This document provides the CJK & Unihan Group recommendations for UTC #170 based on a meeting that took place from 6 to 9PM PST on 2022-01-14, which was attended by Yi Bai, Eiso Chan, Henry Chan, Lee Collins, Peter Constable, John Jenkins, Ken Lunde, William Nelson, Xieyang Wang, and Yifán Wáng via Zoom. The Chair of the CJK & Unihan Group, Ken Lunde, chaired the meeting with John Jenkins as Vice-Chair.

The CJK & Unihan Group reviewed public feedback and documents that were received since UTC #169. Comments are marked in green, and Copy&Paste-ready Recommendations to the UTC are marked in red.

Public Feedback

The eight items of public feedback from L2/22-018 that are in this section were discussed by the group, and for convenience, the following data files, all of which are PDF attachments, include all of the recommended Unihan database and UAX #45 USourceData.txt data file changes based on them

- Unihan-changes-20220114.txt
- kMandarin-changes-20220114.txt
- USource-changes-20220114.txt

With the exception of kMandarin property value changes, these recommended changes are also shown inline, following the Recommendations.

01) 2021-10-08 20:34:45 CDT

Date/Time: Fri Oct 8 20:34:45 CDT 2021
Name: Eduardo Marín Silva
Report Type: Other Document Submission
Opt Subject: Recomended addition of UAX #38

I would like to apologize if in the past I wasn't as helpful to the Unihan group as I should have.

This is a more succinct recommendation to the Unihan group, to add the number of entries of each field in the description boxes of the document in question: https://unicode.org/reports/tr38/. Since Dr. Lunde already compiled the most the number of entries in this document:

https://docs.google.com/spreadsheets/d/1_ad7Z9qqM0Nlk5SUfNjaSXSNIaG-0POQKtUqCvxdhI/edit#gid=559817095
it would be trivial to add the most up to date counts in new versions of UAX #38. This would be convenient for users, that might not want to look at different documents for that info. This info can give a sense to users of how large each field is and comparing the counts in future versions can also reflect the growth of the database.

Comments: The group discussed this feedback, and while there was overwhelming agreement that including this information in UAX #38 has merit, the main concern was about the amount of work that is necessary to keep it up-to-date for each subsequent version of the Unicode Standard and the possibility of introducing errors when doing so. To this end, members of the group are already exploring ways to automate the initial population of this information and subsequent updates through the use of a script, and William Nelson has already demonstrated this with a working Ruby script. The proposed update of UAX #38 for Unicode Version 15.0, PRI 437, is already open with a closing date of 2022-04-10, so the proposed update would simply need to be updated to reflect this new row in each of the Unihan property tables. Below is a mockup that shows the table for the kTotalStrokes property:

<table>
<thead>
<tr>
<th>Property</th>
<th>kTotalStrokes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>Informative</td>
</tr>
<tr>
<td>Category</td>
<td>IRG Sources</td>
</tr>
<tr>
<td>Entries</td>
<td>93,867</td>
</tr>
<tr>
<td>Introduced</td>
<td>3.1</td>
</tr>
<tr>
<td>Delimiter</td>
<td>space</td>
</tr>
<tr>
<td>Syntax</td>
<td>[1-9]</td>
</tr>
<tr>
<td>Description</td>
<td>The total number of strokes in the character (including the radical). When there are two values, then the first is preferred for zh-Hans (CN) and the second is preferred for zh-Hant (TW). When there is only one value, it is appropriate for both. The preferred value is the one most commonly associated with the character in modern text using customary fonts. This field is targeted specifically for use by CLDR collation and transliteration. As such, it is subject to considerations that help keep pinyin-based Han collation (and its tailoring) and transliteration reasonably stable.</td>
</tr>
</tbody>
</table>

In terms of the Unihan Property History spreadsheet that Ken Lunde prepared last year, one suggestion from the group is for him to consider drafting a new UTN (Unicode Technical Note) that would include the Unihan Property History spreadsheet as a downloadable asset (aka Excel file), which could subsequently be referenced in Section 5, History, of UAX #38.

Recommendations: The group recommends to the UTC the following disposition ➞

Action Item for John Jenkins, Editorial Committee: Update all of the Unihan property tables in Section 4 of UAX #38 by inserting between the rows labeled “Category” and “Introduced” a new row labeled “Entries,” and update PRI 437 accordingly, for Unicode Version 15.0.

Action Item for Ken Lunde: Produce a draft of a new UTN (Unicode Technical Note) that documents the Unihan Property History spreadsheet and includes it as a downloadable asset.

02) 2021-11-20 04:41:17 CST

**Date/Time:** Sat Nov 20 04:41:17 CST 2021  
**Name:** Eiso Chan  
**Report Type:** Error Report  
**Opt Subject:** Unihan Database

The kMandarin value for U+266E8 𦛨 is lao. Maybe we need to modify it to láo based on the corresponding Traditional variant U+6725 朥. This character is very common in Teochow-Swatow Min-dialects for the local food 𦛨饼, but it’s a pity that it has not been included in TGH.

**Comments:** The group discussed this feedback, and agreed that the modified kMandarin property value is reasonable, and should therefore be checked by the CLDR-TC.

**Recommendations:** The group recommends to the UTC the following disposition ⇥

**Action Item for Peter Edberg:** Ask the CLDR-TC to check the proposed kMandarin property value change for U+266E8, then report back to the UTC. See feedback [Sat Nov 20 04:41:17 CST 2021] in document L2/22-018 and Section 02 of document L2/22-022.

03) 2021-11-27 22:35:35 CST

**Date/Time:** Sat Nov 27 22:35:35 CST 2021  
**Name:** Jerry Rossignuolo  
**Report Type:** Error Report  
**Opt Subject:** 19227-n5100r-10646-6th-ed-cd3-chart.pdf

Hello,

I see you have the radical "⺜" interpreted as the radical "sun". ⺜ is used as variant of 日 (sun) in the新华字典部首 (XinHuaZiDian BuShou). Yet not all variants of a BuShou per GF 0011-2009 are of the same radical.

Most of the material I am finding lists the radical ⺜ is a variant of 冃 with the meaning of cap or hat. I believe this dates back to the Shuowen Jiezi (说文解字) dictionary. http://www.shuowen.org/?bushou=%E5%86%86%E83

I also believe ⺜ as a radical is named 冒字头 which further has me thinking this radical has the meaning of cap or hat. Yet, I am not sure. Is it possible if you could clarify this for me? I ran across this while working on a Chinese language learning tool and need to correctly identify the meaning of ⺜.

