

New L^AT_EX Style for FAO Yearbook *

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Abstract

This package provides class for typesetting FAO Yearbook. This is a refactoring of the `faoyeabook` package

1 Introduction

The package `faoyearbook` [1] was written in 2011 for FAO Statistical Yearbook.

The package `faosyb` is a refactoring of this package. We use the lessons learned and incorporate new design requirements. We use some (actually plenty) code from the previous version, but since we do not have to be compatibility, we can correct some unfortunate decisions.

2 User Guide

The installation of the class follows the usual practice [2] for L^AT_EX packages:

1. Run `latex` on `faosyb.ins`. This will produce the L^AT_EX class `faosyb.cls`.
2. Put the file `faosyb.cls` to the place where L^AT_EX can find it (see [2] or the documentation for your T_EX system).
3. Update the database of file names. Again, see [2] or the documentation for your T_EX system for the system-specific details.
4. The file `faosyb.pdf` provides the documentation for the package (this is the file you are probably reading now).

As an alternative to items 2 and 3 you can just put the file `faosyb.cls` in the working directory where your `.tex` file is.

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2.1 Invocation

To use the class, put in the preamble of your document

```
\documentclass[<options>]{faosyb}
```

If the option **web** is chosen, the pages of the book have the dimensions corresponding to A4 paper. However, if the option **print** is chosen, then the pages are printed on a wider area, and crop marks are added for the trimming. Either **web** or **print** option must be chosen: there is no default.

If the option **issuu** is chosen, the internal links are transformed to external in the form suitable for <http://www.issuu.com>. Note that this option probably does not make much sense unless **web** option is also chosen. However, it is still possible to select both **print** and **issuu** option if someone needs it for an obscure purpose.

The option **Draft** (note the capitalization!) leads to the the large word ‘DRAFT’ printed across the pages. The standard L^AT_EX option **draft** leads to the same result, but it also makes other changes, most notably, in the behavior of the `\includegraphics` command and warnings.

`\ifprint` It is possible to query the current mode using the macro `\ifprint`, for example

```
\ifprint
  Stuff for print version
\else
  Stuff for web version
\fi
```

Any branch of this conditional may be empty, so web-only stuff can be coded as

```
\ifprint\else Web-only stuff\fi
```

`\includegraphics` There is a special facility for `\includegraphics` command to choose a file depending on the current mode of the package. Namely, if there is a file `image_print.pdf` visible by L^AT_EX, then the commands `\includegraphics{image}` or `\includegraphics{image.pdf}` selects the file `image_print.pdf`. In the case this file is not found, the file `image.pdf` is selected instead. Similarly in the web mode the file `image_web.pdf` will be selected first, and only if it does not exist, `image.pdf` is selected. This rule works also for commands `\includeLargeGraphics` and `\includeExtraLargeGraphics` described below.

Note that at this time there is no similar facility for the `\input` command.

2.2 Setting Parameters

`\faoset` Some parameters in the class can be set with the command `\faoset{<key=value>}`, for example

```
\faoset{bgcolor=blue}
```

Most of the parameters are explained below.

One of the important parameters is **year**. While the package at this time does not provide facilities for the title pages, it needs to know the year for the proper typesetting of footers. The command

```
\faoset{year=2013}
```

is used to provide this information.

2.3 Fonts

`\narrowfamily` The class uses PT Sans fonts [3] for body text and Arev fonts [4] for math. It
`\textnarrow` defines two additional families: Narrow and Caption, corresponding to the PT
`\captionfamily` Sans Narrow and PT Sans Caption font. They can be selected by the declarations
`\textcaption` `\narrowfamily` and `\captionfamily` or by the commands `\textnarrow{<text>}`
and `\textcaption{<text>}` following the usual L^AT_EX conventions. Note that since
PT Sans does not provide math alphabet, this choice does not change the mathe-
matical text.

PT Sans Narrow may be useful for typesetting tables, for example,

```
{\scriptsize\narrowfamily
\rowcolors{4}{@bgcolor!30}{@bgcolor!20}
\input{./Tables/P1.DEM_1.tex}}
```

The choice of `\narrowfamily` is automatically done by the `tablepages` environment.

