# Basic LaTeX for Linguists

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v0.1

## 1 Introduction

A working draft of a quick "LaTeX-in-half-an-hour" guide for linguists.

## 2 Install LaTeX, download a LaTeX editor

Install TeXLive (free, open-source software) following the instructions appropriate for your operating system: https://www.tug.org/texlive/quickinstall.html.

There are heaps of LaTeX editors, as you can see from, for instance, https://tex.stackexchange.com/questions/339/latex-editors-ides or https://en.wikipedia.org/wiki/Comparison_of_TeX_editors.

Lots of high-powered text editors have LaTeX plugins, including Emacs, Vim, Visual Studio Code, etc.

I like using Emacs with the AUCTeX package, but these sorts of text editors have their own learning curves. So that you aren't adding yet another learning curve that the one you already have with LaTeX, using one of these simpler LaTeX-specialised editors might be good, at least to begin with:

- TeXstudio: http://www.texstudio.org
- TeXmaker: http://www.xm1math.net/texmaker
- TeXworks: http://www.tug.org/texworks

All of these are free (no cost) and open-source (as are the high-powered text editors mentioned above). These will make producing LaTeX documents much easier, though in principle you could hand-type LaTeX code anywhere.

You could also use an online service like Overleaf, but it's nice to have a local TeX installation.

The following sections include actual LaTeX code boxed in green with the corresponding output shown in a black box. You can copy and paste the green code into your editor, and/or inspect the `.tex` file from which this `.pdf` was generated.

## 3 Basic Document

The basic LaTeXdocument consists of a PREAMBLE followed by the actual content of your document. So a LaTeX file might look like this:[1]

```
            % PREAMBLE BEGINS HERE
\documentclass{article}     % specify type of document

\usepackage{linguex}        % example package for lazy linguists
\usepackage{qtree}          % for easy basic trees
\usepackage{forest}         % for advanced trees
\usepackage{stmaryrd}       % add semantic evaluation brackets
\usepackage{graphicx}       % include images
\usepackage{simpsons}       % Simpsons characters
% some mathematics packages
\usepackage{amsmath,amsthm,amscd}
\usepackage{amssymb}
\usepackage[all]{xy}

\title{Your Title Here}     % title
\author{Some Linguist}      % author
             % PREAMBLE ENDS HERE

\begin{document}            % start of actual document

\maketitle                  % this auto-produces a title for you

Hello, world!
                            % your actual content would be here
.......

\end{document}              % document ends here
```

This will produce a document that looks something like this:

# Your Title Here

Some Linguist

11 February 2019

Hello, world!
.....

Not very exciting yet of course. You can, however, copy the above code into your LaTeX editor (save it as `testing.tex` or whatever) and try it out, and use it as the basis for the

[1] Note: the '%' symbol is a comment symbol; LaTeX won't process anything following % on the same line. I provide comments just to indicate what each thing does, but they aren't necessary and LaTeX just ignores them.

following extended examples, just entering or pasting the commands somewhere in-between `\begin{document}` and `\end{document}`.

# 4 Basic formatting

Putting the following LaTeX code between `\begin{document}` and `\end{document}`:

```
``some text in quotes''\\
\textbf{some bold text}\\
\textit{some italic text}\\
\textsl{some slanted text}\\
\texttt{some typewriter-style text}\\
\textsf{some sans serif text}\\
\textsc{some smallcaps text}
```

produces:

"some text in quotes"
**some bold text**
*some italic text*
*some slanted text*
`some typewriter-style text`
some sans serif text
SOME SMALLCAPS TEXT

Your LaTeX editor should have these formatting things as commands bound to shortcut keys, just like in a word-processor, so if you select some text and hit **Ctrl-B** your editor should wrap `\textbf{...}` around the selected text.[2]

You also don't need to worry about spacing for the most part. LaTeX will take care it for you. You like entering two spaces after a full stop? Great. One space? Also great. Twelve spaces? No problem.

```
Note  how    many    arbitrary spaces     I'm      putting
in. \LaTeX\ doesn't     care. It'll  just do  the right     thing.
```

LaTeX, nevertheless, produces sanely formatted text:[3]

Note how many arbitrary spaces I'm putting in. LaTeX doesn't care. It'll just do the right thing.

Once you get the basics of LaTeX down, then you can just worry about the content and let LaTeX worry about making it look beautiful.

[2] The `\\` at the ends of the lines just adds a line-break.

[3] If you actually do want to make sure LaTeX inserts spaces exactly as you have them, you can use "\" (that is, a backslash followed by a space, for each space you want. Or you can insert horizontal space with a command like `\hspace{1in}`.

# 5 Basic sectioning and footnotes

```
\section{My first main section}
Some text here.

\subsection{A subsection}
More text here.

\subsubsection{A subsubsection}
Even more text here.
```

produces:

## 1 My first main section

Some text here.

### 1.1 A subsection

More text here.

#### 1.1.1 A subsubsection

Even more text here.

You want footnotes?

```
You can easily add footnotes like so.\footnote{I'm a footnote!}
The footnote will appear\footnote{I'm another footnote!}
wherever you insert the footnote command and \LaTeX\ will
automatically format and number\footnote{Here
the footnotes appear as letters because of the special
environment, but usually they'll appear as normal arabic
numerals unless you specify otherwise.} them for you.
```

You can easily add footnotes like so.[a] The footnote will appear[b] wherever you insert the footnote command and LaTeX will automatically format and number[c] them for you.

[a] I'm a footnote!
[b] I'm another footnote!
[c] Here the footnotes appear as letters because of the special environment, but usually they'll appear as normal arabic numerals unless you specify otherwise.

You can force a line-break with the command `\\`; you can force a page-break anywhere with the command `\pagebreak`.

## 5 Easy numbered examples

Examples are easy with linguex (the example package for lazy linguists).

```
\ex. A boring example without glossing.

\exg. Yah rahā ek hindī vākya\\
      This remain.\textsc{past.masc.sg} one Hindi example\\
      \trans ``This is a Hindi sentence.''
```

produces:

(1) A boring example without glossing.

(2) Yah rahā ek hindī vākya
This remain.PAST.MASC.SG one Hindi sentence
"This is a Hindi sentence."

You can also add "labels" to your examples and then easily refer to them anywhere later (or earlier) in your text by referring to that example, as in the following LaTeX code:

```
In \ref{boring} and \ref{newhindi} below, you can see
examples of labelled examples.

\ex. Another boring example without glossing.\label{boring}

\exg. Yah rahā ek  aur hindī vākya\\
     This remain.\textsc{past.masc.sg} one more Hindi example\\
     \trans ``This is another Hindi sentence.''\label{newhindi}

And you can refer to \ref{newhindi} and \ref{boring} anywhere
else you want too, and \LaTeX\ will get the numbering right.
```

Which produces:

In (3) and (4) below, you can see examples of labelled examples.