Thanks,  
Jerry Rossignuolo

**Comments:** This feedback has been resolved offline. Ken Lunde had a private discussion with the feedback submitter, which revealed that this was effectively a request to rename U+2E9C ⺜ CJK RADICAL SUN, but after it was explained that Unicode character names cannot be changed once encoded, the feedback submitter understood. Therefore, no UTC action is necessary.
Below is the code chart excerpt for U+2E9C that shows its informative note and two cross-references, the first of which is to U+5183 that means hat.

2E9C  CJK RADICAL SUN
- actually a form of the radical for hat, despite its resemblance in shape to the radical for sun
  → 5183 冃
  → 65E5 日

Recommendations: The group recommends to the UTC the following disposition

No UTC action is required.

04) 2021-12-18 19:28:56 CST

Date/Time: Sat Dec 18 19:28:56 CST 2021
Name: Richard Hsieh
Report Type: Error Report
Opt Subject: CJK chart 4E30 mixed up

4E30 丰 having HB1-A4A5 and T1-4464 that are the Traditional Chinese character. The rest of the characters are the Simplified Chinese characters. They are two different characters and cannot be mixed up. Could not come up with the Traditional character for the name of a person and other things because of softwares that carried both at the same time could not tell apart but to placed the Simplified Chinese in placed of the Traditional Chinese character.

Comments: The group discussed this feedback, and agreed that what is being described is a non-problem and is not an isolated case. Prototypical examples of a simplified and traditional ideograph occupying the same code point and with identical, near-identical, or seemingly-identical glyphs are U+51FA 出, U+53F0 台, and U+9AA8 骨 whose code chart excerpts are shown below, along with that of U+4E30 丰:

4E30 丰

51FA 出

53F0 台

9AA8 骨
**Recommendations**: The group recommends to the UTC the following disposition


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**05) 2022-01-04 07:17:52 CST**

**Date/Time**: Tue Jan 4 07:17:52 CST 2022  
**Name**: Andrew Christopher West  
**Report Type**: Other Document Submission  
**Opt Subject**: CJK Ext. H U+31682 (UK-10989)

L2-21/053 "Additional repertoire for a future version of Unicode (post Unicode 14.0)" lists the proposed code chart for CJK Unified Ideographs Extension H. The character at U+31682 (UK-10989) is indexed as Radical 40 plus one residual stroke, and placed first under radical 40 (宀). This is clearly wrong because: 1) the character does not include radical 40; and 2) the total stroke count is 9. I suggest changing back to the original proposed index of radical 25 plus 7 residual strokes, and reordering after U+31455.

**Comments**: The group discussed this feedback, and agreed that this is a critical change for Extension H. In addition to changing the kRSUnicode property value of UK-10989 from 40.1 to 25.7, the group agreed that an additional kRSUnicode property value, 40.6, should be added. The group further agreed that an additional kRSUnicode property value, 25.8, should be added to UK-10140 (aka Extension H U+31726). These changes will affect the ordering of 557 ideographs in Extension H in the range U+31456..U+31682.

![31682](image)

**Recommendations**: The group recommends to the UTC the following disposition

**Consensus**: Accept the kRSUnicode property value changes for UK-10140 and UK-10989, and corresponding changes to code positions of 557 characters in the Extension H block in the range U+31456..U+31682, based on feedback [Tue Jan 4 07:17:52 CST 2022] in L2/22-018 and as amended in Section 05 of document L2/22-022, for Unicode Version 15.0.

**Action Item for Michel Suignard**: Change the kRSUnicode property values of UK-10140 and UK-10989, reorder the Extension H block, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

**Action Item for John Jenkins**: Update the Unihan database to reflect the Extension H changes, for Unicode Version 15.0.

**Action Item for Ken Lunde**: Convey to the feedback submitter the CJK & Unihan Group comments in Section 05 of document L2/22-022. See feedback [Tue Jan 4 07:17:52 CST 2022] in document L2/22-018.
I want to report some mistakes in the Unihan Database definitions (kDefinition): “from from” (instead of “from”), “disturb” (instead of “disturb”), “pon your mind” (instead of “on your mind”), “thon” (instead of “thorn”), “flaten” (instead of “flatten”), “name name” (instead of “name”), “chrysanthemum” (instead of “chrysanthemum”), “purpurca” (instead of “purpurea”), “force fo arms” (instead of “force of arms”), “phtholein” (instead of “phthalein”), “the the” (instead of “the”), “ber eaten” (instead of “be eaten”), “bured” (instead of “buried”), “askew” (instead of “askew”), “foll of cloth” (instead of “roll of cloth”), “smilling” (instead of “smiling”), “without friends or relativ” (instead of “without friends or relatives”), “longtum” (instead of “longum”), “themedia forskali” (instead of “Themeda forskali”), “circium” (instead of “Cirsium”), “bracenia” (instead of “Brasenia”), “artemesia” (instead of “artemisia”), “corp of a bird” (instead of “crop of a bird”), “stellariana” (instead of “stelleriana”), “eumenes polifomis” (apparently should be “Eumenes pomiformis”, but is this definition actually correct??), “loquiatous” (instead of “loquacious”), “interprete” (instead of “interpret”), “liesure” (instead of “leisure”), “mischievous” (instead of “miscievous”), “fy” (instead of “fry”), “incorruptable” (instead of “incorruptible”), “repse” (instead of “repose”).


This is questionable, but I am unsure what this is supposed to mean: “leucacene”, “suffle”.

Comments: The group discussed this feedback, and agreed that these all are worthwhile kDefinition property value changes. Ken Lunde did the work to associate the suggested changes to the affected ideographs, which involved contacting the feedback submitter for clarification. Some of the property value changes had already been made by John Jenkins, so they are not reflected in this document. The group also recommends changing “Jap.” to “Japanese” that appears in the kDefinition property values for U+4F3D 伽 and U+4F5B 佛.
Recommendations: The group recommends to the UTC the following disposition


Current:

U+355B  kDefinition (ancient form of 友) a friend; a companion; a associate, friendly, to make friends of, brotherly regard

U+3630  kDefinition (interchangeable 斟) name of a old country; used in name of a place

U+3689  kDefinition (corrupted form) to make a profit on sell and buy; the profit in business, (interchangeable 嬴) a overplus; gain; profit; abundance

U+371C  kDefinition (ancient form form of 傲) proud; haughty; overbearing rude

U+38DB  kDefinition walking, (ancient form form of 會) to meet, to gather, to be able, to realize

U+39D4  kDefinition to disturb; to agitate; to harass, to quarrel; to wrangle

U+3A9C  kDefinition (same as 掮) to measure; to estimate; to suppose; to gauge what's pon another's mind; to presume; to test; to sound out, (same as 捩) to weigh in the hand

U+3C38  kDefinition (a abbreviated form of 攉 斂) to collect; to gather; to hold together, to desire