2.4 Colors and Icons for Parts

A Yearbook is separated into parts (more on this below). Each part has its own color and icon. They are set by the keys `bgcolor` and `icon` of the `\faoset` command, for example,

```
\faoset{icon=./Icons/agriculture.png}
\faoset{icon=./Icons/population}
\faoset{bgcolor=blue}
\faoset{bgcolor=green!25!yellow}
```

The parameter for the `icon` key can be any file name (with or without extension), suitable for the `\includegraphics` command. The parameter for the `bgcolor` key can be specified in any form acceptable by `xcolor` package [5].

The key `tableheadcolor` sets the color for the headers of tables defined by H or P key (see Section 2.7). Normally it is the current `@bgcolor` color, but it can be set to any required value.

`\selecticon` Note that `\faoset` command does not change the icon or background color
`\selectcolor` immediately. When issued *before* `\part` command, it sets up icon and color for

the next part. If needed, you can manually change this using `\selecticon` and `\selectcolor` commands. In most cases you should *not* use these commands.

`@bgcolor` After a `\part` command (or explicit `\selecticon` and `\selectcolor` command we can access the current values of the color in `@bgcolor`, `@tablecolor`
`@tableheadcolor` colors and `\currenticon` macro.
`\currenticon`

Foreword and other parts in the front matter of the book do not use icons. Instead they have geometric symbols. The key `symbol` can have the values `righttriangle`, `square`, `rightsemicircle` and sets the symbol for such part.

`\lettrine` Front matter uses dropped capitals (lettrines) in the beginning of the sections. The command `\lettrine{W}{ord}` can help in this case.

2.5 Sectioning

`\part` The main division of the text are `\parts`. The command `\part{<title>}` is used for
`\section` numbered parts, while the command `\part*{<title>}` is used for unnumbered parts.
`\subsection` The next division are `\sections` and `\subsections`. They are never numbered.
The style does not use `\chapters`.
`\EndPartIntro` The sections immediately following new parts are special: they are typeset in one column and cannot have floats. The command `\EndPartIntro` switches to the “normal” sections.

2.6 Headers and Footers

`\evenfootmark` Normally headers and footers are defined by the text. However, there is a
`\oddfootmark` possibility to change some of them. Commands `\evenfootmark{<text>}` and `\oddfootmark` set the right and left footers for even and odd pages correspondingly (the remaining footers are used by the page numbers). By default they are defined as

```
\evenfootmark{\textbf{FA0} Statistical Yearbook \textbf{\fao@year}}
\oddfootmark{\rightmark}
```

The last command sets the footer to be the current section name (or part name before the first section), but the user can change this.

2.7 Floats

One of the most important changes from the previous version of the class [1] is the treatment of floats.

In standard \LaTeX floats “float”: they can be placed by the algorithm anywhere. The previous version made them “sticky”: the author explicitly tells \TeX where floats should be placed. However, to do so the class required the author to make explicitly page breaks, which was not very convenient.

This version has a completely rewritten interface and algorithm for placing floats:

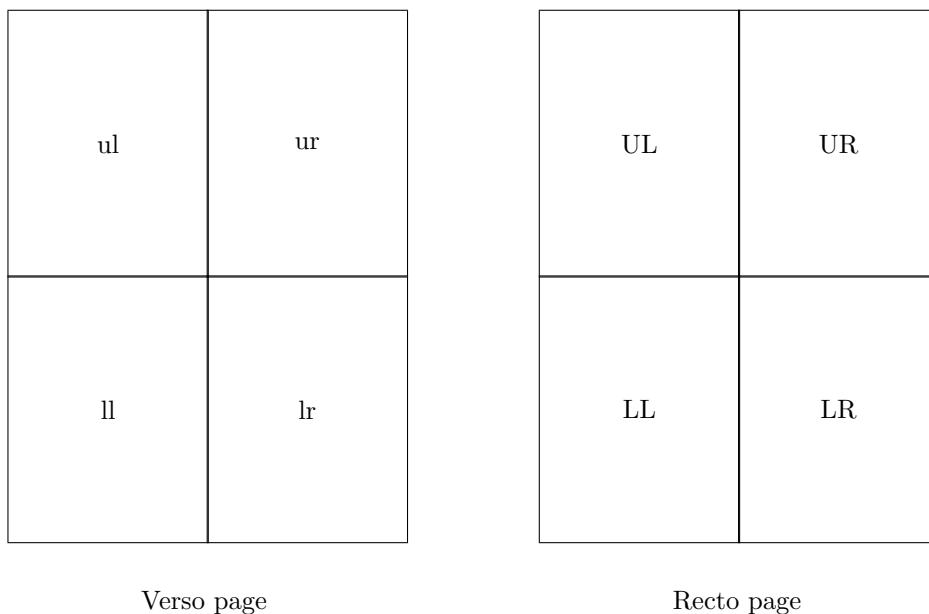


Figure 1: A Spread

1. Like in standard \LaTeX , authors do not normally provide page breaks— \TeX tries to make this decision for them.
2. Like in the previous version, floats are put exactly where the authors want them—no default placing and second-guessing.

