

The **mëtrix** package

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Abstract

— — — — — | — ∪ ∪ — ∪ ∪ —
et quod temptābam | scribere versus erat

The **mëtrix** package can be used to print the prosodics/metrics of (latin) verses. It provides macros to typeset the symbols stand alone and in combination with syllables (including automatic alignment like seen above). Furthermore it defines a new brëvis and a lōnga accent¹ and a bow to contract syllables.

Thanks to David Carlisle, Marco Daniel, Enrico Gregorio, Bruno Le Floch and Joseph Wright who helped me with starting in L^AT_EX3 programming. The verse above is by Ovid in his Tristia 4,10,26.

1 Prerequisites

mëtrix relies only on a few packages: tikz (including the calc library), xpatch and xparse, which stand for the whole L^AT_EX3 bundle.

2 Package loading

Load **mëtrix** as usual with `\usepackage{metrix}`. At the moment it has no options.

A CWL file `metrix.cwl` for autocompletion in TeXstudio is available in the GitHub repo. To install the CWL file copy it to `~/.config/texstudio/` on Linux and OS X and to `C:\Documents and Settings\User\AppData\Roaming\texstudio/`. See section 1.5 of the TeXstudio manual for more information.

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¹I know that these signs are no accents in the linguistic sense, but they are in the T_EX tradition ...

3 Bugs and feedback

3.1 Known issues

- At the moment the escaping of hyphen chars is not that good (see section 7.3).
- Unfortunately you can't use the active quotes of `csquotes` inside of `\metrics` syllable list (see section 7.4).

I'm sure there are more bugs and issues let me know if you find them ...

3.2 Feedback

Any feedback on **mëtrix** is appreciated. You may use its GitHub repository at <https://github.com/tweh/metricx> to request features and report bugs or send me an e-mail (mail@tobiw.de).

Please note that I don't speak latin myself and forthat the examples in this manual may be wrong—as long as they show how to use the package I don't consider such errors as bugs ;-).

4 Metric symbols

4.1 Syntax for symbols

Before I'll show you the central macros for typesetting the symbols, you need to “learn” the syntax for the symbols. All symbols are represented by a single or a combination of characters. The list with all available abbreviations can be found in table 1. Please keep in mind that **mëtrix** uses spaces to separate the abbreviations an something like `_ ' x` will cause an error, the correct input is `_ ' x`.

4.2 Stand alone metric symbols

`\metricsymbols` ★ `\metricsymbols(*)` [*highlighting*] {*symbols*}

This macro typesets stand alone versions of the symbols, i.e. without syllables below (or above) of them. Use the starred version for smaller (in line) symbols and the normal version for bigger symbols. `<symbols>` must be a list of abbreviations as explained in section 4.1; the abbreviations must be separated by one (or more) spaces.

Example

The *diphilius* can be shown with this code.

```
\metricsymbols{ _ _uu _ _uu u_ | x _ u u _ x u_ }
```

— ∪ — ∪ ∩ | × — ∪ ∪ — × ∩

Table 1: Symbol abbreviations

abbreviation		symbol	explanation
e			empty (= invisible) symbol
u		˘	elementum breve
_	<i>under score</i>	—	elementum longum
uu		˘˘	double breve
uu_		˘˘	elementum biceps
_uu		˘˘	elementum biceps
u_uu		˘˘˘	elementum anceps
x		×	elementum anceps
n		ˆ	elementum indifferens
u_		˘	elementum indifferens
oo	<i>two lowercase o's</i>	oo	aeolic base
	<i>pipe</i>		break (see 4.4)
	<i>two pipes</i>		verse break (see 4.4)
'	<i>apostrophe (shift + #)</i>		shorter break (see 4.4)
,	<i>comma</i>		shorter break (see 4.4)

4.3 Metric symbols above (or below) syllables

`\metrics` ★ `\metrics[highlighting]{symbols}{syllables}`

This command can be used to align the symbols above (or below) syllables. The first argument works as in `\metricsymbols`, the second argument (*syllables*) takes the hyphenated verse.

Example

```
\metrics{ _   u u   _   _   _   |   _   _   u u   _   _   _   }
          {flos ve-te-ris vi-ni | meis na-ri-bus ob-iec-tust}

  _   ∪ ∪   _ _   |   _   _ ∪ ∪   _ _   _
flos veteris vini | meis naribus obiectust
```

You may use multiple spaces to align the abbreviations above the syllables but this is not mandatory and does not affect the output. But mind that the number of syllables equals the number of symbols. If you use the `oo` symbol you may omit the hyphen between the two syllables belonging to this symbol. You can merge multiple words by *embracing* them.

Example

```
\metrics{ _   u u   _   _   _   _   }
          {mol-ta quo-{que et} bel-lo pas-sus}

  _   ∪ ∪   _   _ _   _ _
molta quoque et bello passus
```

The macros `\metrics` and `\metricsymbols` can also be used to typeset single symbols or symbol syllable combinations.

Example

The `\metricsymbols*{_uu}` shows an `\emph{elementum biceps}`.

The `∪∪` shows an *elementum biceps*.

4.4 Adding symbols for breaks

As seen in the examples above you can use pipes, i.e. `|` or `||`, to mark breaks. In `\metrics` the markers must appear in *symbols* and *syllables*.

Example

```
\metrics{ _   u u   _   _   _   |   _   _   u u   _   ||}
          {flos ve-te-ris vi-ni | meis na-ri-bus ob ||}
```

flos veteris vini | meis naribus ob ||

If you want the breaks to be shown in the symbol line only you can use the shorter break which is represented by an apostrophe (shift+#) or a comma. This mark must be used in $\langle symbols \rangle$ only and is kind of special:

- It *can't* be highlighted and thus doesn't count for the numbers used for highlights,
- it is ignored at the beginning and the end of $\langle symbols \rangle$,
- in `\metricsymbols` it is treated like the pipe, and
- T_EX needs at least one additional run to get the right positions.

Example

```
\metrics{ _ u u ' _ u u ' _ _ ' _ _ | _ u u | _ _ || }
          {Ar-ma vi-rum-que ca-no Tro-iae qui | pri-mus ab | o-ris ||}
          _ _ _ _ _ _ _ _ _ _ | _ _ _ _ _ _ ||
```

Arma virumque cano Troiae qui | primus ab | oris ||

The difference between ' and , is that the break defined with an apostrophe is vertically centred between the surrounding symbols while the break set with the comma is vertically centred between the corresponding syllables. They both align horizontally within the row of symbols.

Example

```
\emph{apostrophe:}
\metrics{ _ _ ' _ }
          {au-ra-{r\bow{um e}st}} \qqquad
\emph{comma:}
\metrics{ _ _ , _ }
          {au-ra-{r\bow{um e}st}}
apostrophe: aurarum est      comma: aurarum est
```

4.5 Highlight certain symbols/syllables

As you can see above `\metrics` and `\metricsymbols` got an optional argument taking some options to highlight a certain symbol/syllable. The $\langle highlighting \rangle$ list must contain one or more comma separated pairs of $\langle numbers \rangle = \langle style \rangle$, where $\langle numbers \rangle$ is the number of a symbol/syllable (e.g. 3) or a list of numbers separated by plus signs (e.g. 2+3+5) in the list and $\langle style \rangle$ is any TikZ style (other TikZ options may not work properly, so you maybe must create your own style, see section 7.9.)

métrix comes with several predefined highlighting styles:

- **add arrow**

flos veteris vini | meis naribus ob || flos veteris vini | meis naribus ob ||

This style adds an arrow above the metric symbol. To change the arrow symbol, edit the variable `metric`.

- **add text=*(text)***

flos veteris vini | meis naribus ob || flos veteris vini | meis naribus ob ||

This style takes a *mandatory* argument to add some text above a symbol. To change the default font change the font of the TikZ node style `every metric added text`.

- **bold highlight**

flos veteris vini | meis naribus ob || flos veteris vini | meis naribus ob ||

- **colored highlight=*(color)***

flos veteris vini | meis naribus ob || flos veteris vini | meis naribus ob ||

This style has an *optional* argument to change the highlighting color on the fly. To change the color in general change the value of the variable `highlightcolor`.

- **dashed highlight**

flos veteris vini | meis naribus ob || flos veteris vini | meis naribus ob ||

- **filled highlight=*(color)***

flos veteris vini | meis naribus ob || flos veteris vini | meis naribus ob ||

This style has an *optional* argument to change the filling color on the fly. To change the color in general change the value of the variable `fillcolor`.

- **superscript=*(text)***

flos veteris vini | meis naribus ob ||^a flos veteris vini | meis naribus ob ||^b

This style takes a *mandatory* argument to add a superscript letter or a number to a symbol. It is designed to work with the break symbols, but works with others too.

Styles with an argument must be set in braces (see the examples)!

Example

Highlight some syllables with color.

```
\metrics
```

```

[
  2=colored highlight,
  4={colored highlight=orange},
  5={colored highlight=blue},
  7=colored highlight,
  11=colored highlight
]
{ _   u u _ _ _ | _   _ u u _ }
{flos ve-te-ris vi-ni | meis na-ri-bus ob}
-  ^ ^ - - - | -  - ^ ^ -
flos veteris vini | meis naribus ob

```

Example

The shorter version using the + syntax.

```

\metrics[2+5+9=bold highlight]
{ _   u u _ _ _ | _   _ u u _ }
{flos ve-te-ris vi-ni | meis na-ri-bus ob}
-  ^ ^ - - - | -  - ^ ^ -
flos veteris vini | meis naribus ob

```

Example

Mixing and combining styles is possible too.

```

\metricsymbols[1+4=bold highlight, 3=colored highlight]
{u_uu x _ || u _ n ||} \
\metricsymbols[2={bold highlight,colored highlight}]
{u_uu x _ || u _ n ||}
u × — || ∪ — ∩ ||
u × — || ∪ — ∩ ||

```

Example

Add some superscripts to the breaks.

```

\metricsymbols[6={superscript=5},10={colored highlight,superscript=bD}]
{ _ _uu _ _uu _ | _uu _ _uu || _ uu _ u_ }
-  ∪ ∪ - ∪ ∪ - |5 ∪ ∪ - ∪ ∪ ||bD - ∪ ∪ - ∪

```

5 Accents and bows

`\brv` ★ `\brv{⟨vowel⟩}` `\lng{⟨vowel⟩}` `\acct{⟨vowel⟩}`
`\lng` ★ The first commands offer an alternative to the standard accent macros `\u` and `\=`. The difference is that `\brv` centers the accent above the vowel or diphthong and `\lng` stretches the bar across the whole vowel or diphthong. `\acct` adds an accent dot below a vowel or diphthong.²

Example

Add accents to all vowels.

```
\brv{a}m\acct{\lng{i}}c\brv{u}s pr\acct{\brv{o}}f\brv{u}g\brv{u}s
ãmīcūs prōfūgūs
```

mëtrix also tries to do some kind of italic correction, and shifts the accents a little to the right when an italic or slanted font is used.