U+4070  kDefinition to look in a evil or wicked way; wicked vision

U+4079  kDefinition (same as U+7764 睥) to look askance -- a expression of disdain or despise

U+41B7  kDefinition a hole; an opening; a aperture; deep; far and profound

U+42B9  kDefinition (a abbreviated form of 纖) small, fine, delicate

U+434E  kDefinition a spindle, a earthenware used to pinch or knead, a small crock

U+43AD  kDefinition a kind of farm tool made of twisted thron strips used to flatten the land

U+44B2  kDefinition another name name for 黃岑 (Scutellaria baikalensis)

U+456E  kDefinition (interchangeable 菊) flower of the chrysanthemum; chrysanthemum

U+4582  kDefinition an edible water-plant -- Brasenia purpuraca

U+45CF  kDefinition name of a insect; a black insect with six legs, capable of ejecting poison for self-defense; the spider millipede

U+46AF  kDefinition (ancient form of 討) to quell (uprising, rebellion, etc.) to punish (another nation, etc.) by force fo arms, sound; voice; tone

U+475E  kDefinition name of a immortal; with man's face and bird's body; be known as (禺號)

U+479B  kDefinition dancing of a eastern minority group in old China
Definition of an organic compound; phtholein
Definition of eaves of an ancestral temple (of the ruling family), door of a shrine or a temple, small opening (of a door), to spy; to peep
Definition of the snow goose; swan, standing erect; standing quietly, target; bull's-eye
Definition of food items merely arranged for display purpose only; not to be eaten; to set out fruit, etc., in plates arranged only for show
Definition of a kind of fish; stout; bluish gray color; big flat head; big mouth and small eyes; usually stay in the bottom of the shallow sea; half buried in the muddy sand
Definition of an egret-like bird, a kind of water bird
Definition of transcription of sanskrit 'gha' in buddhist texts ('samgha', etc.); (nursing; attending; entertainer) (Jap.); temple; in Chinese this character is not used alone
Definition of Buddha; of Buddhism; merciful person; Buddhist image; the dead (Jap.)
Definition of imperial decree; daoist magic
Definition of imperial degree; daoist magic
Definition of rafter; malus toringo
Definition of slant; inclined; askewed, awry
Definition of pekinese dog, lap dog, pug; pup
Definition of a ornamental piece of jade several inches across with a hole in the center
Definition of to fill; a foll of cloth
Definition of spread out; smilling or laughing
Definition of the corp of a bird or fowl; fat
Definition of alone; without friends or relativ
Definition of plantago major
Definition of species of bean; piper longtum
Definition of coarse grass, themedia forskali
Definition of circium, thistles; surname
Definition of motherwort, various plants of the genus Leonurus, such as L. sibiricus and L. artemesia
Definition of species of bean; piper longtum
Definition of valeriana villosa, climbing plant
Definition of leucacene
Definition of circium, thistles; surname
Definition of Artemisia stellariana
Definition of gracilaria verrucosa
Definition of eumenes polifomis, kind of wasp
Definition of vipera russelii siamensis
Definition of eumenes polifomis, kind of wasp
Definition of loquacious; banter, joking
Definition of small pig, suckling pig; suffle
Definition of interprete, elucidate; release
Definition of interprete, elucidate; release
Definition of interprete, elucidate; release
Definition of liesure; idle; peaceful, tranquil, calm
Definition of bread (persian naan)
Definition of mischievous, one footed spirit that dwells in the mountains
sheatfish, parasilurus asotus
salmon; spheroides vermicularis
coryphaena hippurus
pagrosomus major, porgy
spawn; roe; fy
sheatfish, parasilurus asotus
salmon; spheroides vermicularis
coryphaena hippurus
spawn; roe; fy
pagrosomus major, porgy
a kind of pigeon; treron permagna
crane, grus japonensis; stork; Ciconia species
(ancient form of a friend; a companion; an associate, friendly, to make friends of, brotherly regard
(interchangeable name of an old country; used in name of a place
(corrupted form) to make a profit on sell and buy; the profit in business, (interchangeable profit; gain; profit; abundance
(ancient form of proud; haughty; overbearing rude
walking, (ancient form of to meet, to gather, to be able, to realize
to disturb; to agitate; to harass, to quarrel; to wrangle
(same as to measure; to estimate; to suppose; to gauge what's on another's mind; to presume; to test; to sound out, (same as to weigh in the hand
(an abbreviated form of to collect; to gather; to hold together, to desire
to look in an evil or wicked way; wicked vision
(same as U7764 to look askance -- an expression of disdain or despise
a hole; an opening; an aperture; deep; far and profound
(an abbreviated form of small, fine, delicate
a spindle, an earthenware used to pinch or knead, a small crock
a kind of farm tool made of twisted thorn strips used to flatten the land
another name for (Scutellaria baikalensis)
(flowers of the chrysanthemum; chrysanthemum
an edible water-plant -- Brasenia purpurea
name of an insect; a black insect with six legs, capable of ejecting poison for self-defense; the spider millipede
U+46AF kDefinition (ancient form of 讨) to quell (uprising, rebellion, etc.) to punish (another nation, etc.) by force of arms, sound; voice; tone

U+475E kDefinition name of an immortal; with man's face and bird's body; be known as (鵝號)

U+479B kDefinition dancing of an eastern minority group in old China
U+48ED kDefinition an organic compound; phthalein
U+49B2 kDefinition eaves of an ancestral temple (of the ruling family), door of a shrine or a temple, small opening (of a door), to spy; to peep

U+49FC kDefinition (same as 鵺) the snow goose; swan, standing erect; standing quietly, target; bull's-eye

U+4B26 kDefinition food items merely arranged for display purpose only; not to be eaten; to set out fruit, etc., in plates arranged only for show
U+4CA2 kDefinition (simplified form of 鱗) a kind of fish; stout; bluish gray color; big flat head; big mouth and small eyes; usually stay in the bottom of the shallow sea; half buried in the muddy sand

U+4CD9 kDefinition an egret-like bird, a kind of water bird
U+4F3D kDefinition transcription of Sanskrit 'gha' in Buddhist texts ('samgha', etc.); nursing; attending; entertainer (Japanese); temple; in Chinese this character is not used alone

U+4F5B kDefinition Buddha; of Buddhism; merciful person; Buddhist image; the dead (Japanese)

U+52C5 kDefinition imperial decree; Daoist magic
U+52D0 kDefinition imperial degree; Daoist magic
U+6877 kDefinition rafter; Malus toringo
U+6B6A kDefinition slant; inclined; askew, awry
U+72C6 kDefinition Pekinese dog, lap dog, pug; pup
U+7444 kDefinition an ornamental piece of jade several inches across with a hole in the center