Here is how it is done.

The main unit of the book is *spread*: a verso page and the corresponding recto page. Each page is divided into four quarters, upper left, upper right, lower left and lower right. We will denote them `ul`, `ur`, `ll`, `lr` for the verso page and `UL`, `UR`, `LL`, `LR` for the recto page (Figure 1). We allow four kinds of floats:

Single floats occupy exactly one quarter. They are denoted as `S`.

Tall floats occupy two quarters stacked vertically (for example, `ul` and `ll`). They are denoted as `T`.

Wide floats occupy two quarters adjacent horizontally (for example, `LL` and `LR`). They are denoted as `W`.

Big floats occupy all four quarters on a page. They are denoted as `B`.

The parameters $\{\langle type \rangle\}$ and $\{\langle location \rangle\}$ are mandatory for floats, for example

```

\begin{map}{T}{ur}
...
\end{map}
\begin{chart}{S}{UL}
...
\end{chart}

```

For multiquarter floats the location is the location of the upper left corner, so Big float can use only ul or UL location.

Of course, not all combinations are valid: you cannot specify float as {T}{ll} or {W}{UR}, for example. If you use such combinations, the results may be unpredictable. Also it is not predictable what happens if you try to put overlapping floats (e.g. {S}{UR} and {W}{UL}).

There are two additional rules:

1. A verso page may have text and floats (still it is recommended that if it has text, then it should not have floats occupying the upper left corner).
2. A recto page may have *either* text or floats: if there are floats for this page, all text is moved to the following verso page.

chart map table	There are three types of floats defined by the class: chart plots and other charts, map mapped data. table mini tables.
caption	Each of these kinds of material is typeset using the corresponding environment: chart , table or map . Note that the caption for each of these environments <i>must</i> precede the graphical material, for example:

```

\begin{chart}{B}{UL}
\caption{Hunger Data}
\label{chart:hunger}
\includegraphics{hunger.pdf}
\end{chart}

```

Note that our class redefines **table** environemnt!. For tables on separate pages use **longtable**.

\chartwidth \chartheight	Inside a chart , map or table it is useful to know the size allocated for the graphics or table, for example, to be able to scale the graphics. Two lengths, \chartwidth and \chartheight provide this information, so the user can say, for example,
---	--

```

\includegraphics[width=\chartwidth, height=\chartheight]{theChart}

```

`\source` Inside a `chart`, `map` or `table` the macro `\source{<source>}` gives the source of the information, for example,

`\Source{FA0, Statistical Division [FAOSTAT]}`

`\listoftables` The standard \LaTeX has the command `\listoftables` to produce the list of tables in the document. Our class retains this command and produces two additional commands `\listofcharts` and `\listofmaps` with the obvious meaning.

2.8 Page Breaks

`\clearpage` Standard \LaTeX has commands for immediate page break (e.g. `\clearpage`) and for switching to the next recto page, possibly ejecting the next verso page (`\cleardoublepage`). The class provides another command `\clearspread`. It switches to the next *verso* page, possibly ejecting the next recto page (and putting there floats intended for this page, if any).

2.9 Tables

`tablepages` The tables at the end of a part should be typeset inside `tablepages` environment. The environment switches to the one column setup, decreases the margins and changes the font to `\narrowfamily`.

To typeset numerical items one should use `d` column identifier with the format `d{<a.b>}`, where *a* is the number of decimal in the integer part of the number, and *b* is the number of decimal digitst in the fractional part. For example, a number 12.345 corresponds to `d{2.3}`. The column headers are usually *not* numerical, so one need to use `\multicolumn` entries to typeset them. The class defines several such entries:

H produces a centered entry.

P produces an entry of a given length, for example, `P{1.5cm}`

C produces an entry of the length corresponding to the given number of numerical columns. For example, `C{2}` corresponds to a header of two numerical columns. Each column is assumed to be of the size enough to store -99.999 .