ũ ũ ũ	ĩ ĩ ĩ	ǣ ǣ ǣ	ű ű ű	ÿ ŷ ŷ	ǣ ǣ ǣ
ū ū ū	ī ī ī	āē āē āē	ū ū ū	ī ī ī	āē āē āē
ұ ұ ұ	ị ị ị	ǣ ǣ ǣ	ұ ұ ұ	ị ị ị	ǣ ǣ ǣ

Fine Tuning

To make some fine tuning for a certain accent possible the three macros actually got some additional, *optional* arguments:

```
\brv(⟨coordinate⟩){⟨vowel⟩}
\lng(⟨coordinate⟩)[⟨left length⟩]{⟨vowel⟩}[⟨right length⟩]
\acct(⟨coordinate⟩){⟨vowel⟩}
```

Where `⟨coordinate⟩` must be a valid TikZ coordinate and can be used to move the accent. In addition to that the accent produced by `\lng` can be extended with `⟨left/right length⟩` by a certain amount.

Example

Prevent collision between accent and descender of an *f*.

```
\itshape somn\acct(-0.05em,-0.45ex){i}fero
sommifero
```

²Actually you can use any vowel, diphthong, syllable or word as `⟨vowel⟩`, it makes no difference as long as it is text.

`\bow` ★ `\bow{<syllables>}`

`\bow` can be used to show the contraction of two vowels or syllables.

Example

```
mult\bow{um i}lle or d\bow{ei}nde  
multum ille or deinde
```

Fine Tuning

To make some fine tuning for a certain bow possible the macro actually has some additional, *optional* arguments:

`\bow(<coordinate>)[<left length>]{<syllable>}[<right length>]`

Where *<left/right length>* can be used to shorten the bow by a certain amount.

Example

```
Prevent collision between accent and bow.  
c\acct{oe}-1\bow{um \acct{e}}[2pt]st  
coe-lum est
```

6 Environments

`sybolline`

This environment can be used to display a line of stand alone symbols.

Example

```
Text text text ...  
\begin{sybolline}  
  \metricsymbols{oo e _ u u _ e u _ e u _ u_}  
\end{sybolline}  
Text text text ...  
  
Text text text ...  
  
oo  —  ∪  ∪  —  ∪  —  ∪  —  ∪  
  
Text text text ...
```

`metricverses` `\begin{metricverses}[(source)]`
`<content optional \verseref{reference}>`
`\end{metricverses}`

Use this environment to display a verse with metric symbols, separate multiple verses by a blank line.

Example

```
Text text text ...
\begin{metricverses}
  \metrics{ _ u u _ _ _ | _ _ u u _ _ _ }
           {flos ve-te-ris vi-ni | meis na-ri-bus ob-iec-tust}

  \metrics{ _ u u _ u u _ | _ _ _ _ u u
           _ _ u u _ _ }
           {ei-us a-mor cu-pi-dam | {m\bow{e h}uc} pro-li-cit
                                           per te-ne-bras}
\end{metricverses}
Text text text ...

Text text text ...

  _  ^  ^  ^  ^  |  _  ^  ^  ^  ^  ^  ^
flos veteris vini | meis naribus obiectust
  ^  ^  ^  ^  ^  |  me huc prolicit per tenebras

Text text text ...
```

`\verseref` `\verseref{reference}`

Inside of `{metricverses}` you may use `\verseref` to print a reference.

Example

```
Text text text ...
\begin{metricverses}
  \metrics{ _ u u _ _ _ | _ _ u u _ _ _ }
           {flos ve-te-ris vi-ni | meis na-ri-bus ob-iec-tust}
  \verseref{Plaut. \emph{Curc.} 96f}

  \metrics{ _ u u _ u u _ | _ _ _ _ u u
           _ _ u u _ _ }
           {ei-us a-mor cu-pi-dam | {m\bow{e h}uc} pro-li-cit
                                           per te-ne-bras}
\end{metricverses}
Text text text ...
```

Text text text ...

flos veteris vini | meis naribus obiectust
eius amor cupidam | me huc prolicit per tenebras

Plaut. *Curc.* 96f

Text text text ...

7 FAQs

7.1 How can I display the symbols below the syllables?

Change the variable `symbolshift` to a negative value.

Example

```
\setmetrixvar{symbolshift}{-0.6em}
% later ...
\metrics{ _ u u _ _ _ | _ _ u u _ _ _ }
         {flos ve-te-ris vi-ni | meis na-ri-bus ob-iec-tust}

flos veteris vini | meis naribus obiectust
 _  _  _  _  _  |  _  _  _  _  _  _  _
```

7.2 How can I combine two words below one symbol?

Use braces `{}` in the lists to keep them processed as one element.

Example

```
\metrics{u u _ | _ _ _ u u }
         {cu-pi-dam | {m\bow{e h}uc} pro-li-cit }

 _  _  _  |  _  _  _  _  _  _
cupidam | me huc prolicit
```

7.3 How can I show a hyphen character?

To escape a hyphen - put it inside braces, but you must still add an unbraced hyphen to show **mētrix** where your syllables split.

Example

If you enclose the hyphen in braces together with a syllable, the symbol gets centered above both.

```
\metrics{ _ _ }
         {vi-{-ni}}

 _  _
vi-ni
```

You can enclose only the hyphen in braces and treat it as a syllable but then you must add an empty symbol e too.

```
\metrics{ _ e _ }
          {vi-{-}-ni}
_ _
vi-ni
```

7.4 How can I use quotes in \metrics?

It should be possible to use all shorthands (or direct input with Unicode) etc. for quotation marks except the active quotes of csquotes, which won't work inside the \metrics syllable list. It is possible to use csquotes besides **mëtrix** though.

Example

```
\metrics{ _ u }{ ‘‘si me’’ }
\metrics{ _ u }{ \glqq si me\grqq }% with \usepackage[<lang>]{babel}
\metrics{ _ u }{ “si me” }% with \usepackage[ngerman]{babel}
_ _      _ _      _ _
“si me” „si me” „si me”
```

7.5 How can I add a superscript letter to a certain symbol?

Use the superscript highlighting style as described above.

7.6 How can I make subscripts instead of superscripts?

The easiest way is to use the superscript style and change a part of its definition to shift the superscripts to subscript positions.

Example

```
\metricsymbols[2={superscript=x}]{ u || u } \quad vs. \quad
% ...
\tikzset{
  every superscript picture/.style={
    baseline=1ex,
  },
}
% ...
\metricsymbols[2={superscript=x}]{ u || u }
_ ||^x _ vs. _ ||_ _
```

Normally the \tikzset should be part of your preamble, I used it this way to show the differences.

7.7 How can I highlight all symbols/syllables?

Way 1 Just call your desired highlighting style before using on of the macros `\metrics` or `\metricsymbols`. You may enclose this in a group to not affect the other following sequences. Mind that the highlighting styles must be in a way changing the every ... styles to make this way work.

Example

```
{% begin group
  \tikzset{colored highlight}
  \metrics{ _ u u _ _ _ }
  {flos ve-te-ris vi-ni}
}% end group
- ~ ~ - - -
flos veteris vini
```

Way 2 Change the every metricx ... styles.

Example

```
{% begin group
  \tikzset{every metricx symbol/.append style={red}}
  \metrics{ _ u u _ _ _ }
  {flos ve-te-ris vi-ni}
}% end group
- ~ ~ - - -
flos veteris vini
```

Leave out the grouping (and put this to your preamble) if you want to highlight the symbols in your whole document.

7.8 How can I change the size of a symbol?

Change the two base vector units.

Example

```
\setmetrixvar{baseunit}{1em}  
\setmetrixvar{bigbaseunit}{1.6em}
```

If you want to change the size of a single symbol to highlight it you must create your own highlighting style.

Example

```
\tikzset{  
  bigger highlight/.style={  
    every metrix symbol/.append style={x=2.5em,y=2.5em,line width=1.5pt},  
  },  
}  
% later  
\metricsymbols[2=bigger highlight]{u_u x _ || u _ n x}  
  
∞ X — || ∪ — ∩ ×
```

7.9 How can I stop highlighting the syllables too?

Way 1 Change the highlight styles (in your preamble).

Example

```
\tikzset{  
  colored highlight/.style={  
    every metrix symbol/.append style={  
      draw=\usemetrixvar{highlightcolor},  
    },  
  },  
}  
% later ...  
\metrics[3=colored highlight]{_ u u _ _ _ }  
                                {flos ve-te-ris vi-ni}  
  
— ∪ ∩ — — —  
flos veteris vini
```

Way 2 Create your own highlighting style, which is very similar to way 1, as the following example shows. Every own style should change the appearance by appending the settings to one of the every ... styles.

Example

```
\tikzset{  
  my highlight/.style={  
    every metrix symbol/.append style={draw=blue,line width=0.07em},  
  },  
}
```

```

    }
  }
  \metrics[5=my highlight]{_ u u _ _ _ }
                        {flos ve-te-ris vi-ni}

  _ _ _ _ _
  flos veteris vini

```

7.10 Why got the highlight styles that long names?

To prevent conflict with other packages.

