

What Unicode provides

- Information related to the semantical value of chars.

What Unicode doesn't provide

- Information related to visual rendering:
 - The glyphs necessary to typeset the included languages.
 - The logical structure of a document.

T_EX

- Is a typesetting engine, and a programming language.
- Accepts mark-up commands, but it also accepts macros for visual rendering.
- However, unlike processors for markup languages (SG/XML) T_EX cannot read the text to manipulate it– each character is added to the output when read.

Omega

- Can read text to process it with “translation processes” or external tools.
- Omega can generate SGML documents.
- In addition, it can read directly XML document.

The goals of Lambda are mainly:

- to provide a set of high level macros for users and developers of language styles, which “hides” the involved primitives and makes them easier to use.
- to coordinate different languages so that Omega will become a *true multilingual* environment.

By true multilingual environment I mean the possibility:

- to use in the same document several of the scripts in the World.
- to use different national coding systems and fonts, even in a single document, and conversion from a coding system to another if necessary.
- to gather that information to form Unicode text.
- to manipulate and extract information from the Unicode text.
- to use tags (i.e., macro names) using any script.
- to redefine shared elements.
- to define new language specific elements.

- The lambda kernel provides a set of “services” to be used by languages.
- The kernel contains no reference to any language, either explicit or implicit.
- The languages needn't modify the functionality provided by the kernel.
- It's a framework which enables to gather together different languages while preserving their independence.

User interface

```
\languageset  
\languageproperties  
\begin{language}  
\languagetext  
\chaptername  
...
```

Language A

Language B

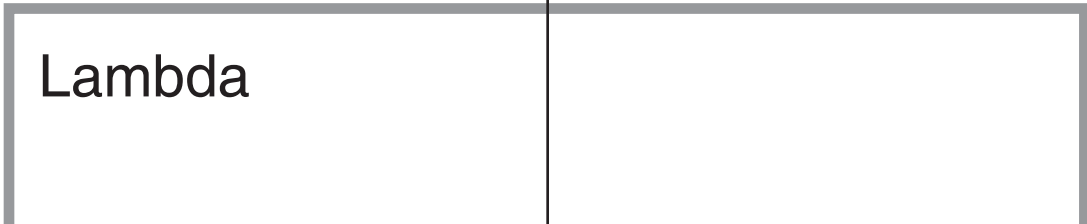
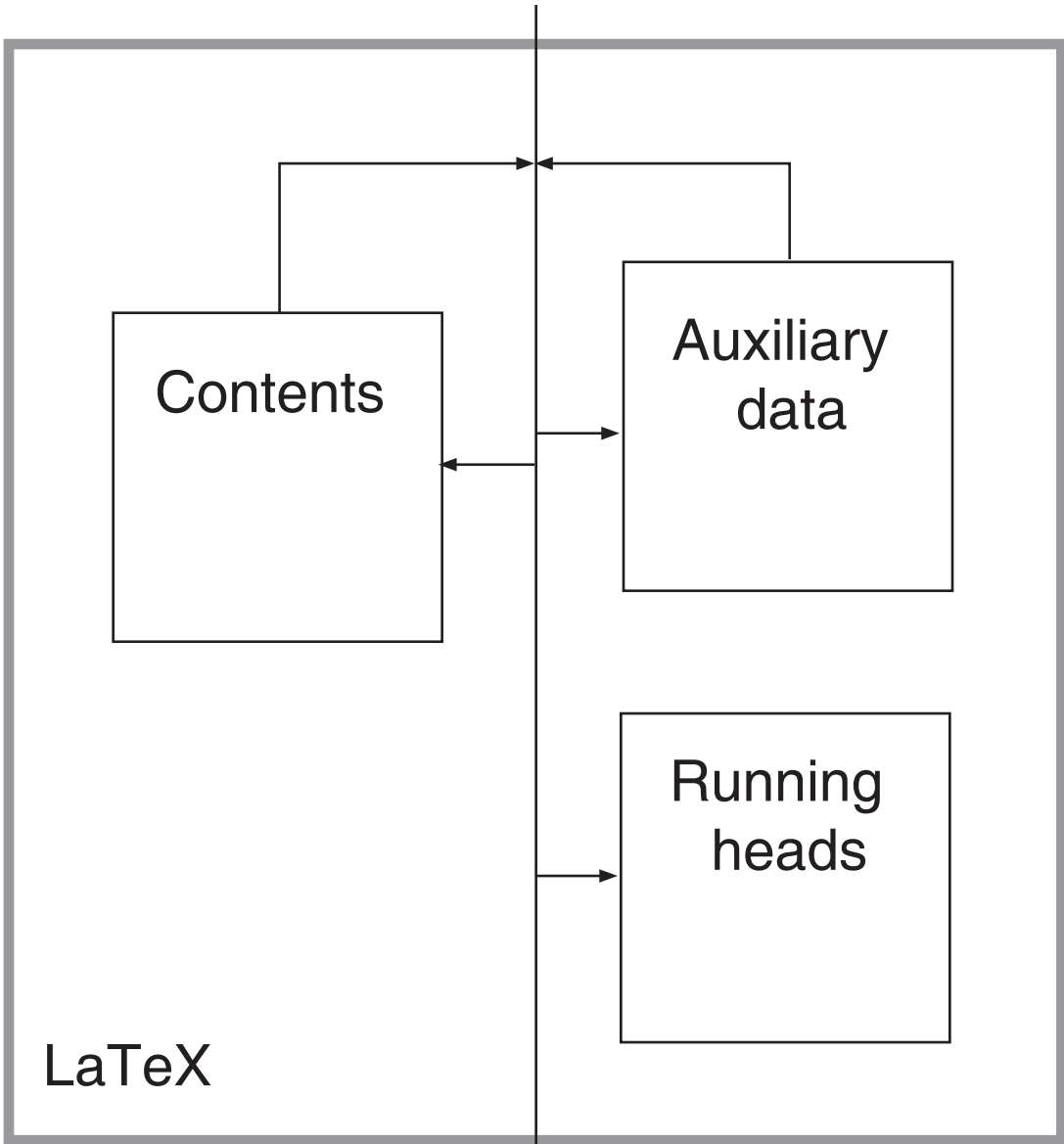
Language C

