鄧君曰：‘今有人見君，則映其一目，奚如?’君曰: ‘我必殺之。’”
（五）yà 《集韻》五洽切，入洽疑。
［映映］戏谑貌。《集韻·洽韻》: “映，映映，戲謔貌。”
映 shèn 《集韻》失冉切，上映書。
［映映］眼睛眨动的样子。《集韻·瑕韻》: “映，映映，目見。”方苞推崇正: “映，案: ‘映’從兩‘入’，與‘映’釋之‘映’從二‘入’者不同……‘映’等字從‘映’得聲者。”《正字通·目部》: “映，映映，目動貌。”

Hanyu Da Zidian 漢語大字典 (Sichuan Cishu Chubanshe, 1986-1990) vol.4 p.2490.
1 [jiē]<集韵> 即葉切, 入葉, 精。] 眼睫毛。《史记·扁鹊仓公列传》:“言未卒, 因曛瞑眼憞,魂精泄横, 流涕長清, 忽忽承瞑。”司马贞索隐:“音接。瞑即瞑也。承瞑, 言瞑恒垂以承於睫也。”

2 [jié]<集韵> 言治切, 入治, 璫。] 眼睛闭上。《韩非子·说林上》:“惠子見鄭君曰: ‘今有人見君, 則瞑其一目, 奚如?’ 君曰: ‘我必殺之。’ ”王漉註:“瞑, 睜目; 瞑其一目, 故意開一目, 是輕蔑人的態度。”

3 [zhēn]<集韵> 刚洽切, 入洽, 莘。] 眨眼; 上下眼皮很快地开闭。鲁迅《野草·秋夜》:“他仿佛要离开人间而去, 使人们仰面不再看见。然而现在却非常之蓝, 闪闪地映着几十个星星的眼, 冷眼。”艾芜<端阳节>九:“张大爷光着手赤着足尾着跑来。老三不禁笑了。”

Proposed Solution

From the above examples it is clear that the two characters 映 and 映 are distinct and need to be encoded separately. There are two possibilities:

Solution A

The existing U+4039 is identified with the jiā phonetic character 映

A new character U+XXXX is encoded for the shān phonetic character 映

Solution B

The existing U+4039 is identified with the shān phonetic character 映

A new character U+XXXX is encoded for the jiā phonetic character 映

With regard to the simplified character U+25174 映, it does not matter whether Solution A or Solution B is accepted as there is no formal relationship between it and U+4039 (the UniHan database does not currently give a kTraditionalVariant mapping for U+25174). Note that although U+965D 映 simplifies to U+9655 映, this simplification is anomalous, and U+25174 would be expected to only be the simplified form of 映 (jiā phonetic) and not of 映 (shān phonetic).
Unfortunately the issue is complicated by the existence of two compatibility ideographs, both canonically equivalent to U+4039, but one with the jiā phonetic (U+2F949) and one with the shān phonetic (U+FAD4). The former should be equivalent to the jiā phonetic character and the latter should be equivalent to the shān phonetic character, but as they are both immutably equivalent to U+4039, if Solution A is accepted U+FAD4 will be canonically equivalent to the wrong character, whereas if Solution B is accepted U+2F949 will be canonically equivalent to the wrong character -- whichever solution is chosen one of the compatibility characters will end up with an incorrect canonical equivalence.

However, U+FAD4 was only encoded because of the need to distinguish the two characters (jiā phonetic and shān phonetic), so accepting Solution A will make U+FAD4 redundant, and it can effectively be deprecated in favour of the new character U+XXXX (indeed it may be prudent to formally deprecate U+FAD4 if Solution A is accepted). Thus, leaving U+FAD4 with an incorrect canonical equivalence should not have a significant negative impact.

A further advantage of Solution A over Solution B is that the vast majority of existing CJK fonts use the jiā phonetic glyph for U+4039, so keeping U+4039 as the jiā phonetic character will minimise the need to change existing fonts.