Example

If you want to shorten it create your own style as described above or use

```

\tikzset{
  hl/.style={colored highlight}
}

```

to map the style to a shorter name. Then you can use it like in

```

\metricsymbols[2=hl]{u _ _ u}

```

7.11 How can I change the font of all syllables?

Extend the every `metrix syllable` node style

Example

Print all syllables in italic with the following extension.

```

\tikzset{
  every metrix syllable node/.append style={font=\itshape},
}

```

8 Customization

Some hints were already given in the FAQ section (see section 7) but here I will list all variables and TikZ styles that are in use and can be changed to customize **mëtrix** easily.

8.1 Variables

```

\setmetrixvar {variable} {value}

```

```

\usemetrixvar

```

To customize the rendering of the symbols, accents and bow **mëtrix** has some variables that you can change. Use `\setmetrixvar` to change a value. The variables and the default values are listed in table 2. To access a value you can use `\usemetrixvar{variable}`.

It is highly recommended to use font size depending units, i.e. `em` or `ex`, for all lengths to keep the symbols usable in different font sizes, for example in headlines or footnotes.

Example

Change the highlighting color to blue.

```
\setmetrixvar{highlightcolor}{blue}
% later
\metrics[5=colored highlight]{_ u u _ _ _ }
                             {flos ve-te-ris vi-ni}

— ˘ ˘ — —
flos veteris vini
```

Example

Create your own highlighting style but use the default highlighting color.

```
\tikzset{
  my highlight/.style={
    every metrix symbol/.append style={
      draw=\usemetrixvar{highlightcolor},
      line width=0.15em
    },
  },
}
\metrics[5=my highlight]{_ u u _ _ _ }
                             {flos ve-te-ris vi-ni}

— ˘ ˘ — —
flos veteris vini
```

Table 2: Variables

variable	default	explanation
<code>sympollinewidth</code>	<code>0.04em</code>	line width of symbols above syllables and small stand alone symbols
<code>bigsympollinewidth</code>	<code>0.06em</code>	line width of big stand alone symbols
<code>accentlinewidth</code>	<code>0.03em</code>	line width of accents (<code>\lng</code> and <code>\brv</code>)
<code>bowlinewidth</code>	<code>0.03em</code>	line width of bows (<code>\bow</code>)
<code>symbolsep</code>	<code>0.4em</code>	gap between symbols in stand alone lists
<code>baseunit</code>	<code>0.9em</code>	length of the base vector for drawing symbols above syllables, small stand alone symbols, accents and bows

...

Table 2: Variables (cont.)

variable	default	explanation
<code>bigbaseunit</code>	1.4em	length of the base vector for drawing stand alone symbols
<code>shortsyllablelimit</code>	0.8em	all syllables shorter than this can be treated specially, e.g. they'll get a shorter elementum longum.
<code>gap</code>	0.09em	small gap between lines of the symbols, e.g. the distance between the two lines of a verse break
<code>symbolshift</code>	1.1em	length to shift the symbols above or below the syllables (try -0.6em to display the symbols below the base line)
<code>lngshift</code>	0.8em	length to shift the longa accent
<code>lngshortening</code>	0.075em	length to shorten the longa accent a little
<code>lngminlength</code>	0.25em	minimum width of a longa accent
<code>brvshift</code>	0.9em	length to shift the brevis accent
<code>dotshift</code>	-0.15em	length to shift the dot accent
<code>itcorrection</code>	0.11em	length to shift the accents above italic/slanted letters
<code>accentxshift</code>	-0.025em	length to shift the accents horizontally
<code>bowshift</code>	-0.15em	length to shift the bow below the base line
<code>bowshortening</code>	0.15em	length to shrink the bow a little
<code>bowlooseness</code>	0.75	value to influence the bending of the bow
<code>symbolcolor</code>	black	color of metric symbols
<code>accentcolor</code>	black	color of accents (<code>\lng</code> and <code>\brv</code>)
<code>bowcolor</code>	black	color of bows (<code>\bow</code>)
<code>highlightcolor</code>	red	color of highlighted symbols and syllables used in <code>colored highlight</code> style
<code>fillcolor</code>	yellow	color of filled symbol nodes used in <code>filled highlight</code> style
<code>arrow</code>	<code>⤵</code>	arrow for highlighting
<code>breakgap</code>	0.6em	gap before and after a (verse) break
<code>emptywidth</code>	1em	gap replacing an empty symbol (abbreviation e)

8.2 TikZ styles

Beside the variables you may change the TikZ styles used by **métrix**. But please mind that all styles are not empty by default so you should prefer `/ .append style` against `/ .style`. Otherwise it may cause strange effects. Remind that you can use `\usemetrixvar` to access a variable.

```
every metrix symbol
every metrix big symbol
every metrix symbol node
```

These three styles define the appearance of the metric symbols. They define the line width, the color, the basis vectors and other things.

```
every metrix syllable node
every metrix break node
```

These styles defines the nodes in which a syllable or a break symbol (the ones spanning across the symbol and the syllable line) is typeset, e.g. it aligns these nodes at their base line.

```
every metrix accent
```

This style defines the appearance of accents created by `\lng` and `\brv`.

```
every metrix bow
```

This style defines the appearance of bows below symbols.

```
bold highlight
colored highlight
dashed highlight
filled highlight
superscript
```

These styles can be used to highlight a certain symbol.

```
every superscript picture
every superscript node
every superscript label
```

These styles are used to define the superscript highlighting style.

```
every metrix added text
```

This style is used for text added to a symbol with the `add text` highlighting.

9 Implementation

```
1 <*package>
2 <@@=metrix>
3 \ProvidesExplPackage
4   {\metrixFileName}{\metrixFileDate}{\metrixFileVersion}{\metrixFileDescription}
```

9.1 Required packages

```
5 \RequirePackage{xparse}
6 \RequirePackage{xpatch}
7 \RequirePackage{tikz}
8 \ExplSyntaxOff
9 \usetikzlibrary{calc}
10 \ExplSyntaxOn
```

9.2 Variables

All variables are internal. The user can change them via `\setmetrixvar` and use them via `\usemetrixvar`.

`\g__metrix_variable_symbollinewidth_tl` This variable stores the line width for all metric symbols above (or below) syllables.

```
11 \tl_new:N \g__metrix_variable_symbollinewidth_tl
12 \tl_set:Nn \g__metrix_variable_symbollinewidth_tl { 0.04em }
(End definition for \g__metrix_variable_symbollinewidth_tl.)
```

`\g__metrix_variable_bigsymbollinewidth_tl` This variable stores the line width for all stand alone metric symbols.

```
13 \tl_new:N \g__metrix_variable_bigsymbollinewidth_tl
14 \tl_set:Nn \g__metrix_variable_bigsymbollinewidth_tl { 0.06em }
(End definition for \g__metrix_variable_bigsymbollinewidth_tl.)
```

`\g__metrix_variable_accentlinewidth_tl` This variable stores the line width of the accent like symbols.

```
15 \tl_new:N \g__metrix_variable_accentlinewidth_tl
16 \tl_set:Nn \g__metrix_variable_accentlinewidth_tl { 0.04em }
(End definition for \g__metrix_variable_accentlinewidth_tl.)
```

`\g__metrix_variable_bowlinewidth_tl` This variable stores the line width of the bow.

```
17 \tl_new:N \g__metrix_variable_bowlinewidth_tl
18 \tl_set:Nn \g__metrix_variable_bowlinewidth_tl { 0.04em }
(End definition for \g__metrix_variable_bowlinewidth_tl.)
```

`\g__metrix_variable_symbolsep_tl` This variable stores the gap between two or more stand alone metric symbols.

```
19 \tl_new:N \g__metrix_variable_symbolsep_tl
20 \tl_set:Nn \g__metrix_variable_symbolsep_tl { 0.4em }
(End definition for \g__metrix_variable_symbolsep_tl.)
```

`\g__metrix_variable_baseunit_tl` This variable stores the length of the basis vector for all metric symbols above (or below) syllables and accent like symbols.

```
21 \tl_new:N \g__metrix_variable_baseunit_tl
22 \tl_set:Nn \g__metrix_variable_baseunit_tl { 0.9em }
(End definition for \g__metrix_variable_baseunit_tl.)
```

`\g__metrix_variable_bigbaseunit_tl` This variable stores the length of the basis vector for all stand alone metric symbols.

```

23 \tl_new:N \g__metrix_variable_bigbaseunit_tl
24 \tl_set:Nn \g__metrix_variable_bigbaseunit_tl { 1.4em }

```

(End definition for \g__metrix_variable_bigbaseunit_tl.)

`\g__metrix_variable_gap_tl` Length for small gaps in the symbols, e.g. the gap between the two bows of an elementum biceps.

```

25 \tl_new:N \g__metrix_variable_gap_tl
26 \tl_set:Nn \g__metrix_variable_gap_tl { 0.09em }

```

(End definition for \g__metrix_variable_gap_tl.)

`\g__metrix_variable_symbolshift_tl` This variable stores the value to shift metric symbols above (or below) syllables. Set this variable to approx 1.1em to draw the symbols above the syllable and to -0.6em to draw them below.

```

27 \tl_new:N \g__metrix_variable_symbolshift_tl
28 \tl_set:Nn \g__metrix_variable_symbolshift_tl { 1.1em }

```

(End definition for \g__metrix_variable_symbolshift_tl.)

`\g__metrix_variable_lngshift_tl` This variable stores the value to shift the longa accent.

```

29 \tl_new:N \g__metrix_variable_lngshift_tl
30 \tl_set:Nn \g__metrix_variable_lngshift_tl { 0.15em }

```

(End definition for \g__metrix_variable_lngshift_tl.)

`\g__metrix_variable_lngshortening_tl` This variable stores the value to shorten the longa accent.

```

31 \tl_new:N \g__metrix_variable_lngshortening_tl
32 \tl_set:Nn \g__metrix_variable_lngshortening_tl { 0.075em }

```

(End definition for \g__metrix_variable_lngshortening_tl.)