U+7550 kDefinition to fill; a roll of cloth
U+80B8 kDefinition spread out; smiling or laughing
U+8186 kDefinition the crop of a bird or fowl; fat
U+8315 kDefinition alone; without friends or relatives
U+8359 kDefinition Plantago major
U+835C kDefinition species of bean; Piper longum
U+839F kDefinition Plantago major
U+84FD kDefinition motherwort, various plants of the genus Leonurus, such as L. sibiricus and L. artemisia

U+858A kDefinition genus Eumenes, potter's wasps
U+8629 kDefinition Valeriana villosa, climbing plant
U+863A kDefinition genus Leucaena; butterbur; Petasites japonicus
U+8815 kDefinition to squirm, wriggle
U+8B27 kDefinition loquacious; banter, joking
U+8C5A kDefinition small pig, suckling pig; shuffle one's feet
U+91C8 kDefinition interpret, elucidate; release
07) 2022-01-06 20:28:54 CST

**Date/Time:** Thu Jan 6 20:28:54 CST 2022  
**Name:** Ken Lunde  
**Report Type:** Error Report  
**Opt Subject:** Unihan Database

The kTotalStrokes property value of U+2AB8F 禄 (⿰手思) should be changed from 12 to 13, because its indexing radical is composed of four strokes, not three.

**Comments:** The group discussed this feedback, and agreed with the suggested kTotalStrokes property value change for U+2AB8F whose current code chart excerpt is shown below:

```
U+21A4B kDefinition economical; incorruptible  
U+20533 kDefinition economical; incorruptible
```

**Recommendations:** The group recommends to the UTC the following disposition ⇒

**Consensus:** Accept the kTotalStrokes property value change for U+2AB8F, based on feedback [Thu Jan 6 20:28:54 CST 2022] in L2/22-018 and Section 07 of document L2/22-022, for Unicode Version 15.0.

**Action Item for Michel Suignard:** Change the kTotalStrokes property value for U+2AB8F from 12 to 13, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

**Action Item for John Jenkins:** Update the Unihan database to reflect the kTotalStrokes property value change for U+2AB8F, for Unicode Version 15.0.

Current:
In USourceData.txt, some IDSes have semicolons in them. This is bad because a semicolon is already used as a delimiter.

Here are the IDSes with semicolons:
UTC-03134;B;U+28559;162.9;;⿺辶⿹&P7-03;刀;UTCDoc L2/17-204;;13 12;3
UTC-03143;WS-2017;;145.12;;冖⿱&H5-01;一站衣;UTCDoc L2/17-204;;18;1
UTC-03156;WS-2017;;94.8;;冖&amp;H8-01;犬;UTCDoc L2/17-204;;12;1

Comments: The group discussed this feedback, and agreed that U+FF1B FULLWIDTH SEMICOLON is an appropriate replacement for semicolons when they appear in IDSes (Field 5 of the UAX #45 data file, USourceData.txt) as character entity references (similar to HTML character entities) that begin with an ampersand and terminate with a semicolon. These character entity references correspond to an unencoded ideograph component, and are meant for IRG (Ideographic Research Group) use.

In addition, the group noted that per the comments in IRG Working Set 2017 #03966 (aka UTC-03143), the IDS for UTC-03143 can be changed to 三卝一三石衣, which does not include a semicolon. Furthermore, Fields 1 and 2 of UTC-03143 and UTC-03156 should be updated to reflect their Extension H status and Extension H code points.

Recommendations: The group recommends to the UTC the following disposition ⇢

Consensus: Accept the UAX #45 data file changes, based on feedback [Mon Jan 10 18:45:29 CST 2022] in L2/22-018 and as amended in Section 08 of document L2/22-022, for Unicode Version 15.0.

Action Item for John Jenkins, Editorial Committee: Document the use of U+FF1B FULLWIDTH SEMICOLON in Field 5 of the UAX #45 data file, based on feedback [Mon Jan 10 18:45:29 CST 2022] in L2/22-018 and as amended in Section 08 of document L2/22-022, for Unicode Version 15.0.


UAX #38 / Unihan Database Documents

The documents in this section were discussed by the group, and for convenience, the following data files, all of which are PDF attachments, include all of the recommended Unihan database changes, additions, and removals based on them:

- Unihan-changes-20220114.txt
- kMandarin-changes-20220114.txt
- Unihan-additions-20220114.txt
- kMandarin-additions-20220114.txt
- Unihan-removals-20220114.txt

With the exception of kMandarin property value changes and additions, these recommended Unihan database changes, additions, and removals are also shown inline, following the Recommendations.

09) L2/21-226: Proposed Supplement to the Unihan Database's kTotalStrokes Field

Comments: The group discussed this proposal to add a new provisional Unihan database property, kIRGStrokeCount, which is intended to supplement the existing kTotalStrokes property. The group agreed that kAlternateTotalStrokes would be a better property name, and that the Unihan_DictionaryLikeData.txt data file would be the best home for it. The proposed update of UAX #38 for Unicode Version 15.0, PRI 437, is already open with a closing date of 2022-04-10, so the proposed update would simply need to be updated to reflect the new property, and to add a new section that documents the single-letter IRG source identifiers that are also used in the existing kIICore and kUnihanCore2020 properties.

Ken Lunde also came up with an initial set of data based on J-Source ideographs that have a different number of strokes than what is currently reflected in the kTotalStrokes property. The kRSAdobe_Japan1_6 property, which includes accurate Japanese-specific radical and stroke information, was used to derive this initial set of data. This exercise effectively pinpointed cases of existing kTotalStrokes property values that are either incomplete—for example, the kTotalStrokes property value of U+9AA8 骨 is 9, but it should be 9 and 10 because the G- and T-Source representative glyphs have 9 and 10 total strokes, respectively—or inaccurate—for example, the kTotalStrokes property value of U+2A6B2 膦 is 20, but it should be 15. In other words, adding a kAlternateTotalStrokes property value to an ideograph should first require that...
its existing \textit{kTotalStrokes} property value be reviewed—and changed, if necessary—so that these properties can be in sync. See the code chart excerpts below:

\begin{center}
\begin{tabular}{c|c|c|c|c|c|c|c|c|c|c|c|c|c}
\hline
\text{U+9AA8} & \text{骨} & \text{188.0} \\
\hline
\text{G0-3947} & \text{HB1-B0A9} & \text{T1-588C} & \text{J0-397C} & \text{K0-4D69} & \text{V1-6C51} \\
\hline
\text{U+2A6B2} & \text{膚} & \text{213.4} \\
\hline
\text{J4-7E76} \\
\hline
\end{tabular}
\end{center}

\textbf{Note:} Document L2/21-226 was prepared per UTC Action Item 168-A61.

