

# A New Approach in Styling Chapters

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# Contenido

## CÁPITULO 1

### INTRODUCTION

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## CÁPITULO 2

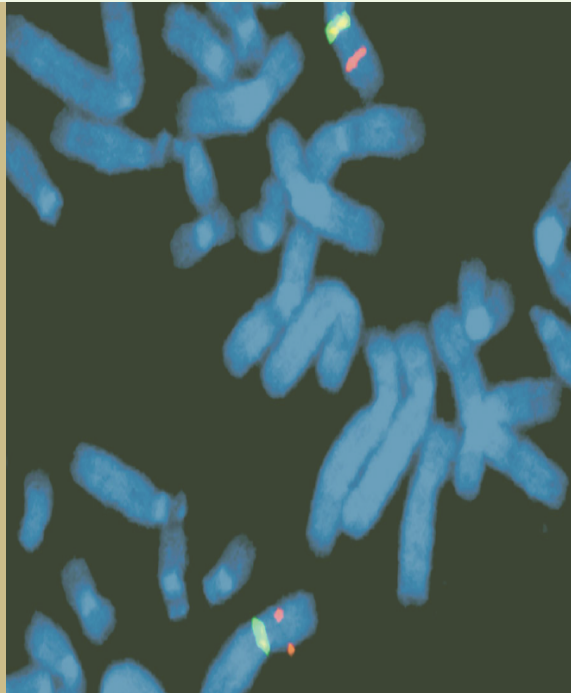
### EXTENSIONS

#### OF MENDELIAN GENETICS

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The aim of the package is to allow easy styling of chapter heads and extends these to include images and special effects, which are difficult to achieve using traditional methods.



# Capítulo 1 Contenido

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## Introduction

- 🔍 The aim of the package is to allow easy styling of chapter heads and extends these to include images and which are difficult to achieve using traditional methods.

Abstracting the various designs is a non-trivial undertaking due to the hundreds of different possibilities.

## Sección 1. 1

### Background

The L<sup>A</sup>T<sub>E</sub>X2e method of constructing the layout for Chapters is complicated and spread all over the book.cls code. Although not very difficult to customize, customization is not user friendly.

**counters** Counters can be displayed or not. These are constructed using the normal LaTeX method.

```
\renewcommand \thechapter {\@arabic\c@chapter}
```

**name** Here we use the term *name* to denote in english the word “chapter”. This can be typeset differently, depending on the language. It depends on on redefining one macro.

```
\def\chaptername{Chapter}
```

**openright** The global option open right, triggers the typesetting of chapter on odd pages only. There are a couple of layouts that must be typeset on an even pages.

**\chapter** The chapter command is the main author command and where all the branching starts.

```
\newcommand\chapter{%
  \if@openright\cleardoublepage\else\clearpage\fi
  \thispagestyle{plain}%
  \global\@topnum\z@
  \@afterindentfalse
  \secdef\@chapter\@schapter}
```

One limitation for this command is that it always starts a chapter on a new page and the macro needs to be rewritten if for example a new chapter is allowed to start anywhere.

Consider options openright, openleft, continuous.

The pagestyle is also settled here.

secdef will define basic macros for chaapter and starred chapter. What it basically does... this will become unnecessary as we are going to find out a bit later on, but first the @chapter.

**\@chapter** This is the basic routine

```
\def\@chapter[#1]#2{
  \ifnum \c@secnumdepth >\m@ne
    \if@mainmatter
      \refstepcounter{chapter}%
```

```

\typeout{\@chapapp\space\thechapter.}%
\addcontentsline{toc}{chapter}%
  {\protect\numberline{\thechapter}\#1}%
\else
  \addcontentsline{toc}{chapter}{\#1}%
\fi
\else
  \addcontentsline{toc}{chapter}{\#1}%
\fi
\chaptermark{\#1}%
\addtocontents{lof}{\protect\addvspace{10\p@}}%
\addtocontents{lot}{\protect\addvspace{10\p@}}%
\if@twocolumn
  \@topnewpage[\@makechapterhead{\#2}]%
\else
  \@makechapterhead{\#2}%
  \@afterheading
\fi}

```

The important branching command here is `makechapterhead`, which is responsible for type-setting the layout.