`\g__metrix_variable_lngminlength_tl` This variable stores the value to shorten the longa accent.

```

33 \tl_new:N \g__metrix_variable_lngminlength_tl
34 \tl_set:Nn \g__metrix_variable_lngminlength_tl { 0.25em }

```

(End definition for \g__metrix_variable_lngminlength_tl.)

`\g__metrix_variable_brvshift_tl` This variable stores the value to shift the brevis accent.

```

35 \tl_new:N \g__metrix_variable_brvshift_tl
36 \tl_set:Nn \g__metrix_variable_brvshift_tl { 0.25em }

```

(End definition for \g__metrix_variable_brvshift_tl.)

`\g__metrix_variable_dotshift_tl` This variable stores the value to shift the brevis accent.

```

37 \tl_new:N \g__metrix_variable_dotshift_tl
38 \tl_set:Nn \g__metrix_variable_dotshift_tl { -0.15em }

```

(End definition for \g__metrix_variable_dotshift_tl.)

`\g__metrix_variable_itcorrection_tl` These variables are used to set the italic correction of accents.

`\l__metrix_internal_itcorrection_tl`

`\g__metrix_internal_itcorrection_zero_tl`

```

39 \tl_new:N \g__metrix_variable_itcorrection_tl
40 \tl_set:Nn \g__metrix_variable_itcorrection_tl { 0.11em }
41 \tl_new:N \l__metrix_internal_itcorrection_tl
42 \tl_set:Nn \l__metrix_internal_itcorrection_tl { 0em }
43 \tl_new:N \g__metrix_internal_itcorrection_zero_tl
44 \tl_set:Nn \g__metrix_internal_itcorrection_zero_tl { 0em }

```

(End definition for \g__metrix_variable_itcorrection_tl, \l__metrix_internal_itcorrection_tl, and \g__metrix_internal_itcorrection_zero_tl.)

`\g__metrix_variable_accentxshift_tl` This variable is used to shift the accents horizontally.

```

45 \tl_new:N \g__metrix_variable_accentxshift_tl
46 \tl_set:Nn \g__metrix_variable_accentxshift_tl { -0.025em }

```

(End definition for \g__metrix_variable_accentxshift_tl.)

`\g__metrix_variable_bowshift_tl` This variable stores the value to shift the bow.

```

47 \tl_new:N \g__metrix_variable_bowshift_tl
48 \tl_set:Nn \g__metrix_variable_bowshift_tl { -0.15em }

```

(End definition for \g__metrix_variable_bowshift_tl.)

`\g__metrix_variable_bowshortening_tl` This variable stores the value to shrink the bow.

```

49 \tl_new:N \g__metrix_variable_bowshortening_tl
50 \tl_set:Nn \g__metrix_variable_bowshortening_tl { 0.15em }

```

(End definition for \g__metrix_variable_bowshortening_tl.)

`\g__metrix_variable_bowlooseness_tl` This variable stores the value to shrink the bow.

```

51 \tl_new:N \g__metrix_variable_bowlooseness_tl
52 \tl_set:Nn \g__metrix_variable_bowlooseness_tl { 0.75 }

```

(End definition for \g__metrix_variable_bowlooseness_tl.)

`\g__metrix_variable_symbolcolor_tl` These variables store the color of symbols, accents and bows.

`\g__metrix_variable_accentcolor_tl`

`g__metrix_variable_bowcolor_tl`

```

53 \tl_new:N \g__metrix_variable_symbolcolor_tl
54 \tl_set:Nn \g__metrix_variable_symbolcolor_tl { black }
55 \tl_new:N \g__metrix_variable_accentcolor_tl
56 \tl_set:Nn \g__metrix_variable_accentcolor_tl { black }
57 \tl_new:N \g__metrix_variable_bowcolor_tl
58 \tl_set:Nn \g__metrix_variable_bowcolor_tl { black }

```

(End definition for \g__metrix_variable_symbolcolor_tl, \g__metrix_variable_accentcolor_tl, and g__metrix_variable_bowcolor_tl.)

`\g__metrix_variable_highlightcolor_tl` These variable stores the color used in the colored highlight style.

```

59 \tl_new:N \g__metrix_variable_highlightcolor_tl
60 \tl_set:Nn \g__metrix_variable_highlightcolor_tl { red }

```

(End definition for \g__metrix_variable_highlightcolor_tl.)

`\g__metrix_variable_fillcolor_tl` These variable stores the color used in the filled highlight style.

```

61 \tl_new:N \g__metrix_variable_fillcolor_tl
62 \tl_set:Nn \g__metrix_variable_fillcolor_tl { yellow }

```

(End definition for \g__metrix_variable_fillcolor_tl.)

`\g__metrix_variable_arrow_tl` These variable stores the color used in the filled highlight style.

```

63 \tl_new:N \g__metrix_variable_arrow_tl
64 \tl_set:Nn \g__metrix_variable_arrow_tl { $\downarrow$ }

```

(End definition for \g__metrix_variable_arrow_tl.)

`\g__metrix_variable_breakgap_tl` This variable stores the width of the gap around the two break symbols.

```

65 \tl_new:N \g__metrix_variable_breakgap_tl
66 \tl_set:Nn \g__metrix_variable_breakgap_tl { 0.6em }

```

(End definition for \g__metrix_variable_breakgap_tl.)

`\g__metrix_variable_emptywidth_tl` This variable stores the width of the gap caused by an empty symbol (abbreviation e).

```

67 \tl_new:N \g__metrix_variable_emptywidth_tl
68 \tl_set:Nn \g__metrix_variable_emptywidth_tl { 1em }

```

(End definition for \g__metrix_variable_emptywidth_tl.)

`\l__metrix_words_tl` This list stores the words of the `\metrics` macro.

```

69 \tl_new:N \l__metrix_words_tl

```

(End definition for \l__metrix_words_tl.)

`\l__metrix_syllables_seq` This list stores the words of the `\l__metrix_words_tl` list.

```

70 \seq_new:N \l__metrix_syllables_seq

```

(End definition for \l__metrix_syllables_seq.)

`\l__metrix_symbols_seq` This list stores the metric symbols of `\metrics` and `\metricsymbols`.

```

71 \seq_new:N \l__metrix_symbols_seq

```

(End definition for \l__metrix_symbols_seq.)

`\l__metrix_short_breaks_seq` This list stores the short and foot breaks of `\metrics`.

`\l__metrix_foot_breaks_seq`

```

72 \seq_new:N \l__metrix_short_breaks_seq
73 \seq_new:N \l__metrix_foot_breaks_seq

```

(End definition for \l__metrix_short_breaks_seq and \l__metrix_foot_breaks_seq.)

`\l__metrix_highlights_prop` This list stores the highlighting styles of `\metrics` and `\metricsymbols`.

```

74 \prop_new:N \l__metrix_highlights_prop

```

(End definition for \l__metrix_highlights_prop.)

`\l__metrix_highlight_seq` This lists are used to evaluate a highlight style.
`\l__metrix_highlight_pos_seq` 75 \seq_new:N \l__metrix_highlight_seq
76 \seq_new:N \l__metrix_highlight_pos_seq
(End definition for \l__metrix_highlight_seq and \l__metrix_highlight_pos_seq.)

`\q__metrix_space_marker` This is the marker for spaces inside of the `\l__metrix_words_tl` list.
77 \quark_new:N \q__metrix_space_marker
(End definition for \q__metrix_space_marker.)

`\l__metrix_process_int` This process counter is used to combine the symbols and syllables.
78 \int_new:N \l__metrix_process_int
(End definition for \l__metrix_process_int.)

`\l__metrix_short_syllable_bool` This boolean can be used to store that a syllable is short, e.g. *li* will be defined as short
`\l__metrix_syllable_box` whereas *man* is long. That will be used to shorten the |_| symbol. Furthermore we'll need
`\g__metrix_variable_shortsyllablelimit_tl` a box to measure the length of a syllable and a variable to save the limit for short syllables.
79 \bool_new:N \l__metrix_short_syllable_bool
80 \box_new:N \l__metrix_syllable_box
81 \tl_new:N \g__metrix_variable_shortsyllablelimit_tl
82 \tl_set:Nn \g__metrix_variable_shortsyllablelimit_tl { 0.8em }
(End definition for \l__metrix_short_syllable_bool, \l__metrix_syllable_box, and \g__metrix_variable_shortsyllablelimit_tl.)