\textbf{Recommendations:} The group recommends to the UTC the following disposition ⇐

\textbf{Consensus:} Accept a new provisional Unihan database property, \textit{kAlternateTotalStrokes}, based on L2/21-226 and as amended in Section 09 of document L2/22-022, with the understanding that adding this property value to any ideograph requires that the existing \textit{kTotalStrokes} property value for that ideograph be reviewed—and modified, if necessary—so that these properties can be in sync, and change the \textit{kTotalStrokes} property values of U+9AA8 and U+2A6B2 to “9 10” and 15, respectively, for Unicode Version 15.0.

\textbf{Action Item for Michel Suignard:} Change the \textit{kTotalStrokes} property values of U+9AA8 and U+2A6B2 to “9 10” and 15, respectively, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

\textbf{Action Item for John Jenkins, Editorial Committee:} Document the provisional \textit{kAlternateTotalStrokes} property in UAX #38, add a new section after Section 3.8 that documents the single-letter IRG source identifiers, and update PRI 437 accordingly, for Unicode Version 15.0.

\textbf{Action Item for Ken Lunde:} Provide to John Jenkins the working data for the initial set of \textit{kAlternateTotalStrokes} property values that were derived from the \textit{kRSAdobe_Japan1_6} property for the purpose of populating the \textit{kAlternateTotalStrokes} property with an initial, albeit minimal, set of property values, for Unicode Version 15.0.

\textbf{Action Item for John Jenkins:} Update the Unihan database to reflect the \textit{kTotalStrokes} property value changes for U+9AA8 and U+2A6B2, for Unicode Version 15.0.

\textbf{Action Item for John Jenkins, CJK & Unihan Group:} Populate the \textit{kAlternateTotalStrokes} property with an initial, albeit minimal, set of property values, for Unicode Version 15.0.

\textbf{Current:}

<table>
<thead>
<tr>
<th>Code Point</th>
<th>\textit{kTotalStrokes}</th>
</tr>
</thead>
<tbody>
<tr>
<td>U+9AA8</td>
<td>9</td>
</tr>
<tr>
<td>U+2A6B2</td>
<td>20</td>
</tr>
</tbody>
</table>

\textbf{Adjusted:}

<table>
<thead>
<tr>
<th>Code Point</th>
<th>\textit{kTotalStrokes}</th>
</tr>
</thead>
<tbody>
<tr>
<td>U+9AA8</td>
<td>9 10</td>
</tr>
<tr>
<td>U+2A6B2</td>
<td>15</td>
</tr>
</tbody>
</table>
10) **L2/21-228: Request to move the source reference for UK-02830 (IRG N2520)**

**Comments:** The group reviewed this proposal, and agreed that the kIRG_UKSource source reference UK-02830 should be moved from U+238A7 to U+4DBE. The group further recommends that the kZVariant property be added to U+4DBE and U+238A7.

![_glyphs](image)

**Recommendations:** The group recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to move the kIRG_UKSource property value UK-02830 from U+238A7 to U+4DBE, based on document L2/21-228 and Section 10 of document L2/22-022, for Unicode Version 15.0.

**Action Item for Michel Suignard:** Move the kIRG_UKSource property value UK-02830 from U+238A7 to U+4DBE, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

**Action Item for John Jenkins:** Update the Unihan database to reflect the property value changes for U+4DBE and U+238A7, based on document L2/21-228 and as amended in Section 10 of document L2/22-022, for Unicode Version 15.0.

**Action Item for Ken Lunde:** Convey to the author of L2/21-228 the CJK & Unihan Group comments in Section 10 of document L2/22-022.

**Removed:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>U+238A7</td>
<td>kIRG_UKSource</td>
<td>UK-02830</td>
</tr>
</tbody>
</table>

**New:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>U+4DBE</td>
<td>kIRG_UKSource</td>
<td>UK-02830</td>
</tr>
<tr>
<td>U+4DBE</td>
<td>kZVariant</td>
<td>U+238A7</td>
</tr>
<tr>
<td>U+238A7</td>
<td>kZVariant</td>
<td>U+4DBE</td>
</tr>
</tbody>
</table>

11) **L2/21-236: Horizontal extension or disunification request for 14 Khangxi-characters**

**Comments:** The group reviewed this proposal, and determined that all 14 ideographs are unifiable with existing ideographs. The group also agreed that there is no benefit in adding these ideographs to UAX #45 for the purpose of horizontally extending the ideographs with which they are unifiable, and that a better approach would be to add Kangxi Dictionary references to the existing kKangXi property values of the ideographs with which they are unifiable.

**Recommendations:** The group recommends to the UTC the following disposition ⇒

**Action Item for John Jenkins, CJK & Unihan Group:** Use the kIRG_GSource and kIRGKangXi properties to derive additional kKangXi property values.

**Action Item for Ken Lunde:** Convey to the author of L2/21-236 the CJK & Unihan Group comments in Section 11 of document L2/22-022.
12) L2/22-008: Proposal to change various values in the Unihan Database

Comments: The group reviewed this proposal, and agreed that the new and modified 
kMandarin property values are reasonable, and should therefore be checked by the CLDR-TC. The group agreed to change the proposed new 
kSimplifiedVariant property value for U+6220 to be in code point order, U+53EA U+6220 (was U+6220 U+53EA), and to change the proposed 
kTraditionalVariant property value change for U+53EA to also be in code point order, U+53EA U+6220 U+96BB (was U+53EA U+96BB U+6220). The remaining property value changes and additions were deemed reasonable by the group.

Recommendations: The group recommends to the UTC the following disposition ⇦

Consensus: Accept the kRSUnicode and kTotalStrokes property value changes for U+29867, based on L2/22-008 and Section 12 of document L2/22-022, for Unicode Version 15.0.

Action Item for Peter Edberg: Ask the CLDR-TC to check the proposed kMandarin property value changes and additions, then report back to the UTC. See document L2/22-008 and Section 12 of document L2/22-022.

Action Item for Michel Suignard: Change the kRSUnicode and kTotalStrokes property values for U+29867, based on L2/22-008 and Section 12 of document L2/22-022, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

Action Item for John Jenkins: Update the Unihan database, based on L2/22-008 and as amended in Section 12 of document L2/22-022, for Unicode Version 15.0.

Action Item for Ken Lunde: Convey to the author of L2/22-008 the CJK & Unihan Group comments in Section 12 of document L2/22-022.