## Sección 1.2

### Counters

```

\renewcommand \thepart {\@Roman\c@part}
\renewcommand \thechapter {\@arabic\c@chapter}

```

## Sección 1.3

### major components

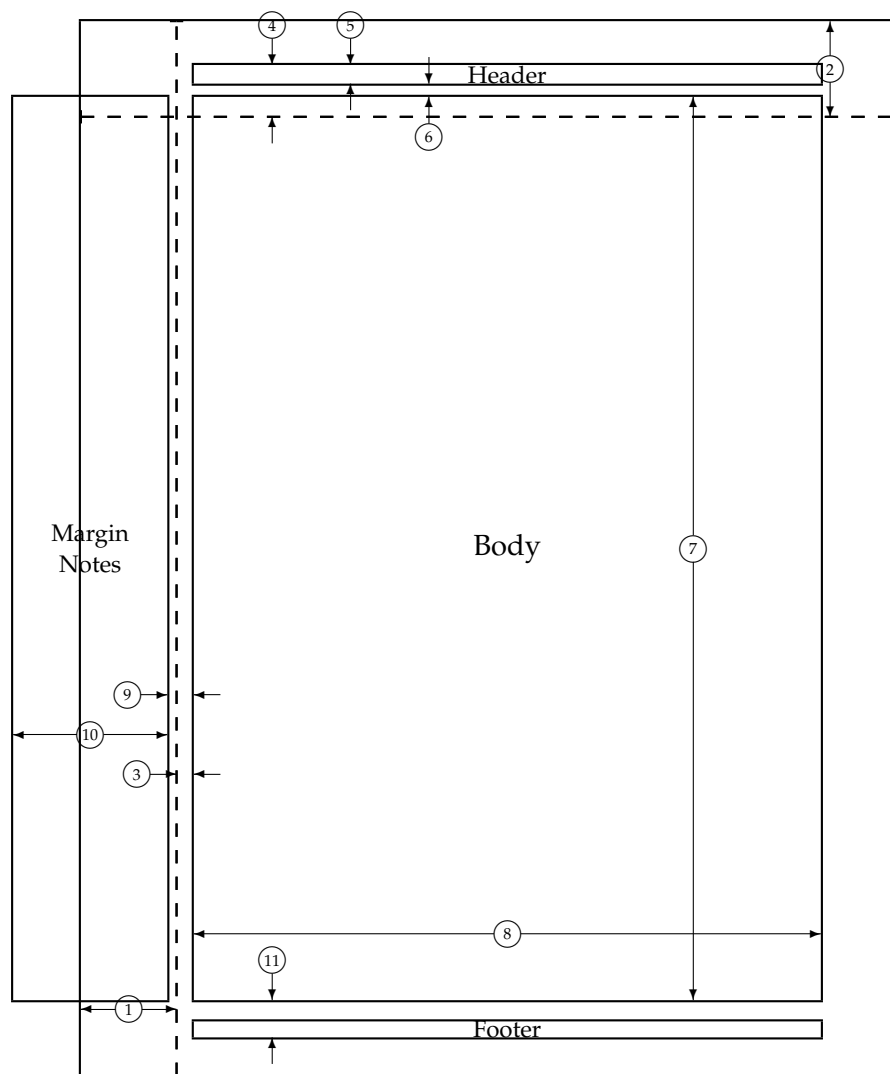
The major components of a chapter opening, is the chapter name, the number and the title. It can be enclosed in boxes rules or other decorative elements.

One peculiarity is how to specify the position of the number.