9.3 Variants

Later we'll need the following variant.

```

83 \cs_generate_variant:Nn \prop_item:Nn { No , Nf , NV , Nx }
84 \cs_generate_variant:Nn \prop_put:Nnn { Nnx , Nxx , Nff , Noo }
85 \cs_generate_variant:Nn \seq_item:Nn { Nf , NV , Nx }
86 \cs_generate_variant:Nn \seq_set_split:Nnn { Nnf , NnV , Nnx }

```

9.4 Internal main macros

`__metrix_metrics:nn` This macro processes the two lists of `\metrics` and combines the symbols and syllables.³
87 \cs_new_protected:Npn __metrix_metrics:nn #1 #2
88 {
89 \tl_set:Nx \l__metrix_words_tl { \tl_trim_spaces:n { #2 } }

First replace the spaces by a special marker `\q__metrix_space_marker` and add hyphens: a space becomes a syllable.

```

90 \tl_replace_all:Nnn \l__metrix_words_tl { ~ } { - \q__metrix_space_marker - }

```

³The framing of this macro was provided by Enrico Gregorio at <http://tex.stackexchange.com/q/124528/4918>, a follow up question was <http://tex.stackexchange.com/q/124698/4918>. David Carlisle and Bruno Le Floch lead me to the implementation of the highlighting mechanism, see <http://tex.stackexchange.com/q/124782/4918>

Then split the word list at hypens.

```
91 \seq_set_split:NnV \l__metrix_syllables_seq { - } \l__metrix_words_tl
```

Split the symbol list at spaces.

```
92 \seq_set_split:Nnx \l__metrix_symbols_seq { ~ } { \tl_trim_spaces:n { #1 } }
```

Search for the short and foot breaks and remove them afterwards.

```
93 \int_zero:N \l__metrix_process_int
94 \seq_clear:N \l__metrix_short_breaks_seq
95 \seq_clear:N \l__metrix_foot_breaks_seq
96 \seq_map_inline:Nn \l__metrix_symbols_seq {
97   \int_incr:N \l__metrix_process_int
98   \tl_if_eq:nnT { ##1 } { ' } {
99     \seq_put_right:Nx \l__metrix_short_breaks_seq { \int_use:N \l__metrix_process_int }
100     \int_decr:N \l__metrix_process_int
101   }
102   \tl_if_eq:nnT { ##1 } { , } {
103     \seq_put_right:Nx \l__metrix_foot_breaks_seq { \int_use:N \l__metrix_process_int }
104     \int_decr:N \l__metrix_process_int
105   }
106 }
107 \seq_remove_all:Nn \l__metrix_symbols_seq { , }
108 \seq_remove_all:Nn \l__metrix_symbols_seq { ' }
```

Test whether both lists got the same length:

```
109 \int_zero:N \l__metrix_process_int
110 \seq_map_inline:Nn \l__metrix_syllables_seq
111 {
112   \tl_if_eq:nnT { ##1 } { \q__metrix_space_marker }
113   { \int_incr:N \l__metrix_process_int }
114 }
115 \int_compare:nTF
116 {
117   \seq_count:N \l__metrix_syllables_seq -
118   \seq_count:N \l__metrix_symbols_seq = \l__metrix_process_int
119 }
120 {
```

continue with list processing, if the numbers are equal:

```
121 \int_zero:N \l__metrix_process_int
122 \seq_map_inline:Nn \l__metrix_syllables_seq
123 {
124   \int_incr:N \l__metrix_process_int
125   \tl_if_eq:nnTF { ##1 } { \q__metrix_space_marker }
126   {
```

If the syllable is a space the process counter must be decremented and a space is typeset.

```
127     \int_add:Nn \l__metrix_process_int { -1 }
128     \c_space_token
129   }
130 }
```

Finally typeset the syllable and it's symbol.

```

131     \str_case:nnF { ##1 }
132     {
133     { | }
134     {
135     \__metrix_break_node:n { \__metrix_l_break: }
136     }
137     { || }
138     {
139     \__metrix_break_node:n { \__metrix_ll_break: }
140     }
141     }
142     {
143     \__metrix_print_syllable:n { ##1 }
144     }
145     }
146     }

```

And add the short break symbols if necessary:

```

147     \seq_if_empty:NF \l__metrix_short_breaks_seq {
148     \seq_map_inline:Nn \l__metrix_short_breaks_seq {
149     \int_set:Nn \l_tmpa_int { ##1 - 1 }
150     \bool_if:nF {
151     \int_compare_p:n
152     { 0 = \l_tmpa_int }
153     ||
154     \int_compare_p:n
155     { \seq_count:N \l__metrix_symbols_seq = \l_tmpa_int }
156     } {
157     \tikz [remember~picture, overlay] {
158     \node [every~metrix~symbol~node] at
159     ($(\l__metrix_symbol_node\_int\_use:N \l_tmpa_int.east)!
160     0.5!(\l__metrix_symbol_node_##1.west)$)
161     { \__metrix_short_break: };
162     }
163     }
164     }
165     }

```

And add the foot break symbols if necessary:

```

166     \seq_if_empty:NF \l__metrix_foot_breaks_seq {
167     \seq_map_inline:Nn \l__metrix_foot_breaks_seq {
168     \int_set:Nn \l_tmpa_int { ##1 - 1 }
169     \bool_if:nF {
170     \int_compare_p:n
171     { 0 = \l_tmpa_int }
172     ||
173     \int_compare_p:n
174     { \seq_count:N \l__metrix_symbols_seq = \l_tmpa_int }
175     } {

```

```

176     \tikz [remember~picture, overlay] {
177       \coordinate (l__metrix_tmp_coord) at
178         ($ (l__metrix_syllable_node\_int\_use:N \l_tmpa\_int.east)!
179           0.5!(l__metrix_syllable_node\_##1.west)$);
180       \node [every~metrix~symbol~node] at
181         ($ (l__metrix_symbol_node\_int\_use:N \l_tmpa\_int.east)!
182           (l__metrix_tmp_coord)!(l__metrix_symbol_node\_##1.west)$)
183         { \__metrix_foot_break: };
184     }
185 }
186 }
187 }
188 }

```

Send an error, else.

```

189 {
190   \__metrix_error_msg:n
191   {
192     Numbers-of~symbols~(\seq\_count:N \l__metrix_symbols\_seq)~and~syllables~
193     (\int\_eval:n
194       {
195         \seq\_count:N \l__metrix_syllables\_seq - \l__metrix\_process\_int
196       }
197     )~mismatch.
198   }
199 }
200 }

```

(End definition for __metrix_metrics:nn.)

`__metrix_metricsymbols:n` This macro works like `__metrix_metrics` but is used to print stand alone metric symbols via `\metricsymbols`.

```

201 \cs_new_protected:Npn \__metrix_metricsymbols:n #1
202 {
203   \seq_set_split:Nnx \l__metrix_symbols\_seq { ~ } { \tl_trim_spaces:n { #1 } }
204   \int_zero:N \l__metrix\_process\_int
205   \seq_map_inline:Nn \l__metrix_symbols\_seq
206   {
207     \int_incr:N \l__metrix\_process\_int
208     \int_compare:nT { \l__metrix\_process\_int > 1 }
209     {
210       \hspace{\usemetrixvar{symbolsep}}
211     }
212     \str_case:nnF { ##1 }
213     {
214       { , }
215     }
216     \__metrix_break_gap:
217     \__metrix_align_symbol:n { \__metrix_l_bigmark: }
218     \__metrix_break_gap:

```

```

219     }
220   { ' }
221   {
222     \_metrix_break_gap:
223     \_metrix_align_symbol:n { \_metrix_l_bigmark: }
224     \_metrix_break_gap:
225   }
226 { | }
227 {
228   \_metrix_break_gap:
229   \_metrix_align_symbol:n { \_metrix_l_bigmark: }
230   \_metrix_break_gap:
231 }
232 { '' }
233 {
234   \_metrix_break_gap:
235   \_metrix_align_symbol:n { \_metrix_ll_bigmark: }
236   \_metrix_break_gap:
237 }
238 { || }
239 {
240   \_metrix_break_gap:
241   \_metrix_align_symbol:n { \_metrix_ll_bigmark: }
242   \_metrix_break_gap:
243 }
244 }
245 {
246   \_metrix_align_symbol:n { \_metrix_print_symbol: }
247 }
248 }
249 }

```

(End definition for _metrix_metricsymbols:n)

_metrix_print_syllable:n This macro combines a single syllable and the corresponding metric symbol taken from the symbol list index with the process counter.

```

250 \cs_new_protected:Npn \_metrix_print_syllable:n #1
251 {
252   \group_begin:

```

Check whether the current syllable is short or long and set the corresponding bbol.

```

253   \hbox_set:Nn \l__metrix_syllable_box { #1 }
254   \dim_compare:nTF
255     { \box_wd:N \l__metrix_syllable_box < \g__metrix_variable_shortsyllablelimit_t1 }
256     { \bool_set_true:N \l__metrix_short_syllable_bool }
257     { \bool_set_false:N \l__metrix_short_syllable_bool }

```

Set up the current highlight if it is defined

```

258   \cs_set:Npx \_metrix_current_highlight: {
259     \prop_item:NV \l__metrix_highlights_prop \l__metrix_process_int
260   }

```

```

261 \expandafter\tikzset\expandafter{\__metrix_current_highlight:}
Finally print the syllable and the symbol above. Use {pgfinterruptboundingbox} so
that the symbol doesn't takes space ad doesn't cause gaps between the syllables.
262 \hbox_set:Nn \l_tmpa_box { \__metrix_print_symbol: }
263 \begin{tikzpicture}
264 [
265 remember~picture,
266 baseline=(l__metrix_syllable_node_\int_use:N \l__metrix_process_int.base),
267 ]
268 \node [every~metrix~syllable~node]
269 (l__metrix_syllable_node_\int_use:N \l__metrix_process_int)
270 { #1 };
271 \begin{pgfinterruptboundingbox}
272 \node [every~metrix~symbol~node]
273 (l__metrix_symbol_node_\int_use:N \l__metrix_process_int)
274 at ($
275 (l__metrix_syllable_node_\int_use:N \l__metrix_process_int.base)
276 +
277 (0,\usemetrixvar{symbolshift})
278 +
279 (\tl_use:N \l__metrix_internal_itcorrection_tl,0)
280 $)
281 { \box_use:N \l_tmpa_box };
282 \end{pgfinterruptboundingbox}
283 \end{tikzpicture}
284 \group_end:
285 }

```

(End definition for __metrix_print_syllable:n.)

`__metrix_print_symbol:` This command selects the right symbol by it's abbreviation.

```

286 \cs_new_protected:Npn \__metrix_print_symbol:
287 {
288 \cs_if_exist_use:cF
289 {
290 __metrix_\seq_item:Nn \l__metrix_symbols_seq
291 { \l__metrix_process_int }_mark:
292 }
293 {
294 \__metrix_error_msg:n
295 {
296 Unknown~symbol~abbreviation~'\seq_item:Nn
297 \l__metrix_symbols_seq { \l__metrix_process_int }'.
298 }
299 }
300 }

```

(End definition for __metrix_print_symbol:.)