`\hhline` For the rules that do not span the table width `\hhline{<specificaition>}` command from the `hhline` package should be used. The `{<specification>}` argument of this command has many variants, but for our purposes we need only one variant: the command `-` produces a horizontal line spanning one column. The color of this line is determined by the command `\arrayrulecolor{<color>}`, issued in the last `>{<argument>}` command before the `-` specification. Therefore the command `>\arrayrulecolor{@tableheadcolor}-` produces a line of the color `@tableheadcolor`, which is seen as the absence of line. The command `>\arrayrulecolor{black}---` produces a black line spanning three columns.

Thus if we have a four-column table and want a rule spanning columns 2–3, the following command should be issued:

```
\hhline{>\arrayrulecolor{@tableheadcolor}}-% Column 1, no rule
>\arrayrulecolor{black}--% Columns 2 and 3, black rule
>\arrayrulecolor{@tableheadcolor}}-% Column 4, no rule
```

The usual `*` specification may be used for repeating patterns, for example, `{5}{-}` is equivalent to `-----`.

The vertical bar `|` specification in the `\hhline` argument means an interruption of the line. The interruption is by default a black interval, to make it the same color as the header background, use `>\arrayrulecolor{@tableheadcolor}}|`.

The design of the tables in the current edition requires several important changes to the usual tables:

1. There should be no `\toprule` at the beginning of a table.
2. The first row header of a table must be empty and white; this is done by the command `\cellcolor{white}` in this cell.
3. `\hhline` separating rows in the header must not go through this first white cell; this is done by the `~` specification.

2.10 Publication Descriptions

`publication` FAO yearbook describes some FAO publications. These publications should be put inside the environment `publication`. The environment has one mandatory argument, which is the title of the publication, and one optional argument, which sets the file name of the publication cover. Note that the option argument, if present, must precede the mandatory one. If this argument is absent, no cover is included. Inside the environment the macros `\pDescription{<description>}`, `\pEdition{<year>}{<edition>}`, `\pWeb{<URL>}` and `\pCycle{<date>}` are used to typeset the corresponding items related to the publication. For example,

```
\pDescription
  \pEdition
    \pCycle
      pWeb
        \begin{publication}[./Plots/StateOfFoodAndAgriculture.png]{The State
          of Food and Agriculture}
          \pDescription{The State of Food and Agriculture, FAO's major
            annual flagship publication, aims at bringing to a wider
            audience balanced science-based assessments of important issues
            in the field of food and agriculture. Each edition of the
            report contains a comprehensive, yet easily accessible, overview
            of a selected topic of major relevance for rural and
            agricultural development and for global food security. This is
            supplemented by a synthetic overview of the current global
            agricultural situation.}
          \pEdition{2010}{Livestock in the balance}
          \pEdition{2011}{Women in Agriculture Closing the gender gap for
            development}
          \pCycle{May each year}
```



```
\pWeb{http://www.fao.org/docrep/013/i2050e/i2050e00.htm}
\end{publication}
```

Note that, as in the example, some fields may be repeated.

publicationparskip Two spacing parameters can be used for typesetting of publications: **publicationskip** is the amount of additional space between the publications, while **publicationparskip** is the space between the paragraphs inside the publication environment. The default values correspond to the command

```
\faoset{publicationskip=6pt plus 2pt minus 2pt,
        publicationparskip=6pt plus 6pt minus 4pt}
```

2.11 Metadata

\metadatasection The sources of the data are collected in special sections called “Metadata section”. Each section is introduced by the command **\metadatasection{<title>}**, for example,

```
\metadatasection{Indicators}
```

metadata The sources themselves are collected in the **metadata** environments. Each environment has one obligatory argument—the name of the source. It may include the following commands:

\key **\key{<key>}** sets the corresponding key which is used for labeling the metadata

\source **\source{<source>}** sets the source of the data.

\owner **\owner{<owner>}** sets the owner of the data.

Note that there is no “description” command because any text which is not an argument of the commands above is considered to belong to the description of the data.