(3) Another boring example without glossing.

(4) Yah rahā ek aur hindī vākya
This remain.PAST.MASC.SG one more Hindi example
"This is another Hindi sentence."

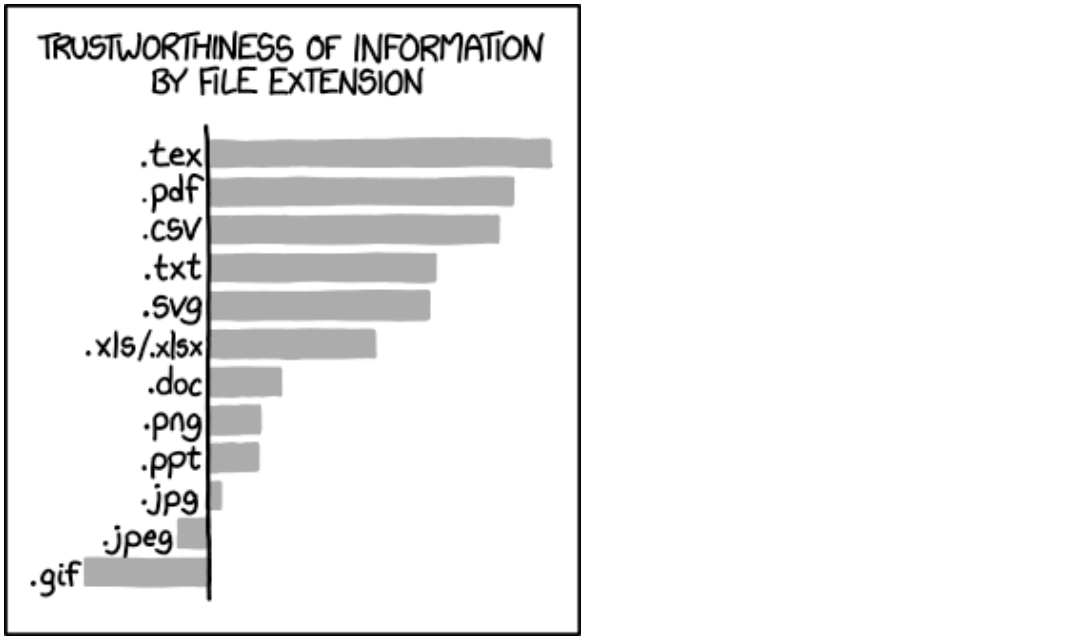
And you can refer to (4) and (3) anywhere else you want too, and LaTeX will get the numbering right.

You can also label and refer to sections, subsections, footnotes, tables, figures, etc. in the same manner as well.

# 6 Including graphics

Having added the `graphicx` package to your preamble, you can place images in the same directory as your `.tex` file and use the command `\includegraphics{filename.extension}` with an optional bracketed size specification, e.g. assuming you have a file called `file_extensions.png` in the same directory as your `.tex` file:

```
\includegraphics[width=3in]{file_extensions.png}
```

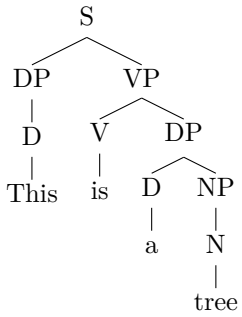


# 7 Basic trees

There are a bunch of packages for drawing syntax trees in LaTeX. A really good one for more complex trees is `forest`, but for basic things you can use `qtree` which has very straightforward syntax. Like this:

```
\Tree
[.S [.DP [.D This ]] [.VP [.V is ] [.DP [.D a ] [.NP [.N tree ]]]]]
```

For which the `qtree` package will produce:




# 8 Semantics (and creating your own custom LaTeX commands)

LaTeX is incredibly useful for semantics, as TeX was designed specially as a typesetting program for mathematical formulae and this is part of what formal semantics involves.[4]

LaTeX in addition to regular type-setting mode also has a "math" mode. You can enter this mode by wrapping your maths formula in `$...$` or else in `\( ...\)`. You can also do superscripts and subscripts in math mode, using^ and _, respectively:

```
$x_{i_a} = 6y^{2^2} + 7$

\(z_j = 7 - 6x^5\)
```

$x_{i_a} = 6y^{2^2} + 7$
$z_j = 7 - 6x^5$

There are a number of special commands to get special symbols used for logic (and semantics), like `\forall`, `\exists`, which produce $\forall, \exists$, respectively.[5] In math mode, regular text will be set funny unless you switch back in normal roman text mode, e.g.:

```
\(z = 8 + 9y^{x_a} , this is a formula but the typesetting is messed up\)\\
\(z = 8 + 9y^{x_a} , \textrm{this is a formula, properly set}\)
```

[4] Nb: If you try to use a word-processor to write semantic formulae you will slowly drive yourself mad.
[5] Note: these only work in math mode, so you'll have wrap them in `$...$` or `\( ...\)`.

Note that you need `\textrm{...}` to get regular roman text; otherwise LaTeX tries to typeset each letter like a mathematical variable, which is unlikely to be what you want in this case, as shown by the output:

$z = 8 + 9y^{x_a}, thisisaformulabutthetypesettingismessedup$
$z = 8 + 9y^{x_a}$, this is a formula, properly set

The `stmaryroad` package we loaded earlier gives us access to the special semantic evaluation brackets ⟦, ⟧, produced with the (math mode only) commands `\llbracket`, `\rrbracket`, respectively.

## 8.1 Create your own LaTeX commands

Finally, here we can also catch a glimpse of the power of LaTeX by seeing how we can define our own commands. While you could type out the brackets each time, e.g.:

```
\(\llbracket \textrm{every cat}\rrbracket =
\lambda{P}\forall{x}[\textit{Cat}(x) \rightarrow P(x)]\)
```

$[\![\text{every cat}]\!] = \lambda P \forall x[Cat(x) \rightarrow P(x)]$

you can also define your own command in the preamble, like so:

```
....
\newcommand\denotes[1]{\ensuremath{\llbracket\textrm{#1}\rrbracket}}
....
```

This command takes a single argument and places it between the evaluation brackets and sets it in normal roman type. Just now you can just use your new command `\denotes` as follows:

```
\denotes{every cat purrs} =
$\forall{x}[\textit{Cat}(x)\rightarrow\textit{Purr}(x)]$
```

producing:

$[\![\text{every cat purrs}]\!] = \forall x[Cat(x) \rightarrow Purr(x)]$

Define once, use infinite times.