9.5 Internal auxiliary macros

`_metrix_error_msg:n` An abbreviation to throw an error message.

```
301 \cs_new_protected:Npn \_metrix_error_msg:n #1
302 {
303   \PackageError{ \metrixFileName } { #1 }
304   {
305     Please~take~a~look~at~the~manual~or~send~an~email.
306   }
307 }
```

(End definition for _metrix_error_msg:n)

`_metrix_warning_msg:n` An abbreviation to throw an error message.

```
308 \cs_new_protected:Npn \_metrix_warning_msg:n #1
309 {
310   \PackageWarning{ \metrixFileName } { #1 }
311 }
```

(End definition for _metrix_warning_msg:n)

`_metrix_align_symbol:n` This macro aligns the metric symbols in a stand alone list.

```
312 \cs_new_protected:Npn \_metrix_align_symbol:n #1
313 {
314   \group_begin:
315   \cs_set:Npx \_metrix_current_highlight: {
316     \prop_item:NV \l__metrix_highlights_prop \l__metrix_process_int
317   }
318   \expandafter\tikzset\expandafter{\_metrix_current_highlight:}
319   \begin{tikzpicture}
320     [
321     baseline={(0,-0.25*\usemetrixvar{baseunit})},
322     ]
323     \node [every~metrix~symbol~node] {#1};
324   \end{tikzpicture}
325   \group_end:
326 }
```

(End definition for _metrix_align_symbol:n)

`_metrix_break_gap:` This macro typesets the gap around the two break symbols.

```
327 \cs_new_protected:Npn \_metrix_break_gap:
328 {
329   \hspace{\usemetrixvar{breakgap}}
330 }
```

(End definition for _metrix_break_gap:.)

`__metrix_break_node:n` This macro typsets the gap around the two break symbols.

```

331
332 \cs_new:Npn \__metrix_break_node:n #1
333 {
334   \group_begin:
335   \cs_set:Npx \__metrix_current_highlight: {
336     \prop_item:NV \l__metrix_highlights_prop \l__metrix_process_int
337   }
338   \expandafter\tikzset\expandafter{\__metrix_current_highlight:}
339   \tikz[baseline=(l__metrix_break_node.base)]
340     \node (l__metrix_break_node) [every~metrix~break~node] { #1 }
341   ;
342   \group_end:
343 }
344
345
346

```

(End definition for __metrix_break_node:n.)

`__metrix_e_gap:` This macro typsets the gap around the two break symbols.

```

347 \cs_new_protected:Npn \__metrix_e_gap:
348 {
349   \hspace*{\usemetrixvar{emptywidth}}
350 }

```

(End definition for __metrix_e_gap:.)

`__metrix_evaluate_highlights:N` This macro evaluates and prints the highlighting options.

```

351 \cs_new_protected:Npn \__metrix_evaluate_highlights:n #1
352 {

```

Start with clearing the property list, otherwise the highlights from the last time will survive.

```

353   \prop_clear:N \l__metrix_highlights_prop

```

Then split and process the argument as a comma separated list.

```

354   \clist_map_inline:nn { #1 }
355   {

```

The result is a sequence of key value pairs that we store in `\l__metrix_highlight_seq`. The first part of this sequence must be split again at the plus sign—store it in `\l__metrix_highlight_pos_seq`.

```

356     \seq_set_split:Nnn \l__metrix_highlight_seq { = } { ##1 }
357     \seq_set_split:Nnf \l__metrix_highlight_pos_seq { + }
358     {
359       \seq_item:Nn \l__metrix_highlight_seq { 1 }
360     }

```

Process the `\l__metrix_highlight_pos_seq` list and set up the property list:

```

361   \seq_map_inline:Nn \l__metrix_highlight_pos_seq
362   {
363     \prop_put:Nnx \l__metrix_highlights_prop

```

The key is the current item of `\l__metrix_highlight_pos_seq`.

```

364     {
365       #####1
366     }
367   {

```

The value is the second item of `\l__metrix_highlight_seq`.

```

368     \seq_item:Nn \l__metrix_highlight_seq { 2 }
369   }
370 }
371 }
372 }

```

(End definition for `__metrix_evaluate_highlights:N`.)

9.6 Patching font macros

To apply the italic correction of the accents we need to patch the font switches.

```

373 \xpretocmd { \itshape }
374 {
375   \tl_set_eq:NN
376   \l__metrix_internal_itcorrection_tl
377   \g__metrix_variable_itcorrection_tl
378 }
379 { }
380 {
381   \__metrix_warning_msg:n { Could-not-patch~\string\itshape. }
382 }
383 \xpretocmd { \slshape }
384 {
385   \tl_set_eq:NN
386   \l__metrix_internal_itcorrection_tl
387   \g__metrix_variable_itcorrection_tl
388 }
389 { }
390 {
391   \__metrix_warning_msg:n { Could-not-patch~\string\slshape. }
392 }
393 \xpretocmd { \upshape }
394 {
395   \tl_set_eq:NN
396   \l__metrix_internal_itcorrection_tl
397   \g__metrix_internal_itcorrection_zero_tl
398 }
399 { }

```

```

400 {
401   \_metrix_warning_msg:n { Could-not-patch~\string\upshape. }
402 }
403 \xpretocmd { \normalfont }
404 {
405   \tl_set_eq:NN
406   \l__metrix_internal_itcorrection_tl
407   \g__metrix_internal_itcorrection_zero_tl
408 }
409 { }
410 {
411   \_metrix_warning_msg:n { Could-not-patch~\string\normalfont. }
412 }

```

9.7 Internal macros for metric symbols

`_metrix_e_mark:` The empty symbol.

```

413 \cs_new:Npn \_metrix_e_mark: { \_metrix_e_gap: }

```

(End definition for _metrix_e_mark:.)

`_metrix_u_mark:` The brevis symbol υ .

```

414 \cs_new:Npn \_metrix_u_mark:
415 {
416   \begin{tikzpicture}[every~metrix~symbol]
417     \draw (0,0) arc [start~angle=0, end~angle=180, radius=-0.225];
418   \end{tikzpicture}
419 }

```

(End definition for _metrix_u_mark:.)

`_metrix___mark:` The longa symbol — .

```

420 \cs_new:Npn \_metrix___mark:
421 {
422   \bool_if:NTF \l__metrix_short_syllable_bool
423   {
424     \begin{tikzpicture}[every~metrix~symbol]
425       \draw (0,0) -- ++(0.4,0);
426     \end{tikzpicture}
427   }
428   {
429     \begin{tikzpicture}[every~metrix~symbol]
430       \draw (0,0) -- ++(0.75,0);
431     \end{tikzpicture}
432   }
433 }

```

(End definition for _metrix___mark:.)

`__metrix_uu_mark:` The biceps symbol $\cup\cup$.

```
434 \cs_new:Npn \__metrix_uu_mark:
435 {
436   \begin{tikzpicture}[every~metrix~symbol]
437     \draw (0,0) arc [start~angle=0, end~angle=180, radius=-0.2];
438     \draw ($(0.4,0)+(\pgflinewidth,0)+(\usemetrixvar{gap},0)$) arc
439       [start~angle=0, end~angle=180, radius=-0.2];
440   \end{tikzpicture}
441 }
```

(End definition for __metrix_uu_mark:.)

`__metrix_uu__mark:` The biceps symbol $\cup\cup$.

```
442 \cs_new:Npn \__metrix_uu__mark:
443 {
444   \begin{tikzpicture}[every~metrix~symbol]
445     \draw (0,0) arc [start~angle=0, end~angle=180, radius=-0.2];
446     \draw ($(0.4,0)+(\pgflinewidth,0)+(\usemetrixvar{gap},0)$) arc
447       [start~angle=0, end~angle=180, radius=-0.2];
448     \draw ($(0,-0.2)+(-0.5\pgflinewidth,-\pgflinewidth)-(0,\usemetrixvar{gap})$) --
449       ($(0.8,-0.2)+(1.5\pgflinewidth,-\pgflinewidth)
450       +(\usemetrixvar{gap},-\usemetrixvar{gap})$);
451   \end{tikzpicture}
452 }
```

(End definition for __metrix_uu__mark:.)

`__metrix__uu_mark:` Another biceps symbol $\cup\cup$.

```
453 \cs_new:Npn \__metrix__uu_mark:
454 {
455   \begin{tikzpicture}[every~metrix~symbol]
456     \draw (0,0) arc [start~angle=0, end~angle=180, radius=-0.2];
457     \draw ($(0.4,0)+(\pgflinewidth,0)+(\usemetrixvar{gap},0)$) arc
458       [start~angle=0, end~angle=180, radius=-0.2];
459     \draw ($(0,0)+(-0.5\pgflinewidth,0.5\pgflinewidth)+(0,\usemetrixvar{gap})$) --
460       ($(0.8,0)+(1.5\pgflinewidth,0.5\pgflinewidth)
461       +(\usemetrixvar{gap},\usemetrixvar{gap})$);
462   \end{tikzpicture}
463 }
```

(End definition for __metrix__uu_mark:.)