Example of the usage of these commands:

```
\metadatasection{Indicators}
\begin{metadata}{Agricultural population}
  \key{agripop}%
  Agricultural population is defined as all persons depending for
  their livelihood on agriculture, hunting, fishing and forestry.
  It comprises all persons economically active in agriculture as
  well as their non-working dependents. It is not necessary that
  this referred population exclusively come from rural population.
  \source{FILL ME}
  \owner{FILL ME}
\end{metadata}
```

`\refMetadata` The metadata is referenced by the command `\refMetadata{<key>}`, for example
`\refMetadata{agripop}`

This command will not be typeset, but makes creates a backreference to the corresponding chart from the indicator section.

Note that the package automatically provides backreferencing: all charts, maps and tables where the metadata is referenced, are mentioned in the corresponding metadata section.

2.12 Further Reading

`freading` The special environment `freading` is used for the “further reading” sections of the book. It starts the text from the new page and changes some defaults.

2.13 Subscripts in Text

`\textsubscript` The standard \LaTeX defines `\textsuperscript`. The class adds a similar `\textsubscript` command.

3 Implementation

3.1 Options

`\faoyearbook@size@warning` The font-changing options are not used in our setup, so we just produce a warning:

```
1 \long\def\faoyearbook@size@warning#1{%
2   \ClassWarning{faoyearbook}{Size-changing option #1 will not be
3     honored}}%
4 \DeclareOption{8pt}{\faoyearbook@size@warning{\CurrentOption}}%
5 \DeclareOption{9pt}{\faoyearbook@size@warning{\CurrentOption}}%
6 \DeclareOption{10pt}{\faoyearbook@size@warning{\CurrentOption}}%
7 \DeclareOption{11pt}{\faoyearbook@size@warning{\CurrentOption}}%
8 \DeclareOption{12pt}{\faoyearbook@size@warning{\CurrentOption}}%
```

`\ifprint` We have a flag which shows whether we are in Web or print mode

```
9 \newif\ifprint
10 \printfalse
11 \DeclareOption{web}{\printfalse
12   \PassOptionsToPackage{paper=a4paper}{geometry}}
13 \DeclareOption{print}{\printtrue
14   \PassOptionsToPackage{papersize={230mm,317mm},
15     layoutoffset=1cm,layoutvoffset=1cm}{geometry}}
```

`\ifDraft` If we are in ‘Draft’ or ‘draft mode’, we print a word ‘draft’ across the page:

```
16 \newif\ifDraft
17 \Draftfalse
18 \DeclareOption{Draft}{\Drafttrue}
19 \DeclareOption{draft}{\Drafttrue}
```

`\if@issuemode` Whether we need issuu-style links

```
20 \newif\if@issuemode
21 \@issuemodefalse
22 \DeclareOption{issuu}{\@issuodemtrue}
```

All other options are just sent to the main class:

```
23 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{report}}
24 \ProcessOptions\relax
```

3.2 Loading Class and Packages

We start with the base class and some packages

```
25 \LoadClass[10pt,twoside,twocolumn]{report}
26 \RequirePackage{graphicx,xkeyval}
27 \RequirePackage[table,cmyk]{xcolor}
28 \RequirePackage{tikz,dcolumn}
29 \RequirePackage{geometry}
30 \usetikzlibrary{calc}
31 \RequirePackage{fancyhdr}
32 \RequirePackage{lscape,longtable,siunitx,booktabs}
```

```

33 \RequirePackage{multicol,atbegshi,picture,hhline,afterpage}
34 \RequirePackage[T1]{fontenc}
35 \RequirePackage[utf8x]{inputenc}
36 \RequirePackage{pdfpages}
37 \RequirePackage[authoryear]{natbib}
38 \RequirePackage[breaklinks]{hyperref}
39 \RequirePackage{bookmark}
40 \RequirePackage{adjmulticol,lettrine}
41 \if@issuume
42 \RequirePackage{issuulinks}
43 \fi

```

Options for the hyperref package are set as follows:

```

44 \ifprint
45 \hypersetup{breaklinks,colorlinks=false,pdfborder=0 0 0,
46   pdfauthor={FAO},
47   pdfsubject={Statistical Yearbook of the Food And Agricultural Organization for the United Nations},
48   pdftitle={Statistical Yearbook of the Food And Agricultural Organization for the United Nations},
49   pdfkeywords={FAO, Food Security, Undernourishment, Sustainable agriculture},
50   pdfpagelayout=TwoColumnLeft,
51   pdfnewwindow=true
52 }
53 \else
54 \hypersetup{breaklinks,colorlinks=false,pdfborder=0 0 0,
55   pdfauthor={FAO},
56   pdfsubject={Statistical Yearbook of the Food And Agricultural Organization for the United Nations},
57   pdftitle={Statistical Yearbook of the Food And Agricultural Organization for the United Nations},
58   pdfkeywords={FAO, Food Security, Undernourishment, Sustainable agriculture},
59   pdfpagelayout=TwoColumnRight,
60   pdfnewwindow=true
61 }
62 \fi