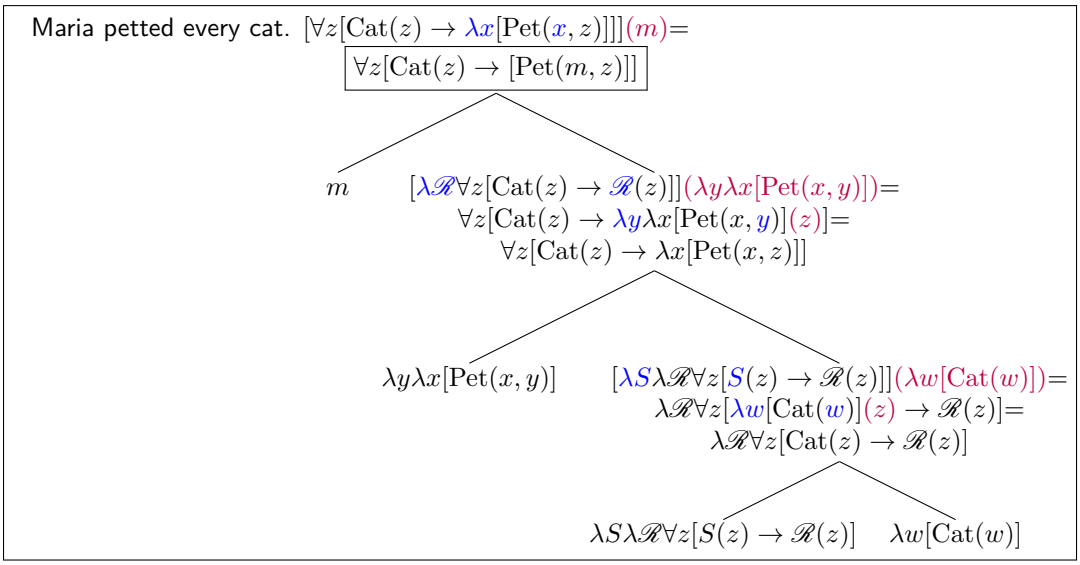
And you can define much fancier custom commands like:

```
\newcommand{\fancydenotes}[2][]
{\ensuremath{\llbracket\textrm{#2}\rrbracket^{#1}}}
```

which allow you to enter something like `\(\fancydenotes[t,w,M]{every cat}\)` which takes optional arguments (passed via the square brackets) which get typeset as following superscripts, producing $[\![\text{every cat}]\!]^{t,w,M}$.

And now we can combine trees and lambdas, e.g.:

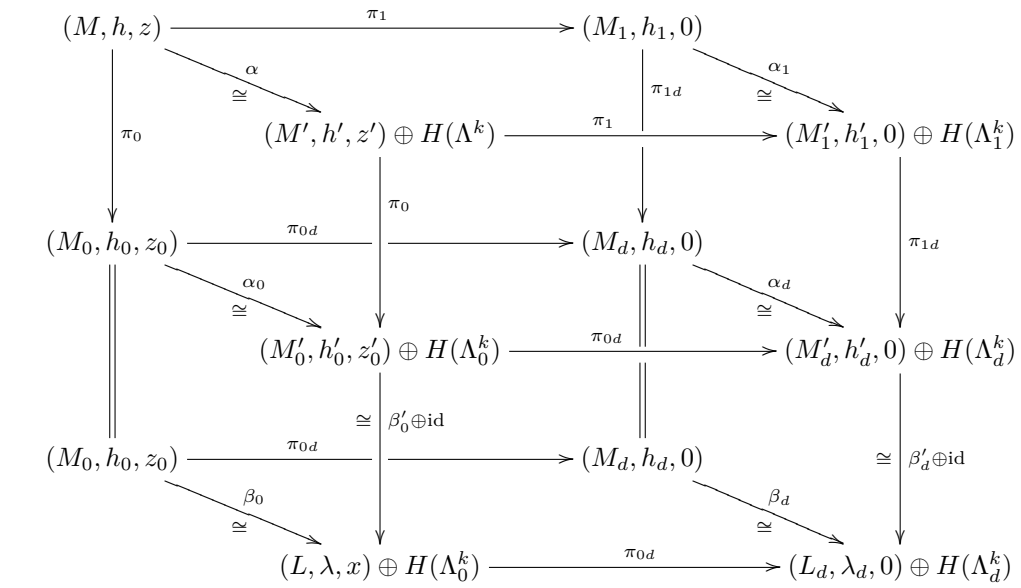
```
\hfill \textsf{Maria petted every cat.}
\Tree [.{$[\forall{z}[\mathrm{Cat}(z)\rightarrow{\color{blue}\lambda{x}}
 [\mathrm{Pet}({\color{blue}x},z)]]]{\color{purple}(m)}$=\\
\fbox{$\forall{z}[\mathrm{Cat}(z)\rightarrow[\mathrm{Pet}(m,z)]]$}}
 [.{$m$} ] [.{$[{\color{blue}\lambda\mathscr{R}}\forall{z}
  [\mathrm{Cat}(z)\rightarrow{\color{blue}\mathscr{R}}(z)]]
   {\color{purple}(\lambda{y}\lambda{x}[\mathrm{Pet}(x,y)])}$=\\
$\forall{z}[\mathrm{Cat}(z)\rightarrow{\color{blue}
  \lambda{y}}\lambda{x}[\mathrm{Pet}(x,{\color{blue}y})]
    {\color{purple}(z)}]$=\\
$\forall{z}[\mathrm{Cat}(z)\rightarrow\lambda{x}[\mathrm{Pet}(x,z)]]$}
  [.{$\lambda{y}\lambda{x}[\mathrm{Pet}(x,y)]$} ]
   [.{$[{\color{blue}\lambda{S}}\lambda\mathscr{R}\forall{z}
    [{\color{blue}S}(z)\rightarrow\mathscr{R}(z)]]
      {\color{purple}(\lambda{w}[\mathrm{Cat}(w)])}$=\\
$\lambda\mathscr{R}\forall{z}[{\color{blue}\lambda{w}}
  [\mathrm{Cat}({\color{blue}w})]{\color{purple}(z)}\rightarrow
    \mathscr{R}(z)]$=\\
$\lambda\mathscr{R}\forall{z}[\mathrm{Cat}(z)\rightarrow
  \mathscr{R}(z)]$}
   [.{$\lambda{S}\lambda\mathscr{R}\forall{z}[S(z)\rightarrow
    \mathscr{R}(z)]$} ] [.{$\lambda{w}[\mathrm{Cat}(w)]$} ] ] ] ]
```