Therefore we believe that the best solution would be to encode the character shān (mù 目 radical and the shān 夭 phonetic) as a separate character in its own right in a future amendment to ISO/IEC 10646.

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**UniHan Data**

The UniHan data for U+4039 is currently (Unicode 5.0.0) as follows:

U+4039 kCangjie BUKOO
U+4039 kCantonese gap6 sip3 zip3
U+4039 kCheungBauer 109/07; BUKOO; gap6, sip3
U+4039 kCheungBauerIndex 443.11 444.01
U+4039 kCheungBauerIndex 443.11 444.01
U+4039 kCheungBauerIndex 443.11 444.01
U+4039 kCihai 951.404
U+4039 kDefinition (same as U+7728 見) to wink; (same as U+776B 眨) eyelashes, having one eye smller than the other, joke; witticism; pleasantry; jest; fun; (Cant.) to peep at; to blink, wink
U+4039 kFennIndex 57.01
U+4039 kHKSCS 98E6
U+4039 kHanYu 42490.020 42490.030
U+4039 kIRGChiyodaZidian 42490.020
U+4039 kIRGHanyuDaZidian 42490.020
U+4039 kIRKHanyuDaZidian 42490.020
U+4039 kIRKHanyuDaZidian 42490.020
U+4039 kIRG_HSource 98E6
U+4039 kIRG_JSource 4-7222
U+4039 kIRG_KPSource KP1-5E34
U+4039 kIRG_TSource 4-3946
U+4039 kIRG_TSource 4-3946
U+4039 kJIS0213 2,82,02
U+4039 kKPS1 5E34
U+4039 kKangxi JIA2 SHE4
U+4039 kMatthews 790
U+4039 kMandarin JIA2 SHE4
U+4039 kMatthews 790
U+4039 kPhonetic 550
U+4039 kRSAdobe_Japan1_6 C+18191+109.5.7
U+4039 kRSUnicode 109.7
U+4039 kSBGY 538.34
U+4039 kSemanticVariant U+776B<kMatthews
U+4039 kTotalStrokes 12
If Solution A proposed above is accepted we would expect the UniHan data for the two characters to be as follows (where U+4039 is the jiā phonetic character and U+XXXX is the shān phonetic character):

U+4039 kCangjie BUKOO
U+4039 kCantonese gap6 sip3 zip3
U+4039 kCheungBauer 109/07;BUKOO;gap6,sip3
U+4039 kCheungBauerIndex 443.11
U+4039 kCihaiT 951.308
U+4039 kDefinition (same as U+7728 貼) to wink; (same as U+776B 眼) eyelashes, having one eye smaller than the other, joke; witticism; pleasantry; jest; fun; (Cant.) to peep at; to blink, wink
U+4039 kFennIndex 57.01
U+4039 kHKSCS 98E6
U+4039 kHanYu 42490.020
U+4039 kIRG_HSource 98E6
U+4039 kIRG_JSource 4-7222
U+4039 kMandarin JIE2 ZHA3 JIA2 SHE4 YA4
U+4039 kMatthews 790
U+4039 kRSAdobe_Japan1_6 C+18191+109.5.7
U+4039 kRSUnicode 109.7
U+4039 kSBGY 538.34
U+4039 kSemanticVariant U+776B<kMatthews
U+4039 kSimplifiedVariant U+25174
U+4039 kTotalStrokes 12

U+XXXX kCangjie BUKOO
U+XXXX kCantonese sim2
U+XXXX kCheungBauer 109/07;BUKOO;
U+XXXX kCheungBauerIndex 444.01
U+XXXX kCihaiT 951.404
U+XXXX kDefinition (same as U+7752 眼) to blink, twinkle
U+XXXX kHanYu 42490.030
U+XXXX kIRG_HSource 98E6
U+XXXX kIRG_KPSource KP1-5E34
U+XXXX kJIS0213 2,82,02
U+XXXX kKPS1 5E34
U+XXXX kTotalStrokes 12

N.B. Some of these fields need to be checked.