Current:

<table>
<thead>
<tr>
<th>Code</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>U+4661</td>
<td>kDefinition</td>
<td>(simplified form) a knot; a button, (dialect) to tie up; fastening; to wear; to slip on, to make a knot by a rope; a piece of string or a ribbon, (same as 繪) to draw (picture)</td>
</tr>
<tr>
<td>U+4CA1</td>
<td>kDefinition</td>
<td>(simplified form U+9C0C 鰍) loach</td>
</tr>
<tr>
<td>U+53EA</td>
<td>kTraditionalVariant</td>
<td>U+53EA U+96BB</td>
</tr>
<tr>
<td>U+8BA0</td>
<td>kCantonese</td>
<td>gaan2</td>
</tr>
<tr>
<td>U+9485</td>
<td>kCantonese</td>
<td>gaan2</td>
</tr>
<tr>
<td>U+9963</td>
<td>kCantonese</td>
<td>gaan2</td>
</tr>
<tr>
<td>U+9FCD</td>
<td>kDefinition</td>
<td>hill; long and narrow highland; used in place names</td>
</tr>
<tr>
<td>U+9FCE</td>
<td>kDefinition</td>
<td>(tǎ) place names in Guangdong and Zhejiang; (dá) cobblestone, water gate</td>
</tr>
<tr>
<td>U+29867</td>
<td>kRSUnicode</td>
<td>187.0</td>
</tr>
<tr>
<td>U+29867</td>
<td>kTotalStrokes</td>
<td>10</td>
</tr>
</tbody>
</table>

Adjusted:

<table>
<thead>
<tr>
<th>Code</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>U+4661</td>
<td>kDefinition</td>
<td>a knot; a button, (dialect) to tie up; fastening; to wear; to slip on, to make a knot by a rope; a piece of string or a ribbon, (same as 繪) to draw (picture)</td>
</tr>
<tr>
<td>U+4CA1</td>
<td>kDefinition</td>
<td>(simplified form of U+9C0C 鰍) loach</td>
</tr>
</tbody>
</table>
U+53EA kTraditionalVariant U+53EA U+6220 U+96BB
U+8BA0 kCantonese jin4
U+9485 kCantonese gam1
U+9963 kCantonese sik6
U+9FC7 kDefinition hill; long and narrow highland; used in place names; (Cant.) throw up and scatter (as dust)
U+9FCE kDefinition (tà) place name in Zhejiang; (dá) cobblestone, water gate, place name in Guangdong
U+298D7 kRSUnicode 187.1
U+298D7 kTotalStrokes 11
U+2C494 kDefinition place name in Guangdong; (Cant.) for something hard or bulging to press against the body and cause it discomfort

Removed:
U+364C kDefinition (a simplified form)
U+392B kDefinition (non-classical form)
U+41B4 kDefinition (abbreviated form)
U+497B kDefinition (simplified form)
U+497C kDefinition (simplified form)
U+4984 kDefinition (simplified form)

New:
U+4DB6 kVietnamese dè
U+6220 kSimplifiedVariant U+53EA U+6220
U+7CF9 kCantonese mik6
U+7E9F kCantonese mik6
U+81E4 kSimplifiedVariant U+81E4 U+30021
U+8A00 kCantonese jin4
U+9967 kSimplifiedVariant U+9FF4
U+99F0 kCantonese zì2
U+99F5 kCantonese sau2
U+99F8 kCantonese lyun4
U+99F8 kSimplifiedVariant U+3005C
U+9FC4 kCantonese loeng4
U+9FC7 kCantonese loeng4
U+9FCD kCantonese pung1
U+9FCD kCheungBauerIndex 395.05
U+9FDF kTraditionalVariant U+9FF0
U+9FF0 kSimplifiedVariant U+9FDF
U+9FF0 kCantonese hon4
U+9FF0 kTraditionalVariant U+2C267
U+9FF1 kCantonese baa1
U+9FF2 kCantonese lou4
U+9FF2 kTraditionalVariant U+27C0E
U+9FF3 kCantonese to4
U+9FF3 kSimplifiedVariant U+9FF8
U+9FF4 kCantonese dung1
U+9FF4 kTraditionalVariant U+99B7
U+9FF5 kCantonese zì3
U+9FF5 kTraditionalVariant U+29DD3
U+9FF6 kCantonese loeng4
U+9FF6 kTraditionalVariant U+29DD5
U+9FF7 kCantonese jam1
U+9FF7 kTraditionalVariant U+29E4E
U+9FF8 kCantonese to4
13) **L2/22-014: Incorrect Radical for CJK Unified Ideograph 266B9**

**Comments:** The group reviewed this proposal, and agreed that the kRSKangXi and kRSUnicode property values for U+266B9 should be changed from 130.6 to 74.6. However, the group felt that U+266B9 does not require 130.6 as an additional kRSUnicode property value.

![Image of symbols: 肉 130.6]

**Recommendations:** The group recommends to the UTC the following disposition ⇒

**Consensus:** Accept the kRSUnicode property value change for U+266B9, based on L2/22-014 and as amended in Section 13 of document L2/22-022, for Unicode Version 15.0.
**Action Item for Michel Suignard**: Change the kRSUnicode property value for U+266B9, based on L2/22-014 and as amended in Section 13 of document L2/22-022, and provide to John Jenkins an updated Unihan15.txt data file, for Unicode Version 15.0.

**Action Item for John Jenkins**: Update the Unihan database to reflect the property value changes for U+266B9, based on document L2/22-014 and and as amended in Section 13 of document L2/22-022, for Unicode Version 15.0.

Current:
- U+266B9 kRSKangXi 130.6
- U+266B9 kRSUnicode 130.6

Adjusted:
- U+266B9 kRSKangXi 74.6
- U+266B9 kRSUnicode 74.6

14) **L2/22-027**: Proposal to add derived kMandarin property values

**Comments**: The group reviewed this proposal, and agreed that the new kMandarin property values are reasonable, and should therefore be checked by the CLDR-TC.

**Recommendations**: The group recommends to the UTC the following disposition ⇐⇒

**Action Item for Peter Edberg**: Ask the CLDR-TC to check the proposed kMandarin property value additions, then report back to the UTC. See document L2/22-027 and Section 14 of document L2/22-022.

---

**UAX #45 / U-Source Documents & Topics**

The documents in this section were discussed by the group, and for convenience, the following data files, all of which are PDF attachments, include all of the recommended UAX #45 USourceData.txt data file changes and additions based on them:

- USource-changes-20220114.txt
- USource-additions-20220114.txt
- USource-ExtH-20220114.txt

These recommended UAX #45 USourceData.txt data file changes and additions are also shown inline, following the Recommendations. In addition, the UTCHan2022u170-Regular.ttf TrueType font (PDF attachment) includes the representative glyphs for adding to the UAX #45 UTCHan.ttf TrueType font.

15) **UAX #45 Adjustments for Extension H**

Although there is no formal document nor public feedback on this topic, the group was reminded by Ken Whistler prior to the meeting that Extension H needs to be properly reflected in UAX #45 and its data file, USourceData.txt, for Unicode Version 15.0.
First, a new Field 1 (current status) value, \( H \) (Encoded in Extension H), needs to be added to the table in Section 2.1, The Status Field, of UAX #45 proper and to the header of its data file, USourceData.txt.