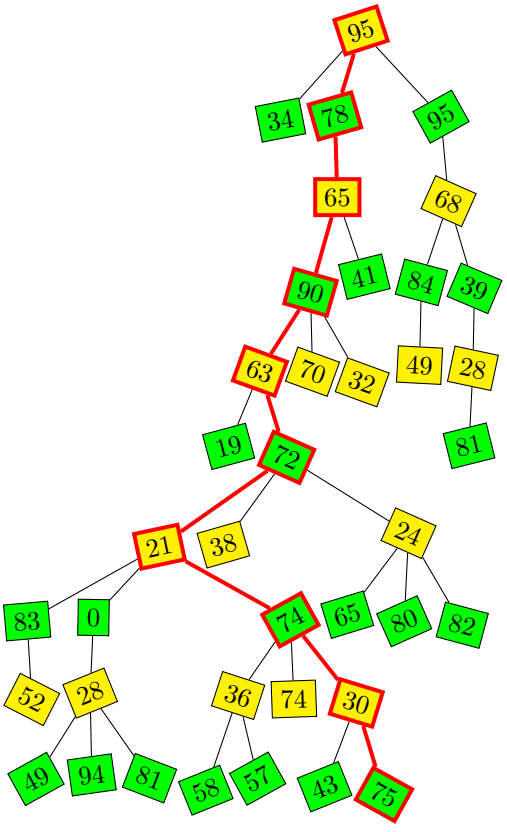



And really these are still very basic examples. The underlying TEX markup language is actually Turing-complete, so you could in theory write anything you could in any other programming language (e.g. Python, C, Lisp, Java, etc.). In practice, since TEX is oriented towards type-setting, you're better off not attempting major programming feats (despite their theoretical possibility), but you certainly can create lots of your own commands which will save you lots of time and mental effort in the end. Here is a resource for more information on command creation: https://www.overleaf.com/learn/latex/Commands.

Here are a couple of examples (the first taken from the TEX Showcase, the second from

the `forest` manual) which provide a hint of the creative power of TEX, showing what can be created using customised commands and/or CTAN packages:



Note that these are NOT images, but are rather generated programmatically in LaTeX with the following bits of code:

```
%\CompileMatrices
 \[\xymatrix{
 (M,h,z) \ar[dd]^{\pi_0} \ar[dr]^\alpha_\cong \ar[rr]^{\pi_1}
 && (M_1,h_1,0) \ar'[d]^-{\pi_{1d}}[dd] \ar[dr]^{\alpha_1}_\cong
 \\
 & (M',h',z')\oplus H(\Lambda^k) \ar[dd]^<(.25){\pi_0} \ar[rr]^<(.25){\pi_1}
 && (M'_1,h'_1,0)\oplus H(\Lambda_1^k) \ar[dd]^{\pi_{1d}}
 \\
 (M_0,h_0,z_0) \ar@{=}[dd] \ar[dr]^{\alpha_0}_\cong \ar'[r]^<(.6){\pi_{0d}}[rr]
 && (M_d,h_d,0) \ar@{=}'[d][dd] \ar[dr]^{\alpha_d}_\cong
 \\
 & (M'_0,h'_0,z'_0)\oplus H(\Lambda_0^k) \ar[dd]^<(.25){\beta'_0\oplus\text{id}}_<(.25)\cong
\ar[rr]^<(.25){\pi_{0d}}
 && (M'_d,h'_d,0)\oplus H(\Lambda_d^k) \ar[dd]^{\beta'_d\oplus\text{id}}_\cong
 \\
 (M_0,h_0,z_0) \ar[dr]^{\beta_0}_\cong \ar'[r]^<(.6){\pi_{0d}}[rr]
 && (M_d,h_d,0) \ar[dr]^{\beta_d}_\cong
 \\
 & (L,\lambda,x)\oplus H(\Lambda_0^k) \ar[rr]^{\pi_{0d}}
 && (L_d,\lambda_d,0)\oplus H(\Lambda_d^k)
 }\]

\pgfmathsetseed{14285}
\begin{forest}  random tree/.style n args={3}{
    % #1 = max levels, #2 = max children, #3 = max content
content/.pgfmath={random(0,#3)},    if={#1>0}{repeat={random(0,#2)}{append={[,random
          tree={#1-1}{#2}{#3}]}}}{}},
  before typesetting nodes={for tree={draw,s sep=2pt,rotate={int(30*rand)},l+={5*rand},
 if={isodd(level())}{fill=green}{fill=yellow}}},
  important/.style={draw=red,line width=1.5pt,edge={red,line width=1.5pt}},
  before drawing tree={sort by=y, for nodewalk={min=tree,ancestors}{important,typeset node}}
  [,random tree={9}{3}{100}]
\end{forest}
```

### 8.1.1 Make use of the LaTeX package ecosystem

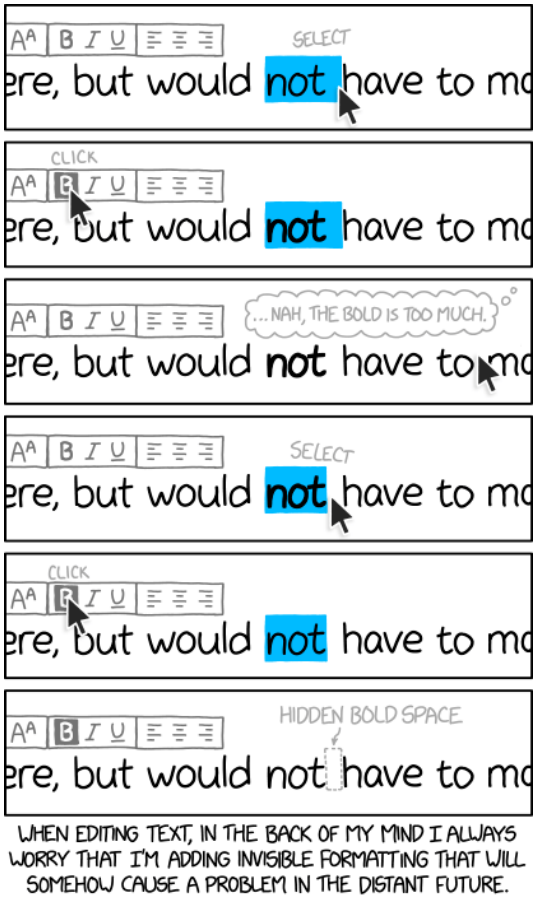
The power of LaTeX also means that lots of people have already designed fantastic add-on packages (which we've already used some in this document), most of which have equally good documentation. If there's something you'd like to be able to do in LaTeX, or would like to be able to do more easily, chances are someone else has already thought of it and made a package to do it. Search/browse CTAN to see the full range of extension packages: https://ctan.org/pkg/.

## 9 Staring into $\aleph_{\aleph_{\aleph}}$

There is rarely a single right way of doing something in LaTeX. It's a powerful tool, and like all good powerful tools it gives you lots of different ways of doing things. This also means you can *always* learn something new in LaTeX. But you only need to know a fairly basic set of things to productively use LaTeX (I wrote a dissertation in LaTeX knowing much less about LaTeX than I know now:— which is still relatively little). Looking at other people's `.tex` files is often a "cheap" way of learning new things or figuring out problem in LaTeX (though it can be illuminating to work out your own solutions as well). The { TeX } StackExchange site is a great place to browse or ask LaTeX-related questions.