`__metrix_u_uu_mark:` An another biceps symbol $\cup\cup$.

```
464 \cs_new:Npn \__metrix_u_uu_mark:
465 {
466   \begin{tikzpicture}[every~metrix~symbol]
467     \draw (0,0) arc [start~angle=0, end~angle=180, radius=-0.2];
468     \draw ($(0.4,0)+(\pgflinewidth,0)+(\usemetrixvar{gap},0)$) arc
469       [start~angle=0, end~angle=180, radius=-0.2];
470     \draw ($(0,0)+(-0.5\pgflinewidth,0.5\pgflinewidth)+(0,\usemetrixvar{gap})$) --
```

```

471     ($ (0.8,0)+(1.5\pgflinewidth,0.5\pgflinewidth)
472     +(\usemetrixvar{gap},\usemetrixvar{gap})$);
473     \draw ($ (0.2,0.2)+(0.5\pgflinewidth,1.5\pgflinewidth)
474     +(0.5*\usemetrixvar{gap},2*\usemetrixvar{gap})$)
475     arc [start~angle=0, end~angle=180, radius=-0.2];
476     \end{tikzpicture}
477 }

```

(End definition for `_metrix_u_uu_mark:`)

`_metrix_x_mark:` The anceps symbol \times .

```

478 \cs_new:Npn \_metrix_x_mark:
479 {
480   \begin{tikzpicture}[every~metrix~symbol]
481     \draw (-0.2,0.2) -- (0.2,-0.2);
482     \draw (-0.2,-0.2) -- (0.2,0.2);
483   \end{tikzpicture}
484 }

```

(End definition for `_metrix_x_mark:`)

`_metrix_oo_mark:` The aeolic symbol $\circ\circ$.

```

485 \cs_new:Npn \_metrix_oo_mark:
486 {
487   \begin{tikzpicture}[every~metrix~symbol]
488     \draw (0,0) circle [radius=0.2];
489     \draw ($ (0.4,0)+(1\pgflinewidth,0)+(\usemetrixvar{gap},0)$ ) circle [radius=0.2];
490   \end{tikzpicture}
491 }

```

(End definition for `_metrix_oo_mark:`)

`_metrix_u__mark:` The indifferent symbol \sphericalangle .

```

492 \cs_new:Npn \_metrix_u__mark:
493 {
494   \begin{tikzpicture}[every~metrix~symbol]
495     \draw (0,0) arc [start~angle=0, end~angle=180, radius=-0.2];
496     \draw ($ (0,-0.2)+(-0.5\pgflinewidth,-\pgflinewidth)-(0,\usemetrixvar{gap})$ ) --
497     ($ (0.4,-0.2)+(0.5\pgflinewidth,-\pgflinewidth)
498     +(0,-\usemetrixvar{gap})$ );
499   \end{tikzpicture}
500 }

```

(End definition for `_metrix_u__mark:`)

`_metrix_n_mark:` An alternative indifferent symbol \circ .

```

501 \cs_new:Npn \_metrix_n_mark:
502 {
503   \begin{tikzpicture}[every~metrix~symbol]
504     \draw (0,0) arc [start~angle=0, end~angle=180, radius=0.225];
505     \fill (-0.225,0.75*\usemetrixvar{symbollinewidth})

```

```

506     circle [radius=0.7\pgflinewidth];
507   \end{tikzpicture}
508 }

```

(End definition for _metrix_n_mark:.)

`_metrix_1_mark:` The simple break symbol | (above syllables).

```

509 \cs_new:Npn \_metrix_1_mark:
510 {
511   \begin{tikzpicture}[every-metrix-symbol]
512     \draw (0,0) -- (0,0.5);
513   \end{tikzpicture}
514 }

```

(End definition for _metrix_1_mark:.)

`_metrix_11_mark:` The verse break symbol || (above syllables).

```

515 \cs_new:Npn \_metrix_11_mark:
516 {
517   \begin{tikzpicture}[every-metrix-symbol]
518     \draw (0,0) -- (0,0.5);
519     \draw ($(\pgflinewidth,0)+(1.5*\usemetrixvar{gap},0)$) -- ++(0,0.5);
520   \end{tikzpicture}
521 }

```

(End definition for _metrix_11_mark:.)

`_metrix_1_bigmark:` The simple break symbol | (stand alone version).

```

522 \cs_new:Npn \_metrix_1_bigmark:
523 {
524   \begin{tikzpicture}[every-metrix-symbol]
525     \draw (0,0) -- (0,0.8);
526   \end{tikzpicture}
527 }

```

(End definition for _metrix_1_bigmark:.)

`_metrix_11_bigmark:` The verse break symbol || (stand alone version).

```

528 \cs_new:Npn \_metrix_11_bigmark:
529 {
530   \begin{tikzpicture}[every-metrix-symbol]
531     \draw (0,0) -- (0,0.8);
532     \draw ($(\pgflinewidth,0)+(1.5*\usemetrixvar{gap},0)$) -- ++(0,0.8);
533   \end{tikzpicture}
534 }

```

(End definition for _metrix_11_bigmark:.)

`_metrix_l_break` The simple break symbol | (between syllables with symbols).

```
535 \cs_new:Npn \_metrix_l_break:
536 {
537   \begin{tikzpicture}[every~metrix~symbol,baseline=0.05em]
538     \draw (0,\usemetrixvar{symbolshift}+0.325em)
539           -- (0,-0.05em) -- (0,0.8em) -- (0,\usemetrixvar{symbolshift});
540   \end{tikzpicture}
541 }
```

(End definition for _metrix_l_break.)

`_metrix_ll_break` The verse break symbol || (between syllables with symbols).

```
542 \cs_new:Npn \_metrix_ll_break:
543 {
544   \begin{tikzpicture}[every~metrix~symbol,baseline=0.05em]
545     \draw (0,\usemetrixvar{symbolshift}+0.325em)
546           -- (0,-0.05em) -- (0,0.8em) -- (0,\usemetrixvar{symbolshift});
547     \draw
548       [
549         shift={{($(\pgflinewidth,0)+(1.5*\usemetrixvar{gap},0)$)},
550       ]
551       (0,\usemetrixvar{symbolshift}+0.325em) -- (0,-0.05em) -- (0,0.8em)
552       -- (0,\usemetrixvar{symbolshift});
553   \end{tikzpicture}
554 }
```

(End definition for _metrix_ll_break.)

`_metrix_short_break:` The shorter break symbol.

```
555 \cs_new:Npn \_metrix_short_break:
556 {
557   \begin{tikzpicture}[every~metrix~symbol]
558     \draw (0,0.3) -- (0,-0.3);
559   \end{tikzpicture}
560 }
```

(End definition for _metrix_short_break:.)

`_metrix_foot_break:` The shorter break symbol for foot break is the same as the regular short break.

```
561 \cs_set_eq:NN \_metrix_foot_break: \_metrix_short_break:
```

(End definition for _metrix_foot_break:.)

9.8 User level macros

`\setmetrixvar` This macro saves the value to an internal variable.

```
562 \NewDocumentCommand{ \setmetrixvar }{ m m }
563 {
564   \tl_if_exist:cTF { g__metrix_variable_#1_tl } {
565     \tl_set:cn { g__metrix_variable_#1_tl } { #2 }
566   }
567   {
568     \__metrix_error_msg:n { Unknown~variable~'#1'. }
569   }
570 }
```

(End definition for `\setmetrixvar`. This function is documented on page 15.)

`\usemetrixvar` With this command one can access the value of an internal variable.⁴

```
571 \DeclareExpandableDocumentCommand{ \usemetrixvar }{ m }
572 {
573   \tl_if_exist:cTF { g__metrix_variable_#1_tl } {
574     \tl_use:c { g__metrix_variable_#1_tl }
575   }
576   {
577     \__metrix_error_msg:n { Unknown~variable~'#1'. }
578   }
579 }
```

(End definition for `\usemetrixvar`. This function is documented on page 15.)

`\metrics` This user macro calls `\@_metrics` to typset syllables with symbols.

```
580 \NewDocumentCommand { \metrics } { 0{} m m }
581 {
582   \__metrix_evaluate_highlights:n { #1 }
583   \__metrix_metrics:nn { #2 } { #3 }
584 }
```

(End definition for `\metrics`. This function is documented on page 4.)

`\metricsymbols` This command typesets stand alone symbols. The starred version prints smaller versions.

```
585 \NewDocumentCommand { \metricsymbols } { s 0{} m }
586 {
587   \group_begin:
588   \IfBooleanF { #1 } { \tikzset{every~metrix~symbol/.style={every~metrix~big~symbol}} }
589   \__metrix_evaluate_highlights:n { #2 }
590   \__metrix_metricsymbols:n { #3 }
591   \group_end:
592 }
```

(End definition for `\metricsymbols`. This function is documented on page 2.)

⁴Marco Daniel showed me this hint at <http://tex.stackexchange.com/q/124600/4918>.

\lng This macro prints the longa accent above its argument.

```
593 \NewDocumentCommand { \lng } { D() {0,0} O{0pt} m O{0pt} }
594 {
595   \begin{tikzpicture}[
596     baseline = (l__metrix_syllable_node_\int_use:N \l__metrix_process_int.base),
597     every~metrix~accent
598   ]
599   \node [every~metrix~syllable~node]
600     (l__metrix_syllable_node_\int_use:N \l__metrix_process_int)
601     { #3 };
602   \begin{pgfinterruptboundingbox}
603     \draw [shorten~< = -#2, shorten~> = -#4]
604       ($ (l__metrix_syllable_node_\int_use:N \l__metrix_process_int.north)
605         - (\usemetrixvar{lngminlength}/2,0)
606         + (\usemetrixvar{accentxshift}, \usemetrixvar{lngshift})
607         + (\tl_use:N \l__metrix_internal_itcorrection_tl,0)
608         + (#1)$)
609       --
610       ($ (l__metrix_syllable_node_\int_use:N \l__metrix_process_int.north)
611         + (\usemetrixvar{lngminlength}/2,0)
612         + (\usemetrixvar{accentxshift}, \usemetrixvar{lngshift})
613         + (\tl_use:N \l__metrix_internal_itcorrection_tl,0)
614         + (#1)$)
615       ;
616     \draw [shorten~< = -#2, shorten~> = -#4]
617       ($ (l__metrix_syllable_node_\int_use:N \l__metrix_process_int.north-west)
618         + (\usemetrixvar{lngshortening} + \usemetrixvar{accentxshift}, \usemetrixvar{lngshift})
619         + (\tl_use:N \l__metrix_internal_itcorrection_tl,0)
620         + (#1)$)
621       --
622       ($ (l__metrix_syllable_node_\int_use:N \l__metrix_process_int.north-east)
623         + (-\usemetrixvar{lngshortening} + \usemetrixvar{accentxshift}, \usemetrixvar{lngshift})
624         + (\tl_use:N \l__metrix_internal_itcorrection_tl,0)
625         + (#1)$)
626       ;
627   \end{pgfinterruptboundingbox}
628   \end{tikzpicture}%
629 }
```

(End definition for \lng. This function is documented on page 8.)