Second, Fields 1 and 2 of the following 161 U-Source ideographs need to reflect \( H \) as their current status and the proper Extension H code points, respectively (the ordering was adjusted for the characters in the range U+31456 through U+31682 per Section 05 of this document, but should be confirmed using final Extension H data):

UTC-03123 U+31350
UTC-03021 U+31379
UTC-02973 U+313BC
UTC-03108 U+313CA
UTC-03030 U+313CB
UTC-03081 U+313D5
UTC-03082 U+313E2
UTC-03036 U+313E4
UTC-03083 U+31408
UTC-03084 U+31426
UTC-03044 U+3145E
UTC-03067 U+314F0
UTC-02996 U+31580
UTC-03150 U+31583
UTC-02997 U+31587
UTC-02991 U+3158E
UTC-02983 U+31596
UTC-03022 U+31596
UTC-02990 U+31598
UTC-03000 U+3159E
UTC-03015 U+315A2
UTC-03011 U+315A7
UTC-03024 U+315AB
UTC-03049 U+315AC
UTC-03059 U+315AD
UTC-03071 U+315B2
UTC-03034 U+315B3
UTC-03035 U+315B4
UTC-03037 U+315BE
UTC-03014 U+315C4
UTC-03063 U+315C5
UTC-03032 U+315CD
UTC-03064 U+315DA
UTC-03033 U+315E5
UTC-03046 U+315E8
UTC-03027 U+315EE
UTC-03069 U+315EF
UTC-03016 U+315F0
UTC-03085 U+31602
UTC-02992 U+31604
UTC-03060 U+31606
UTC-03066 U+31609
UTC-03055 U+3162E
UTC-03052 U+31632
UTC-02981 U+316B1
UTC-03020 U+316B2
UTC-03017  U+316C2
UTC-03062  U+316C6
UTC-03028  U+316C7
UTC-03043  U+316CF
UTC-03042  U+316D0
UTC-03048  U+316E4
UTC-03026  U+316E6
UTC-03080  U+316E8
UTC-03045  U+316EE
UTC-03047  U+3170E
UTC-02995  U+31712
UTC-03087  U+3175F
UTC-03088  U+31761
UTC-02976  U+3176B
UTC-02977  U+3176C
UTC-02972  U+317AB
UTC-03147  U+317CA
UTC-03145  U+317D3
UTC-02978  U+317DB
UTC-00118  U+317E1
UTC-03089  U+317FA
UTC-03125  U+31816
UTC-03142  U+31839
UTC-00790  U+3184B
UTC-03004  U+3187F
UTC-03057  U+31884
UTC-03056  U+318D5
UTC-02984  U+318E4
UTC-03092  U+31903
UTC-03155  U+3195C
UTC-03053  U+31970
UTC-03019  U+31977
UTC-03002  U+31994
UTC-03068  U+31995
UTC-03117  U+31A1A
UTC-03050  U+31A49
UTC-03079  U+31A4A
UTC-01258  U+31AA3
UTC-03112  U+31AA6
UTC-03151  U+31ACB
UTC-03152  U+31B16
UTC-03156  U+31B7F
UTC-03025  U+31BDE
UTC-03087  U+31C24
UTC-02986  U+31C25
UTC-03031  U+31C27
UTC-01159  U+31C2D
UTC-03061  U+31C2E
UTC-03041  U+31C33
UTC-03074  U+31C50
UTC-03094  U+31CBD
UTC-03095  U+31CD2
UTC-03012  U+31CED
UTC-02982  U+31CFE
UTC-03029  U+31D07
Lastly, a new PRI for a proposed update of UAX #45 needs to be opened, with a closing date of 2022-04-10.

**Recommendations:** The group recommends to the UTC the following disposition ⇒

**Consensus:** Authorize a proposed update of UAX #45 for Unicode 15.0 to update the table in Section 2.1 to reflect “H” (“Encoded in Extension H”) as a new status.

**Action Item for John Jenkins, Editorial Committee:** Update the table in Section 2.1 of UAX #45 to reflect “H” (“Encoded in Extension H”) as a new status, based on Section 15 of document L2/22-022, for Unicode Version 15.0.

**Action Item for John Jenkins:** Update the UAX #45 data file, USourceData.txt, to reflect “H” (“Encoded in Extension H”) as a new status in its header, and update the records of 161 U-Source ideographs to reflect “H” in Field 1 and the correspond Extension H code point in Field 2, based on Section 15 of document L2/22-022, for Unicode Version 15.0.

**Action Item for Rick McGowan:** Post the PRI for the proposed update of UAX #45, to close 2022-04-10.

16) **L2/22-009:** Proposal to Add to UAX #45 Three Ideographs with Radical 見

**Comments:** The group reviewed this proposal, and agreed that adding three new ideographs to UAX #45 with a status value of N is reasonable. The three ideographs can therefore be considered for inclusion in the UTC’s submission for the next IRG working set.

**Recommendations:** The group recommends to the UTC the following disposition ⇒

**Consensus:** Accept three new U-Source ideographs as UTC-03252 through UTC-03254 with a UAX #45 status value of N, based on document L2/22-009 and Section 16 of document L2/22-022, for Unicode Version 15.0.

**Action Item for John Jenkins:** Add two new records to USourceData.txt and their representative glyphs to USourceGlyphs.pdf, based on document L2/22-009 and Section 16 of document L2/22-022, for Unicode Version 15.0.

Add:
UTC-03252;N;;147.14;;日見覞;UTCDoc L2/22-009 1;;21;2
UTC-03253;N;;147.7;;四四見見;UTCDoc L2/22-009 2;kSimplifiedVariant U+32053;14;2
UTC-03254;N;;147.21;;四四四見見四見見;UTCDoc L2/22-009 3;;28;2
17) L2/22-011: UAX #45 Data Issues in Unicode 14.0

Comments: The group reviewed this proposal, and agreed that all of the suggested UAX #45 data file changes are reasonable. Additionally, the group agreed that the representative glyph for UTC-00443 ⚼ should be modified so that it is identical to that of UTC-00345 ⚼.

Recommendations: The group recommends to the UTC the following disposition

Consensus: Accept the proposed UAX #45 data file and representative glyph changes, based on document L2/22-011 and as amended in Section 17 of document L2/22-022, for Unicode Version 15.0.

Action Item for John Jenkins: Update the UAX #45 data file, USourceData.txt, and modify the representative glyph for UTC-00443 to be identical to that of UTC-00345, based on document L2/22-011 and as amended in Section 17 of document L2/22-022, for Unicode Version 15.0.