## 9.1 Get to know your text editor

Getting to know your text editor (as well as choosing a good/suitable text editor) can be extremely helpful to your productivity. LaTeX taking care of formatting and letting you concentrate on the content is great, but the power of a good, customisable text editor is also an often under-rated boon. (And you'll free yourself from a whole class of certain worries produced by word-processors, including the one pointed out in the xkcd comic seen on the right.) ☞




### 9.1.1 Other packages to explore

For special phonetic (e.g. IPA) characters, have a look at the `tipa` package. However, just using XeLaTeX is probably a better choice in the long-term as it allows you to use any font installed on your computer with the aid of the `fontspec` package. There are a number of other linguistics-related packages, including the `ot-tableau` package for Optimality Theory tableaux. Here is a listing of CTAN packages with "linguistics" as a keyword: `https://ctan.org/topic/linguistic`.

## 9.2 LaTeX is fun

Happy TeX'ing!

```
\Left\Goofy\Bart(1,1.6)(.85,1.6)
```

# A Examples of the beauty of LaTeX typesetting

## A.1 Bible de Genève 1564



# Le premier liure de Moyſe,

Dict Geneſe.

ARGVMENT.

*Ce premier liure comprend l'origine & cauſes de toutes choſes, principalement la creation de l'homme, qu'il a eſté du commencement, ſa cheute & releuement : comment d'un tous ont eſté procreés, & pour leurs enormes pechés Dieu les a conſumés, par le deluge, reſerué huict, dont la ſemence a rempli toute la terre. Puis il deſcrit les vies, faicts, religion, & lignees des ſaints Patriarches, qui ont veſcu deuant la Loy : Les benedictions, promeſſes, & alliances du Seigneur faictes auec iceux : Comment de le la terre de Chanaan ſont deſcendu en Egypte. Aucuns ont appelé ce liure, le liure des Iuſtes. Toutefois ceci a obtenu entre nos predeceſſeurs & nous, qu'il eſt appelé Geneſe, qui eſt vn mot Grec, ſignifiant generation & origine : d'autant qu'en icelui eſt deſcrite l'origine & procreation de toutes choſes : & nommément des Peres anciens, qui ont eſté tant deuant qu'apres le deluge, & eu eſgard à* IESVS CHRIST *deſcendu d'iceux ſelon la chair.*

CHAPITRE I.

*[1]Creation du ciel & de la terre,* II, 20. *& de tout ce qui y eſt compriſ.* 3.14 *De la lumiere auſſi,* 26 *& de l'homme,* 28 *Auquel tout eſt aſſubiecti.* 2.2. 28 *Dieu benit toutes ſes œuures,* 9 *qu'il a accomplies en ſix iours.*

[1]Ieu [a]crea [b]au commence- ment [c]le ciel & la terre.

2 Or la terre eſtoit ſans forme, & vuide,& les tenebres eſtoyent ſur les abyſmes : & l'Eſprit de Dieu [d]eſtoit eſpandu par deſſus les eaux.

3 Adonc Dieu dît, [2]Qu'il y ait lumiere. [e]Et la lumiere fut.

4 Et Dieu vid q̃ la lumiere eſtoit bonne : & ſepara la lumiere des tenebres.

5 Et Dieu appela la lumiere iour,& les tenebres nuict. Lors fut faict le [f]ſoir & le matin du premier iour.

6 ¶ Puis Dieu dît, [3]Qu'il y ait vne [g]eſtendue entre les eaux, & quelle ſepare les [h]eaux d'auec les eaux.

7 Dieu donc fit l'eſtendue, & diuiſa les eaux, qui eſtoyent ſous l'eſtendue, d'auec celles, qui eſtoyent ſur l'eſtendue. Et fut ainſi faict.

8 Et Dieu appela l'eſtendue, Ciel. Lors fut faict le ſoir & le matin du ſecond iour.

9 ¶ Puis Dieu dît, [4]Que les eaux, qui ſont ſous le ciel, ſoyent aſſemblees en vn lieu, & que le ſec apparoiſſe. Et fut ainſi faict.

10 Et Dieu appela le ſec, Terre,& l'aſſemblee des eaux, mers. Et Dieu vid que celà eſtoit bon.

11 Et Dieu dît, Que la terre produiſe verdure, herbe produiſant ſemence, & arbre fruictier, faiſant fruict ſelon ſon eſpece, lequel ait ſa ſemẽce en ſoy-meſme ſur la terre. Et fut ainſi faict.

12 La terre dõc produiſit verdure, herbe produiſant ſemẽce ſelon ſon eſpece, & arbre ſans fruict, lequel auoit ſa ſemence en ſoymeſme ſelon ſon eſpece. Et Dieu vid que celà eſtoit bon.

13 Lors fut faict le ſoir & le matin du troiſieme iour.

14 ¶ Apres Dieu dît,[5] [k]Qu'il y ait lumiaires en l'eſtendue du ciel, pour ſeparer la nuict du iour : & ſoyẽt en [l]ſignes,

a en

1 Ce premier chapitre eſt fort difficile : & pour cette cauſe, il eſtoit defendu entre les Hebrieux de le lire & interpreter deuant l'aage de trente ans.

a Fit de rien, & ſans aucune matiere.

*1 Iob* 38.4, *Pſeau.* 33.6, *&* 89.12, 135.5, *Eccleſiaſti.* 13.4, *Act.* 14.15, *&* 17.24

b Tout premierement, & auãt qu'il y eut aucune creature, *Iean* 1.10.

*2 Hebr.* 11.3.

c Le ciel & la terre, les eaux, les abyſmes, ſe prennent ici pour vne meſme choſe : aſſ. pour vne matiere cõfuſe & ſans forme, q̃ Dieu forma & agença apres par ſa Parole.

d Ou, ſe mouvoit. C'eſt, ſoutenoit et conſeruoit en ſon eſtre cette matiere confuſe. Car il eſt impoſſible, q̃ aucune choſe apres auoir eſté faicte,paſſe fabriſter vn ſeul moment, ſi Dieu ne la ſouſtient & cõſerve par ſa vertu, *Pſeau.* 130.

e Cette lumiere n'eſtoit point encore au ſoleil, car il n'auoit pas eſté creé, mais eſtoit en la main de Dieu, ayãt ſon ordre ſucceſſif auec les tenebres, pour faire le iour & la nuict & ce iuſques au quatrieme iour, que Dieu fit le ſoleil pour eſtre miniſtre & diſpenſateur de cette lumiere, auec la lune & eſtoilles.

*3 Pſeau.* 33.6, *&* 136.5 *Ieremi.* 10.11 *&* 51.15.

f Ici eſt la cauſe pourquoy les Hebrieux cõmencent le iour naturel le ſoir apres le ſoleil couchant.

g Ce mot d'Eſtẽdue, compréd tout ce qui ſe voit par deſſus nous, tãt en la region celeſte, quelementaire.