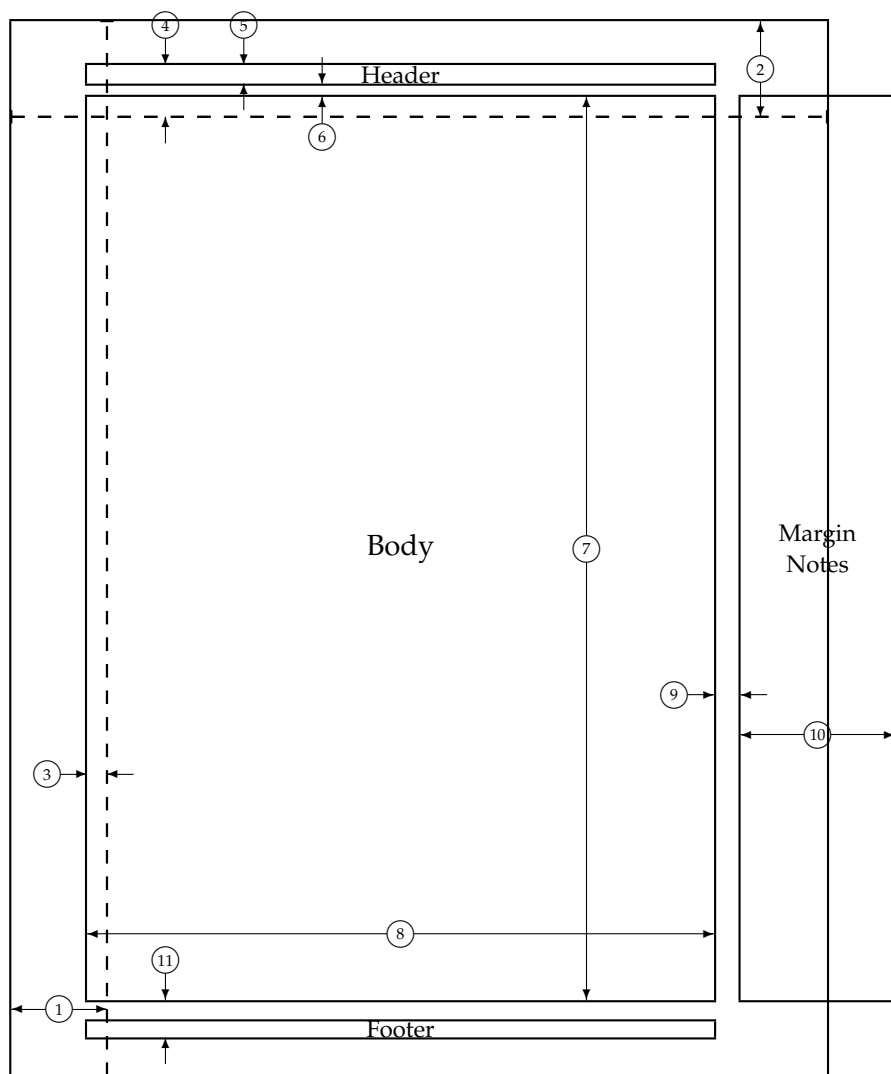
`leftofchaptername rightofchaptername ownline`

### 1.3.1 ALGORITHMIC APPROACH

All major components are saved in boxes. then based on booleans or templets are inserted in right location. Similar to objects.



- |    |                        |    |                                  |
|----|------------------------|----|----------------------------------|
| 1  | one inch + \hoffset    | 2  | one inch + \voffset              |
| 3  | \evensidemargin = 13pt | 4  | \topmargin = -39pt               |
| 5  | \headheight = 14pt     | 6  | \headsep = 10pt                  |
| 7  | \textheight = 680pt    | 8  | \textwidth = 472pt               |
| 9  | \marginparsep = 20pt   | 10 | \marginparwidth = 116pt          |
| 11 | \footskip = 28pt       |    | \marginparpush = 5pt (not shown) |
|    | \hoffset = 0pt         |    | \voffset = 0pt                   |
|    | \paperwidth = 614pt    |    | \paperheight = 794pt             |



- |    |                        |    |                                  |
|----|------------------------|----|----------------------------------|
| 1  | one inch + \hoffset    | 2  | one inch + \voffset              |
| 3  | \oddsidemargin = -15pt | 4  | \topmargin = -39pt               |
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The global option open right, triggers the typesetting of chapter on odd pages only. There are a couple of layouts that must be typeset on an even pages.



# Capítulo 2 Contenido

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## Extensionsof MendelianGenetics

- ☞ While alleles are transmitted from parent to offspring according to Mendelian principles, they often show a clear-cut dominant/recessive relationship observed by Mendel.
- ☞ In many cases, in a departure from Mendelian genetics, two or more genes are known to influence the characteristic.
- ☞ Still another exception to Mendelian inheritance occurs



## Sección 2.4

## Background

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      \refstepcounter{chapter}%
      \typeout{\@chapapp\space\thechapter.}%
      \addcontentsline{toc}{chapter}%
```

```

        {\protect\numberline{\thechapter}\#1}%
    \else
        \addcontentsline{toc}{chapter}{\#1}%
    \fi
\else
    \addcontentsline{toc}{chapter}{\#1}%
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    \@afterheading
\fi}

```

The important branching command here is `makechapterhead`, which is responsible for type-setting the layout.

## Sección 2. 5

### Counters

```

\renewcommand \thepart {\@Roman\c@part}
\renewcommand \thechapter {\@arabic\c@chapter}

```

## Sección 2. 6

### major components

The major components of a chapter opening, is the chapter name, the number and the title. It can be enclosed in boxes rules or other decorative elements.

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### 2 . 6.1 ALGORITHMIC APPROACH

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