```

3.3 Color

We need to tell the printer that we are using CMYK color model. The following is taken from the pdfx package (the package itself is not too easy to make work).

```

63 \def\@pctchar{\expandafter\@gobble\string\%}
64 \def\@bchar{\expandafter\@gobble\string\}
65 \immediate\pdfobj stream attr{/N 4} file{FOGRA39L.icc}
66 \edef\OBJ@CVR{\the\pdfobj}
67 \pdfcatalog{/OutputIntents [ <<
68   /Type/OutputIntent
69   /S/GTS_PDFX
70   /OutputCondition (FOGRA39)
71   /OutputConditionIdentifier (FOGRA39 \bchar{ISO Coated v2}
72     300\pctchar{space} \bchar{ECI\bchar{space}})
73   /DestOutputProfile \OBJ@CVR{space} 0 R
74   /RegistryName(http://www.color.org)
75   >> ]}

```

`\LettrineFontHook` We want the drop caps to have @bgcolor
`76 \renewcommand\LettrineFontHook{\color{@bgcolor}}`

`\DefaultFindent` The distance between the dropped capital and the text
`77 \setlength\DefaultFindent{2pt}`

3.4 Key-Value Interface

`\faoset` We define the family `fao` for our keys:
`78 \def\faoset#1{\setkeys{fao}{#1}}`

One of the important keys is `year`
`79 \define@key{fao}{year}{\gdef\fao@year{#1}}`
`80 \faoset{year=20XX}`

3.5 Fonts

We use `arev` for mathematics:
`81 \RequirePackage{arevmath}`

For body text we use PT Sans:
`82 \def\PTSans@scale{0.95}`
`83 \def\PTSansNarrow@scale{0.95}`
`84 \def\PTSansCaption@scale{0.95}`
`85 \renewcommand{\sfdefault}{PTSans-TLF}`
`86 \renewcommand{\familydefault}{\sfdefault}`
`87 \renewcommand{\bfdefault}{b}`

`\narrowfamily` We declare a new family, `\narrowfamily`:
`88 \DeclareRobustCommand\narrowfamily{\fontfamily{PTSansNarrow-TLF}\selectfont}`

`\textnarrow` And the matching `\textnarrow` command:
`89 \DeclareTextFontCommand{\textnarrow}{\narrowfamily}`

`\captionfamily` Same with `\captionfamily`:
`90 \DeclareRobustCommand\captionfamily{\fontfamily{PTSansCaption-TLF}\selectfont}`

`\textcaption` And the matching `\textcaption` command:
`91 \DeclareTextFontCommand{\textcaption}{\captionfamily}`

`\normalsize` The basic size is 9.6pt:
`92 \renewcommand\normalsize{%`
`93 \setfontsize\normalsize{9.6pt}{\@xipt}%`
`94 \abovedisplayskip 10\p@ \@plus2\p@ \@minus5\p@`
`95 \abovedisplayshortskip \z@ \@plus3\p@`
`96 \belowdisplayshortskip 6\p@ \@plus3\p@ \@minus3\p@`
`97 \belowdisplayskip \abovedisplayskip`
`98 \let\@listi\@listI}`
`99 \normalsize`

`\small` This is the small size:

```

100 \renewcommand\small{%
101   \@setfontsize\small\@ixpt{10}%
102   \abovedisplayskip 8.5\p@ \@plus3\p@ \@minus4\p@
103   \abovedisplayshortskip \z@ \@plus2\p@
104   \belowdisplayshortskip 4\p@ \@plus2\p@ \@minus2\p@
105   \def\@listif\leftmargin\leftmargini
106         \topsep 4\p@ \@plus2\p@ \@minus2\p@
107         \parsep 2\p@ \@plus\p@ \@minus\p@
108         \itemsep \parsep}%
109   \belowdisplayskip \abovedisplayskip}