*4 Pſeau.* 33.7.

h Il eſt ici parlé de deux manieres d'eaux : asçauoir, celles q̃ ſont ſous l'eſtendue, comme la mer, les fleuues, & autres qui ſont ſur la terre & celles, qui ſont ſur l'eſtendue, comme ſont les nues pleines d'eau q̃ haut en l'air par deſſus nous. Dieu a mis entre ces deux ſor ces d'eaux vne grã de eſtendue, quãd appelle le ciel : de là nous appelons les oiſeaux du ciel.

i Ceci appartiẽt au ſecõd iour, auquel Dieu ſepara, & fit apparoir la terre du milieu des eaux.

k Il inſtitue vn nouuel ordre en nature, quand il faut & ordonne le ſoleil diſtributeur de cette lumiere qu'il auoit creée auant lui, & auant la lune & les eſtoilles.

*5 Pſeau.* 136.7

l C'eſt pour ſignifier diuerſes diſpoſitions que les corps ſ'ferieurs ſelon l'ordre de nature ont des corps celeſtes, cõme ſes ſecõdes ordonnees de Dieu à celà. En quoy toutesfois faut fuir curioſité & ſuperſtition q̃ les hõmes ont cõtreuuee ſur celà.

## A.2 Aphra Behn: A Pindarick on Charles II

1

# A Pindarick on the Death Of Our Late Sovereign: *With an Ancient Prophecy on His* Preſent Majesty

[*Written by* A. Behn. 28 *Feb* 1685]

I

Sad was the *Morn'*, the ſadder *Week* began,
And heavily the God of Day came on:
From Ominous *Dreams* my wondering Soul lookt out,
And ſaw a Dire *Confuſion* round about.
My Bed like ſome ſad Monument appear'd,
Round which the Mournful Statues wring their hands and weep;
Diſtracted Objects all! with mighty Grief, prepar'd
To rouſe me from my painful Sleep.
Not the ſad Bards that wail'd *Jeruſalems* woes,
(With wild neglect throu'out the peopl'd ſtreet,
With a Prophetick rage affrighting all they meet)
Had mightier Pangs of ſorrow, mightier throes;
*Ah! wretch, undone they Cry! awake forlorn,*
*The King! the King is Dead! riſe! riſe and Mourn.*

II

Again I bid 'em tell their Sorrows Theam,
Again they Cry, *The King! the King is Dead!*
*Extended, Cold and Pale, upon the Royal Bed;*
Again I heard, and yet I thought it *Dream.*
*Impoßible!* (I raving Cry)
That ſuch a *Monarch!* ſuch a *God* ſhould dye!
And no *Dire Warning* to the *World* be given:
No *Hurricanes* on Earth! no *Blazing Fires* in Heaven!
The Sun and Tyde their *conſtant Courſes* keep:

https://gitlab.com/emacsomancer/tex-poems/tree/master/Behn/Pindarick-on-death-of-Charles-II

## A.3 Quacksalver's advertisement for "oxygenised air"

PERSECUTION OF NEW IDEAS.

Dr. C. L. Blood, Inventor of Oxygenized Air, for Diseases of the Throat and Lungs.

When Christ appeared, and inculcated precepts superior to those of the Jewish teachers, he was persecuted for blasphemy. What the Jews could not overthrow by the learning of their priests, they sought to subdue by physical power. The treacherous sword of injustice was unsheathed; Jesus was wrongfully accused, condemned and crucified. His enemies believed their system of worship permanent and immutable, and treated him as a blasphemous impostor.

Abelard, for maintaining the rights of free inquiry, was condemned in solemn council. Farel, Lefevre, Hutton, Luther, Zwingle, Calvin, and a host of others, for lifting up the standard of independence, rejecting the infallibility of papacy, and condemning the unmeaning ceremony and legalized licentiousness of the church, were hunted down by mercenaries of the Pope, and menaced by the horrors of the Vatican. It was wrong for the human mind to assert its independence, and attempt to break loose from the restraints which had held the church and the world in darkness and degradation for centuries. Socrates taught the Athenians the existence of a supreme being, the source of all good, and the only true object of adoration. For this, he incurred the vengeance of those who should have rendered him gratitude, and was condemned to drink the juice of the hemlock.

When Descartes taught the doctrine of innate ideas he was declared an Atheist. The University of Paris became alarmed for the being of a God, and the purity of philosophy, and with all laudable zeal ordered the pestiferous works of the infidel author to be burned. It was but a short time, however, till this same infallible University adopted the very doctrine it had combated so hastily, and when Locke and Condillac attacked it, the cry of materialism and fatalism was turned against them. The teachings of Aristotle were held for many years to be as permanent as the rock of truth. Francis I, passed a decree against Peter Raurno, interdicting him under pain of corporeal punishment, from uttering any more slanderous invectives against Aristotle, and other ancient authors, received and approved. About a century after, the Parliament of Paris passed a decree prohibiting any person, under pain of death, from holding or teaching any maxim at variance with the ancient and approved authors, especially the infallible Aristotle. More than a century after this, the medical faculty in Paris became alarmed for the safety of genuine medical science, and the Royal Academy of Medicine condemned inoculation as "murderous, criminal and magical." Jenner was threatened with disgrace if he did not cease annoying the quietude and self-complacency of his friends with the silly visionary subject of vaccination. Harvey for discovering the circulation of the blood, and announcing the heretical fact, was treated with scorn by medical brethren, deprived of his practice and driven into exile. It is a fact, containing an instructive moral, that not one of his contemporaries at the age of forty years, when Harvey made known his discovery, ever conceded its correctness. They were stable-minded men and despised being led astray like boys by the glare of novelties. When Columbus made application to the Sovereigns of Europe for assistance in his project of western discovery, he met with cold neglect, and repeated repulse. The earth was as flat as a board, and how could he get to the East Indies by sailing west, and as to finding land, that was only the day dreams of a visionary madman. All the philosophy of the past was not to be cajoled to suit the fantasy of an adventurer. When the persevering Fulton proposed to make steam a mighty agent in the propulsion of vessels, his capacious minded countrymen laughed at him. Steam had never propelled vessels; therefore it never could. The conclusion was as natural as to look to the past for all wisdom, and Fulton was ridiculed and neglected, and at last died in poverty.

From the introduction of Oxygenized Air, until the present time, the Old School has been lavish and unscrupulous in bestowing upon its author and those engaged in its application, the vilest vituperations. Knaves, fools, quacks and every degrading epithet which jealousy, ignorance and blind fanatical superstition could invent, have been applied to them.

Notwithstanding this great opposition, those engaged in the Oxygenized Air practice have calmly pursued their labors, and thousands of victims to the old school practice, who were on the verge of the grave, have been saved. Thousands who were on the road to eternity from consumption and other supposed incurable diseases, are to-day sound in body, and are living monuments to the worth of Oxygenized Air.

Dr. Blood is one of the remarkable men of the age, of commanding presence, great intellectual attainments, a polished gentleman, and is one of the most successful physicians in the country, if not in the world.