\brv This macro prints the brevis accent above its argument.

```
630 \NewDocumentCommand { \brv } { D() {0,0} m }
631 {
632   \begin{tikzpicture}[
633     baseline = (l__metrix_syllable_node_\int_use:N \l__metrix_process_int.base),
634     every~metrix~accent
635   ]
636   \node [every~metrix~syllable~node]
637     (l__metrix_syllable_node_\int_use:N \l__metrix_process_int)
```

```

638     { #2 };
639     \begin{pgfinterruptboundingbox}
640     \draw ($(l\_metrix\_syllable\_node\_int\_use:N \l\_metrix\_process\_int.north)
641     + (-0.15,0)
642     + (\usemetrixvar{accentxshift},\usemetrixvar{brvshift})
643     + (\tl\_use:N \l\_metrix\_internal\_itcorrection\_tl,0)
644     + (#1)$)
645     arc [start~angle=0, end~angle=180, radius=-0.15];
646     \end{pgfinterruptboundingbox}
647 \end{tikzpicture}
648 }

```

(End definition for `\brv`. This function is documented on page 8.)

\acct This macro prints the dot accent below its argument.

```

649 \NewDocumentCommand { \acct } { D() {0,0} m }
650 {
651   \begin{tikzpicture}[
652     baseline = (l\_metrix\_syllable\_node\_int\_use:N \l\_metrix\_process\_int.base),
653     every~metrix~accent
654   ]
655   \node [every~metrix~syllable~node]
656     (l\_metrix\_syllable\_node\_int\_use:N \l\_metrix\_process\_int)
657     { #2 };
658   \begin{pgfinterruptboundingbox}
659   \fill ($(l\_metrix\_syllable\_node\_int\_use:N \l\_metrix\_process\_int.south)
660   + (0,\usemetrixvar{dotshift})
661   + (#1)$)
662   circle [radius=1.25\pgflinewidth];
663   \end{pgfinterruptboundingbox}
664 \end{tikzpicture}
665 }

```

(End definition for `\acct`. This function is documented on page 8.)

\bow This macro prints the bow below its argument.

```

666 \NewDocumentCommand { \bow } { 0{0pt} m 0{0pt} }
667 {
668   \begin{tikzpicture}[
669     baseline = (l\_metrix\_syllable\_node\_int\_use:N \l\_metrix\_process\_int.base),
670     every~metrix~bow
671   ]
672   \node [every~metrix~syllable~node]
673     (l\_metrix\_syllable\_node\_int\_use:N \l\_metrix\_process\_int)
674     { #2 };
675   \draw [shorten~< = #1, shorten~> = #3]
676     ($(l\_metrix\_syllable\_node\_int\_use:N \l\_metrix\_process\_int.base~west)+
677     (\usemetrixvar{bowshortening},\usemetrixvar{bowshift})$)
678     to [out=-45, in=225, looseness=\usemetrixvar{bowlooseness}]
679     ($(l\_metrix\_syllable\_node\_int\_use:N \l\_metrix\_process\_int.base~east)+

```

```

680     (-\usemetrixvar{bowshortening},\usemetrixvar{bowshift})$);
681     \end{tikzpicture}
682   }

```

(End definition for `\bow`. This function is documented on page 9.)

9.9 TikZ styles

The **mëtrix** package uses several TikZ styles to draw the macros.

```

683 \ExplSyntaxOff
684 \tikzset {
685   every metrix symbol/.style={
686     line width=\usemetrixvar{symbollinewidth},
687     color=\usemetrixvar{symbolcolor},
688     x=\usemetrixvar{baseunit},y=\usemetrixvar{baseunit},
689   },
690   every metrix big symbol/.style={
691     line width=\usemetrixvar{bigsymbollinewidth},
692     color=\usemetrixvar{symbolcolor},
693     x=\usemetrixvar{bigbaseunit},y=\usemetrixvar{bigbaseunit},
694   },
695   every metrix symbol node/.style={
696     inner sep=0pt, anchor=center,
697   },
698   every metrix break node/.style={
699     inner sep=0pt, anchor=base,
700   },
701   every metrix syllable node/.style={
702     inner sep=0pt, anchor=base,
703   },
704   every metrix bow/.style={
705     line width=\usemetrixvar{bowlinewidth},
706     color=\usemetrixvar{bowcolor},
707     x=\usemetrixvar{baseunit},y=\usemetrixvar{baseunit},
708   },
709   every metrix accent/.style={
710     line width=\usemetrixvar{accentlinewidth},
711     color=\usemetrixvar{accentcolor},
712     x=\usemetrixvar{baseunit},y=\usemetrixvar{baseunit},
713   },
714   bold highlight/.style={
715     every metrix symbol/.append style={line width=2\pgflinewidth},
716     every metrix syllable node/.append style={font=\bfseries},
717     every superscript node/.append style={font/.expand once=\tikz@textfont\bfseries},
718   },
719   colored highlight/.style={
720     every metrix symbol/.append style={draw=#1},
721     every metrix syllable node/.append style={text=#1},
722     every superscript node/.append style={text=#1},
723   },

```

```

724 colored highlight/.default={
725   \usemetrixvar{highlightcolor}
726 },
727 dashed highlight/.style={
728   every matrix symbol/.append style={dash pattern=on 1pt off 0.4pt},
729 },
730 filled highlight/.style={
731   every matrix symbol node/.append style={inner sep=2pt,fill=#1},
732 },
733 filled highlight/.default={
734   \usemetrixvar{fillcolor},
735 },
736 every superscript picture/.style={
737   baseline=-3ex,
738 },
739 every superscript node/.style={
740   inner sep=0pt,
741   font=\scriptsize,
742 },
743 every superscript label/.style={
744   inner xsep=0pt,
745   inner ysep=-3ex,
746   label distance=0.5pt,
747 },
748 add superscript/.style={
749   label={[every superscript label]right:{%
750     \tikz[every superscript picture]\node at (0,0) [every superscript node] {#1};%
751   }},
752 },
753 superscript/.style={
754   every matrix symbol node/.append style={
755     add superscript=#1,
756   },
757   every matrix break node/.append style={
758     add superscript=#1,
759   },
760 },
761 superscript/.value required,
762 add arrow/.style={
763   every matrix symbol node/.append style={
764     label=90:\usemetrixvar{arrow},
765   },
766 },
767 add text/.style={
768   every matrix symbol node/.append style={
769     label={[every matrix added text]#1},
770   },
771 },
772 every matrix added text/.style = {
773   font = \scriptsize\itshape,

```

```

774 },
775 add text/.value required,
776 }
777 \ExplSyntaxOn

```

9.10 Environments

symbolline Environment to display stand alone symbols.

```

778 \NewDocumentEnvironment{symbolline} { }
779 {
780 \par\addvspace{\baselineskip}
781 \centering
782 }
783 {
784 \par\vspace{\baselineskip}
785 \noindent\ignorespacesafterend
786 }

```

(End definition for symbolline. This function is documented on page 9.)

_metrix_print_vers_ref:n The internal macro to print the verse reference inside of {metricvers}

```

787 \cs_new:Npn \_metrix_print_vers_ref:n #1
788 {
789 \hspace*{\fill}\nolinebreak[1] \quad \hspace*{\fill} \mbox{\footnotesize #1}
790 }

```

(End definition for _metrix_print_vers_ref:n)

metricverses Environment to display a verse with metric symbols and a source. And a macro to print
\verseref a right aligned reference.

```

791 \NewDocumentCommand { \verseref } { m }
792 {
793 \_metrix_error_msg:n {
794 \string\verseref\space can~only~be~used~in~{metricverses}~env.
795 }
796 }
797 \NewDocumentEnvironment{metricverses} { }
798 {
799 \RenewDocumentCommand { \verseref } { m }
800 {
801 \_metrix_print_vers_ref:n { ##1 }
802 }
803 \par
804 \addvspace{0.7\baselineskip}
805 \fp_compare:nT { \usemetrixvar{symbolshift} < 0.0 }
806 {
807 \vspace{\usemetrixvar{symbolshift}}
808 }
809 \addtolength{\baselineskip}{0.6\baselineskip}

```

```

810 }
811 {
812   \par
813   \addtolength{\baselineskip}{-0.6\baselineskip}
814   \vspace{\baselineskip}
815   \noindent\ignorespacesafterend
816 }

```

(End definition for *metricverses* and *\verseref*. These functions are documented on page 10.)

```

817 \</package>

```

10 Change History

v1.0	General: Initial version	43	<code>case:nnF</code>	25
v1.0a	General: Added <code>cw1</code> file for TeXstudio	1	<code>__metrix_metricsymbols:n</code> : Replaced deprecated <code>\str_case:nnn</code> with <code>\str_case:nnF</code>	26
v1.1	<code>__metrix_l_break</code> : Made line slightly longer	36	General: New contact info (mail and URL).	1
	<code>__metrix_ll_break</code> : Made lines slightly longer	36	v1.2	
	<code>\metrix_metrics:nn</code> : Made short breaks available	23	<code>\acct</code> : Finetuning for <code>\acct</code>	39
	<code>__metrix_print_syllable:n</code> : Symbol nodes get individual names now.	27	<code>\bow</code> : Finetuning for <code>\bow</code>	39
	<code>__metrix_u__mark::</code> : Removed red dot.	34	<code>\brv</code> : Finetuning for <code>\brv</code>	38
	General: New section about breaks (see 4.4)	4	<code>\lng</code> : Finetuning for <code>\lng</code>	38
	New section about the symbol syntax (see 4.1)	2	v1.2a	
v1.1a	<code>__metrix_metrics:nn</code> : Replaced deprecated <code>\str_case:nnn</code> with <code>\str_</code>		General: Replaced deprecated <code>\prop_get</code> variants (Thanks to J. Wright).	43
			v1.3	
			<code>__metrix_metrics:nn</code> : Extended short breaks feature	23
			General: New highlight styles: <code>add text</code> and <code>add arrow</code>	43
			<code>\g__metrix_variable_arrow_tl</code> : New variable for arrow	22

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