```

We use `rm` style of URL:

```

110 \urlstyle{sf}

```

3.6 Margins and Paragraphing

`\parindent` We use not indented paragraphs with paragraph borders given by skips

```

\parskip 111 \setlength\parindent\z@
112 \setlength\parskip{6\p@ plus 6\p@ minus 4\p@}

```

We use `a4paper`.

```

113 \geometry{layout=a4paper,
114   left=5cm,right=3.5cm,bottom=2cm,top=76mm,
115   footskip=9mm, head=30mm, headsep=3mm,
116   columnsep=6mm, twoside}%
117 \savegeometry{frontmatter}
118 \geometry{layout=a4paper,
119   left=2cm,right=2cm,bottom=2cm,top=2.3cm,
120   footskip=9mm, head=30mm, headsep=3mm,
121   columnsep=6mm, twoside}%
122 \savegeometry{standard}

```

3.7 Cropmarks

There are several packages that provide crop marks. Unfortunately they do not work for us because they put crop marks at the background. Since we have colored pages, we want crop marks to be on the foreground.

In this section we re-implement cropmarks of the `geometry` package, putting the marks on the foreground.

We postpone the code to the beginning of the document to get the proper value of the switch

```

123 \AtBeginDocument{\ifprint
124   \AtBeginShipout{%
125     \AtBeginShipoutUpperLeftForeground{%
126       \color{black}%
127       \@tempdima=\Gm@layouthoffset
128       \@tempdimb=\Gm@layoutvoffset

```

```

129 \put(\@tempdima,-\@tempdimb+6\p@){\line(0,1){50}}%
130 \put(\@tempdima-6\p@,-\@tempdimb){\line(-1,0){50}}%
131 \advance\@tempdima by \Gm@layoutwidth
132 \put(\@tempdima,-\@tempdimb+6\p@){\line(0,1){50}}%
133 \put(\@tempdima+6\p@,-\@tempdimb){\line(1,0){50}}%
134 \advance\@tempdimb by \Gm@layoutheight
135 \put(\@tempdima,-\@tempdimb-6\p@){\line(0,-1){50}}%
136 \put(\@tempdima+6\p@,-\@tempdimb){\line(1,0){50}}%
137 \advance\@tempdima by -\Gm@layoutwidth
138 \put(\@tempdima-6\p@,-\@tempdimb){\line(-1,0){50}}%
139 \put(\@tempdima,-\@tempdimb-6\p@){\line(0,-1){50}}%
140 }}\fi}

```

In draft mode we put the word ‘DRAFT’ across the page:

```

141 \AtBeginDocument{\ifDraft
142   \AtBeginShipout{%
143     \AtBeginShipoutUpperLeft{%
144       \color{black!25}%
145       \@tempdima=\Gm@layoutheight
146       \@tempdimb=\Gm@layoutwidth
147       \advance\@tempdima by 0.2\Gm@layoutwidth
148       \advance\@tempdimb by 0.7\Gm@layoutheight
149       \put(\@tempdima,-\@tempdimb){%
150         \rotatebox{45}{%
151           \fontsize{6cm}{6cm}\selectfont
152           DRAFT}}}}\fi}

```

3.8 Setting Colors and Icons

`\fao@color@string` This is the command that remembers the present color for TOC

```
153 \def\fao@color@string{0,0,0}
```

`@bgcolor@next` We store the next background color in `@bgcolor@next`. We store the next heading background in `@tableheadcolor@next`.

`\setbgcolor` The command `\setbgcolor` selects the next background color:

```

154 \def\setbgcolor#1{\colorlet{@bgcolor@next}[cmyk]{#1}%
155   \@for\curr@ext:=\@toc@ext@list\do{%
156     \addtocontents{\curr@ext}{\string\colorlet{@bgcolor}[cmyk]{#1}}}%
157   \addtocontents{toc}{\string\colorlet{@bgcolor}[cmyk]{#1}}%
158   \gdef\fao@color@string{#1}}
159 \colorlet{@bgcolor@next}[cmyk]{white}

```

The key-value interface for the same command:

```
160 \define@key{fao}{bgcolor}{\setbgcolor{#1}}
```

And for separate setting of `@tableheadcolor`

```
161 \define@key{fao}{tableheadcolor}{\colorlet{@tableheadcolor}[cmyk]{#1}}
```

`@bgcolor` The current color is in the macro `@bgcolor`.