It is more than an eighth of a century since Dr. Blood discovered a method for combining Oxygen and Nitrogen in such proportions as to make the Oxygen positively curative in its effects for diseases of the blood and lungs, and at the same time perfectly safe to inhale in any condition of health or disease.

When Dr. Blood began to advocate the merits of his invention for the cure of diseases of the respiratory organs, he was met at the threshold of his career by a storm of derision and bitterness which would have driven an ordinary man from his purpose. His offence was that he dared to doubt the plenary inspirations and traditions of dead and rotten medical authors, whose errors were to be held as sacred as the living truths of Deity. War was declared, and the decree of social ostracism and defamatory rebuke was to silence the audacious innovator.

There is scarce an exception to the rule that many who are so far in advance of the age in which they live, as to discover a new, or rather a before unknown principle, for nothing is absolutely new, are generally reviled.

Ambrose Pare introduced the ligature as a substitute for the painful mode of staunching the blood, after the amputation of a limb, viz: by applying boiling pitch to the surface of the stumps. He was, in consequence, persecuted with remorseless rancor by the Faculty, who ridiculed the idea of putting the life of a person upon a thread, when boiling pitch had stood the test for centuries. The Jesuits of Peru introduced the Peruvian Bark (invaluable as a medicine), but being a remedy used by the Jesuits, the Protestants at once rejected the drug as an invention of the devil.

Dr. C. L. BLOOD,
Inventor of Oxygenized Air.

Dr. Gronevelt discovered the curative power of Cantharides in Dropsy. As soon as his cures began to be noised abroad he was committed to Newgate by warrant of the President of the College of Physicians.

Physicians of the Old School have always been at war with progress, equal rights, and human liberty. The doctors have but recently secured the passage of a law by the legislature of New York, making it an offence punishable by fine and imprisonment for a physician or citizen to prescribe a medicine without first securing a license from them to do so. Their next effort will probably be to secure a law to prohibit the people from taking a medicine without a written order from some member of the faculty.

Notwithstanding the opposition of the bigoted and ignorant portion of the medical profession against Dr. Blood in the introduction of his great discovery, its grand principle remained impregnable, behind which he felt himself secure and fortified against the assaults of a world of doctors, and he persevered on until now his Oxygenized Air is almost universally acknowledged the most important medical discovery of the age. Over two hundred regular physicians have adopted it as a practice, and nearly every city in America, and many in Europe, have an office and a physician devoted to its application.

Dr. Blood believes that if physicians of the old school would become less rigidly wedded to a dogmatic theory and system of treating diseases, suffering humanity would be greatly benefitted, He also believes that the rule of medical societies which does not allow its members to practice specialities, but compels them to treat all diseases, is productive of danger, suffering and death, as no physician is equally skillful in all diseases. He believes that this compulsory "general practice" destroys tens of thousands of lives every year. He also believes that the rule of medical societies which prohibits its members from advertising or making known to suffering humanity where they can be relieved or cured, is unjust and only calculated to gratify or benefit a few old fogy doctors who never should have been born. Dr. Blood also believes that there is no science or safety in the old school practice. How far his views are sustained by medical men of character and note the following testimony will show. Notwithstanding medical men are very severe on quacks, it is impossible to look into medical literature without finding it replete with virtual confessions that medical men are immensely indebted to what they call quacks.

Radcliff said that "when he died he would leave behind him the whole mystery of physics on half a sheet of paper." Sir Ashley Cooper is reported to have acknowledged that his "mistakes would fill a church yard." Prof. Jackson, of Philadelphia said that he "would rather see a patient die than call in another doctor when such a step might appear to imply any distrust of his own abilities."

One of the foremost English physicians and medical writers, Dr. James Johnson, says: "I declare my conscientious opinion, founded on long observation and reflection, that if there was not a single physician, surgeon, apothecary, chemist, druggist or drug, on the face of the earth there would be less sickness and less mortality than now obtains."

Prof. Magendie addressed his students at the medical college at Paris as follows; "Gentlemen, medicine is a great humbug. I know it is studied as a science. Doctors are mere imperics when they are not charlatans. We are as ignorant as men can be. Who knows anything in the world about medicine? There is no such thing as medical science. I grant you people are cured; but how? Nature does a great deal, imagination does a great deal, doctors do devilish little."

Dr. O. W. Holmes says, "Medicine is a grand colossal humbug." There was a certain pope who lost his physician, and to all who applied for the office, he put the question, "How many have you killed?" Each doctor in turn solemnly asseverated that he had "never killed anyone." An old doctor, with a big beard, came at last. "How many have you killed?" asked the pope. "Two thousand," said the old fellow, pulling his beard with both hands. The pope was pleased with the confession, and, believing he must be a man of experience at least took him as his physician.

Statistics claimed to be authentic show a mortality under homeopathy of about half—and in some diseases much less—than under allopathic treatment.

An allopathic physician in London sent to inspect the different cholera hospitals, concluded his report by avowing that, "if taken with the disease, he desired homeopathic treatment."

It is an alleged fact that Homeopathic Insurance Companies have about one-third the deaths on their homeopathic policies that they do among the policy holders treated by allopathy—the actual fact being that they charge on the former a considerable less premium for the risk. Researches into the respective results of homeopathic and allopathic private practice in New York City shows, for two years, thirty thousand three hundred and ninety-five deaths in the private practice of nine hundred and eighty-four allopathists and fifteen hundred and twenty in that of one hundred and fifty-six homeopathists, showing fifty-three per cent. in favor of homeopathy. Dr. Blood advocates the homeopathic treatment because if it does not always cure it does no harm.

Previous to Dr. Blood's discovery of Oxygenized Air, he was engaged in the regular practice of medicine, prescribing for his patients from formulas laid down in medical works, written by ignorant doctors who lived before it was discovered that the blood circulated through the system, and which he was educated to believe would cure the various ills to which humanity are subject. But in many cases, in place of seeing his patients recover as he anticipated and expected, he saw them grow worse under the treatment called scientific, but which he found a curse and a delusion. Being a man of strong integrity, he abandoned the practice, feeling if he could not labor to promote the physical welfare of suffering mankind, he would not assist in entailing misery on the already myriads of victims to pernicious drugs.

Since Dr. Blood commenced the Oxygenized Air practice he has treated personally over one hundred and twenty thousand patients, and in a majority of cases has obtained the finest results, restoring persons to health who had been drugged almost to death by other physicians and by them pronounced incurable. Unlike other physicians, Dr. Blood does not advise persons in the last stage of consumption to seek the air of the South or a trip across the briny deep, leaving home and kindred at the very time they most need their care, to risk their frail constitutions by perilous and exhausting journeys to far-off lands in pursuit of health; but, alas! where they too often meet with the sad fate of dying among strangers and in a strange land. If the disease in the lungs has not advanced too far, all the patient requires to regain his lost force and vitality is the soothing and purifying influence of Oxygenized Air, which, when taken into the lungs, sends the life blood gushing through the system and dyes their faded cheeks with the bloom of health.