Current:

UTC-00006;E;U+2B825;1.5;;四乙丙;kMatthews 4150;;6;3
UTC-00116;U;U+7AB0;116.10;;穴肉食;kCowles 1390;;15;3
UTC-00181;C;U+2B08E;118.9;;篖大;kSBGY 278.02;;15;3
UTC-00193;B;U+272A5;142.6;;虫戊;kSBGY 474.14;;12;1
UTC-00220;B;U+29957;22.11;;目食人;kSBGY 248.24;;13;3
UTC-00443;N;;74.8;;月枕;kCowles 129;kCantonese zam2*kDefinition callous;12;1
UTC-00876;N;;118.6;;竹四父;Adobe-CNS1 C+14165;;12;2
UTC-00877;N;;188.17;;骨藏;Adobe-CNS1 C+16082;;26 27;1
UTC-00879;N;;157.8;;足奉;Adobe-CNS1 C+16120;;15;
UTC-00880;N;;120.13;;糸厂田土;Adobe-CNS1 C+16137;;19;
UTC-00881;N;;191.13;;鬥竃;Adobe-CNS1 C+16155;;23;
UTC-00882;N;;30.9;;口思;Adobe-CNS1 C+16196;;12;
UTC-00883;N;;140.12;;白辛;Adobe-CNS1 C+16212;;16;
UTC-00884;N;;5.5;;承乙;Adobe-CNS1 C+16219;;6;
UTC-00886;N;;27.14;;厂日仏;Adobe-CNS1 C+16237;;16;
UTC-00887;N;;85.13;;留肉目;Adobe-CNS1 C+16248;;16;
UTC-00888;N;;122.9;;日訃;Adobe-CNS1 C+16252;;14;
UTC-00889;N;;167.10;;九祖;Adobe-CNS1 C+16257;;18;
UTC-00890;N;;145.3;;丸;Adobe-CNS1 C+16290;;8;
UTC-00891;N;;61.4;;毛心;Adobe-CNS1 C+16295;;8;
UTC-00893;N;;45.4;;屯千;Adobe-CNS1 C+16318;;7;
UTC-00894;N;;30.10;;口歺;Adobe-CNS1 C+16333;;13;
UTC-00895;N;;112.14;;白石;Adobe-CNS1 C+16340;;19;
UTC-00896;N;;119.10;;米勇;Adobe-CNS1 C+16342;;16;
UTC-00897;N;;5.11;;口冊;Adobe-CNS1 C+16376;;12;
UTC-00898;N;;61.12;;亅憩;Adobe-CNS1 C+16390;;15;
UTC-00899;N;;72.9;;口白咅田、十;Adobe-CNS1 C+16571;;13;
UTC-00900;N;;68.8;;斗斗斗;Adobe-CNS1 C+16806;;12;
UTC-00910;N;;30.15;;口剪;Adobe-CNS1 C+17329;;18;
UTC-00911;N;;32.3;;土だし;Adobe-CNS1 C+17331;;6;
UTC-00912;N;;44.6;;背他;Adobe-CNS1 C+17334;;9;
UTC-00913;N;;104.22;;厂日仏黴女;Adobe-CNS1 C+17362;;9;

Adjusted:

UTC-00006;E;U+2B825;1.5;;四乙丙;kMatthews 4150;;6;3
UTC-00116;U;U+7AB0;116.10;;穴肉食;kCowles 1390;;15;3
UTC-00181;C;U+2B08E;118.9;;篖大;kSBGY 278.02;;15;3
The document in this section was discussed by the group.

18) **L2/21-222**: Request to revise UAX 50 for harmonization with Adobe Japan

**Comments**: The editors of UAX #50, Ken Lunde and Koji Ishii, discussed this request to change the `Vertical.Orientation` property values for U+2016 “DOUBLE VERTICAL LINE (from \textit{U} to \textit{R})", U+2702 “BLACK SCISSORS (from \textit{U} to \textit{R} or \textit{Tr})", and U+3030 “WAVY DASH (from \textit{Tr} to \textit{R})" prior to the group meeting, and agreed that changes to their property values should be made only if there is overwhelmingly compelling evidence to do so. The group also discussed this proposal, and concluded that there was insufficient evidence for making such property value changes to these particular characters. The conclusion is that this request needs to be discussed by the UTC, and the following per-character analysis may be of help for those discussions:

U+2016: This character is analogous to U+FF5C “vertical” whose `Vertical.Orientation` property value is Tr. Virtually all Japanese fonts, at least those based on Adobe-Japan1 for which there are hundreds of such fonts, include an OpenType ‘vert’ (Vertical Alternates) feature substitution.
for U+2016 (Adobe-Japan1 CID+666), which results in Adobe-Japan1 CID+7895 (see the image below). If a property change is to be considered, Tr seems to be the only reasonable choice based on the fact that glyph substitution is used.

![Glyphs](image1)

U+2702 ☢ U: For virtually all Japanese fonts, at least those based on Adobe-Japan1-4 or greater for which there are hundreds of such fonts, there are four glyphs that are associated with U+2702, with Adobe-Japan1 CID+12176 being the one that is mapped from U+2702. They are Adobe-Japan1 CIDs 12175 through 12178 (see the image below). Ken Lunde claimed that treating these glyphs as though they were arrows when the OpenType 'vert' feature was updated for Adobe-Japan1-4 over 20 years ago was a mistake on his part. There is also an EVS (Emoji Variation Sequence) that is associated with U+2702: <2702 FE0F>.

![Scissors](image2)

U+3030〰 Tr: Making property value changes based on a specific implementation (aka Adobe InDesign) or inconsistent browser behavior does not seem to be prudent. There is also an EVS that is associated with U+3030: <3030 FE0F>.

**Recommendations:** The group recommends to the UTC the following disposition

Discuss the merits of changing the Vertical_Orientation property value of U+2016, U+2702, and U+3030, and record Action Items if any property value changes are to be made.

**Action Item for Ken Lunde:** Convey to the authors of L2/21-222 the CJK & Unihan Group comments in Section 18 of document L2/22-022, along with any feedback from the UTC.
19) IRG Working Set 2021 Status

The ORT (*Online Review Tool*) for *IRG Working Set 2021 Version 2.0* was updated in early December 2021, and Ken Lunde finished the review of the UTC-assigned range, specifically serial numbers 02541 through 03734, on 2021-11-27. The deadline was 2022-01-14. The ORT Manager, Henry Chan, is scheduled to distribute Consolidated Comments on 2022-01-28, and IRG editors must respond to comments against their organization’s submitted ideographs no later than 2022-03-04.

The IRG #58 meeting, which will be a virtual Zoom meeting, takes places from 2022-03-14 through 2022-03-18.

**Recommendations:** The group recommends to the UTC the following disposition ⇐

**No UTC action is required.**

That is all.