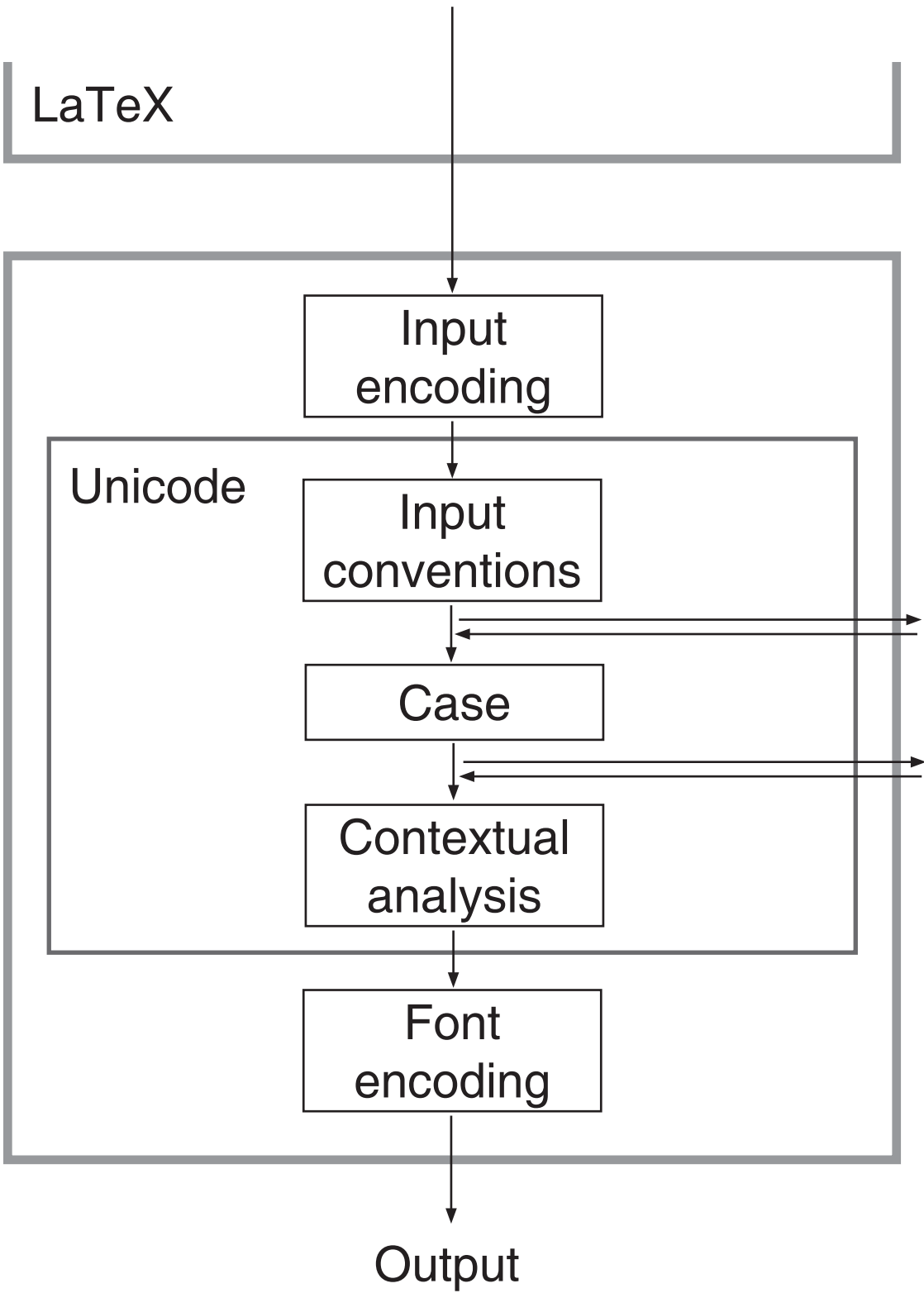
Lambda kernel

```
\ocp  
\externalocp  
\ocplist  
\pushocplist  
\addbeforeocplist  
\nullocplist
```

Output transformations

- Contextual analysis in scripts like Arabic or Devanagari.
- Aesthetic ligatures, like *fi*.
- Converting to a certain font encoding or generating the necessary $\text{T}_{\text{E}}\text{X}$ macros.





```
\documentclass{book}
```

```
\usepackage[charset=latin1,greek,english]{lambda}
```

```
\languageproperties{greek}{input=latin}
```

```
\begin{document}
```

```
English text: \languagetext{greek}{thaumsio}. And  
again English.
```

```
\end{document}
```