What can be more natural, more simple and efficacious than the treatment of consumption by this method, by which the vital principle of life, Oxygen is conveyed directly into the lungs, and its life-giving properties brought to bear at once upon the seat of disease.

Dr. Blood, enabled by this great discovery to alleviate the sick and suffering, must have reflected on his own soul the benign smiles of those he has been the means of benefiting and a grateful people will hand down to posterity the blessed name of the one who gave to humanity the great boon of Oxygenized Air.

OFFICE AND RESIDENCE OF Dr. C. L. BLOOD,
27 Bond St., near Broadway, New York City.

https://github.com/logological/blood

## A.4 Rāmāyaṇa excerpt

वा॰रा॰ तपःस्वाध्यायनिरतं तपस्वी वाग्विदां वरम् । नारदं परिपप्रच्छ वाल्मीकिर्मुनिपुंगवम् ॥ १ ॥ को न्वस्मिन् साम्प्रतं लोके गुणवान् कश्च वीर्यवान् । धर्मज्ञश्च कृतज्ञश्च सत्यवाक्यो दृढव्रतः ॥ २ ॥ चारित्रेण च को युक्तः सर्वभूतेषु को हितः । विद्वान् कः कः समर्थश्च कश्चैकप्रियदर्शनः ॥ ३ ॥ आत्मवान् को जितक्रोधो मतिमान् को ऽनसूयकः । कस्य बिभ्यति देवाश्च जातरोषस्य संयुगे ॥ ४ ॥ एतद् इच्छाम्यहं श्रोतुं परं कौतूहलं हि मे । महर्षे त्वं समर्थो ऽसि ज्ञातुम् एवंविधं नरम् ॥ ५ ॥ श्रुत्वा चैतत् त्रिलोकज्ञो वाल्मीकेर्नारदो वचः । श्रूयताम् इति चामन्त्र्य प्रहृष्टो वाक्यमब्रवीत् ॥ ६ ॥ बहवो दुर्लभाश्चैव ये त्वया कीर्तिता गुणाः । मुने वक्ष्याम्यहं बुद्ध्वा तैर्युक्तः श्रूयतां नरः ॥ ७ ॥ इक्ष्वाकुवंशप्रभवो रामो नाम जनैः श्रुतः । नियतात्मा महावीर्यो द्युतिमान् धृतिमान् वशी ॥ ८ ॥ बुद्धिमान् नीतिमान् वाग्मी श्रीमाञ् शत्रुनिबर्हणः । विपुलांसो महाबाहुः कम्बुग्रीवो महाहनुः ॥ ९ ॥ महोरस्को महेष्वासो गूढजत्रुररिंदमः । आजानुबाहुः सुशिराः सुललाटः सुविक्रमः ॥ १० ॥ समः समविभक्ताङ्गः स्निग्धवर्णः प्रतापवान् । पीनवक्षा विशालाक्षो लक्ष्मीवाञ् शुभलक्षणः ॥ ११ ॥ सं॰ १

बा॰का॰ धर्मज्ञः सत्यसंधश्च प्रजानां च हिते रतः । यशस्वी ज्ञानसंपन्नः शुचिर्वश्यः समाधिमान् ॥ १२ ॥ रक्षिता जीवलोकस्य धर्मस्य परिरक्षिता १

वा॰रा॰ । वेदवेदाङ्गतत्त्वज्ञो धनुर्वेदे च निष्ठितः ॥ १३ ॥ सर्वशास्त्रार्थतत्त्वज्ञो स्मृतिमान् प्रतिभानवान् । सर्वलोकप्रियः साधुर् अदीनात्मा विचक्षणः ॥ १४ ॥ सर्वदाभिगतः सद्भिः समुद्र इव सिन्धुभिः । आर्यः सर्वसमश्चैव सदैकप्रियदर्शनः ॥ १५ ॥ स च सर्वगुणोपेतः कौसल्यानन्दवर्धनः । समुद्र इव गाम्भीर्ये धैर्येण हिमवान् इव ॥ १६ ॥ विष्णुना सदृशो वीर्ये सोमवत् प्रियदर्शनः । कालाग्निसदृशः क्रोधे क्षमया पृथिवीसमः ॥ १७ ॥ धनदेन समस् त्यागे सत्ये धर्म इवापरः । तम् एवंगुणसंपन्नं रामं सत्यपराक्रमम् ॥ १८ ॥ ज्येष्ठं श्रेष्ठगुणैर्युक्तं प्रियं दशरथः सुतम् । यौवराज्येन संयोक्तुम् ऐच्छत् प्रीत्या महीपतिः ॥ १९ ॥ तस्याभिषेकसंभारान् दृष्ट्वा भार्याथ कैकयी । पूर्वं दत्तवरा देवी वरम् एनम् अयाचत ॥ २० ॥ विवासनं च रामस्य भरतस्याभिषेचनम् । स सत्यवचनाद् राजा धर्मपाशेन संयतः ॥ २१ ॥ विवासयाम् आस सुतं रामं दशरथः प्रियम् । स जगाम वनं वीरः प्रतिज्ञाम् अनुपालयन् ॥ २२ ॥ पितुर्वचननिर्देशात् कैकेय्याः प्रियकारणात् । तं व्रजन्तं प्रियो भ्राता लक्ष्मणो ऽनुजगाम ह ॥ २३ ॥ स्नेहाद् विनयसंपन्नः सुमित्रानन्दवर्धनः । सर्वलक्षणसंपन्ना सं॰ १

बा॰का॰ नारीणाम् उत्तमा वधूः ॥ २४ ॥ सीताप्यनुगता रामं शशिनं रोहिणी यथा । पौरैरनुगतो दूरं पित्रा दशरथेन च ॥ २५ ॥ २

वा॰रा॰ तेन गत्वा पुरीं लङ्कां हत्वा रावणम् आहवे । अभ्यषिञ्चत् स लङ्कायां राक्षसेन्द्रं विभीषणम् ॥ ६६ ॥ कर्मणा तेन महता त्रैलोक्यं सचराचरम् । सदेवर्षिगणं तुष्टं राघवस्य महात्मनः ॥ ६७ ॥ तथा परमसंतुष्टैः पूजितः सर्वदैवतैः । कृतकृत्यस् तदा रामो विज्वरः प्रमुमोद ह ॥ ६८ ॥ देवताभ्यो वरान् प्राप्य समुत्थाप्य च वानरान् । पुष्पकं तत् समारुह्य नन्दिग्रामं ययौ तदा ॥ ६९ ॥ नन्दिग्रामे जटां हित्वा भ्रातृभिः सहितो ऽनघः । रामः सीताम् अनुप्राप्य राज्यं पुनरवाप्तवान् ॥ ७० ॥ सं॰ १

बा॰का॰ ३

https://tex.stackexchange.com/a/369211/1135