`@tableheadcolor` This command makes the actual color change:

```

\selectcolor 162 \def\selectcolor{\colorlet{@bgcolor}{@bgcolor@next}}%
              163 \colorlet{tableheadcolor}{@bgcolor}}
              164 \selectcolor

@tablebg The color for table pages
          165 \define@key{fao}{tablebg}{\colorlet{tablebg}[cmyk]{#1}}

\seticon Setting the next icon for the part
          166 \def\seticon#1{\gdef\next@icon{#1}}
          167 \define@key{fao}{icon}{\seticon{#1}}

\selecticon The actual icon change
\currenticon 168 \def\selecticon{\gdef\currenticon{\next@icon}}
              169 \def\next@icon{}

\newicon Define an icon #2 for the part #1
          170 \def\newicon#1#2{\expandafter\gdef\csname @icon@#1\endcsname{#2}}

\colored@icon The icon for us is just a mask. This will create a colored icon using background
              @bgcolor
          171 \newcommand\colored@icon[2][\bgroup\fbboxsep=-1pt%
          172 \fcolorbox{white}{@bgcolor}{\includegraphics[#1]{#2}}\egroup}

\colored@icon@fg The icon for us is just a mask. This will create a colored icon using background
              @bgcolor!#3
          173 \newcommand\colored@icon@fg[3][\bgroup\fbboxsep=-1p@%
          174 \fcolorbox{white}{@bgcolor!#3}{\includegraphics[#1]{#2}}\egroup}

```

3.9 Page Styles

`\evenfootmark` The mark on even pages

```

175 \def\evenfootmark#1{\gdef\@evenfootmark{#1}}
176 \evenfootmark{\textbf{FAO} Statistical Yearbook \textbf{fao@year}}

\oddfootmark The mark on odd pages
          177 \def\oddfootmark#1{\gdef\@oddfootmark{#1}}
          178 \oddfootmark{\rightmark}

frontmatterpagestyle This is our page style for front matter
          179 \fancypagestyle{frontmatterpagestyle}{%
          180 \fancyhf{}%
          181 \fancyhfoffset[LR]{1.5cm}%
          182 \renewcommand\headrulewidth{\z@}%
          183 \fancyfoot[RO,LE]{%
          184 \bgroup
          185 \setlength\fbboxsep{10\p@}%
          186 \raisebox{-\height}{\fcolorbox{white}{white}{\thepage}}%

```



```

187 \egroup}%
188 }
189 %
190 % \end{macro}
191 % \begin{macro}{spartpagestyle}
192 % \changes{v1.4}{2013/12/17}{Introduced macro}
193 % This is our page style for front matter
194 % \begin{macrocode}
195 \fancypagestyle{spartpagestyle}{%
196 \fancyhf{}%
197 \fancyhfoffset[LR]{3cm}%
198 \renewcommand\headrulewidth{\z@}%
199 \fancyfoot[RO,LE]{%
200 \bgroup
201 \setlength\fbboxsep{10\p@}%
202 \raisebox{-\height}{\fcolorbox{white}{white}{\thepage}}}%
203 \egroup}%
204 }
205 %
206 % \end{macro}
207 %
208 % \begin{macro}{standardpagestyle}
209 % \changes{v1.3}{2013/12/14}{Changed position of footers}
210 % \changes{v1.4}{2013/12/17}{Increased sizes}
211 % This is our main page style
212 % \begin{macrocode}
213 \fancypagestyle{standardpagestyle}{%
214 \fancyhf{}%
215 \fancyhfoffset[LR]{2.22cm}%
216 \renewcommand\headrulewidth{\z@}%
217 \fancyhead[LE]{\hspace*{25\p@}\color{@bgcolor}\captionfamily
218 \Huge\strut\ifnum\thepart>0\relax
219 \thepart\fi\normalsize\dotfill}%
220 \fancyhead[L0]{\hspace*{25\p@}\color{@bgcolor}\normalsize\dotfill
221 \captionfamily\Huge\strut
222 \leftmark\expandafter\ifx\csname @icon@\thepart\endcsname\relax\else\space
223 \raisebox{-0.25\totalheight}{%
224 \colored@icon[width=1.2cm]{\csname
225 @icon@\thepart\endcsname}}\fi
226 \hspace*{25\p@}}}%
227 \fancyfoot[LE]{%
228 \bgroup
229 \setlength\fbboxsep{10\p@}%
230 \color{@bgcolor}%
231 \raisebox{-\height}{\fcolorbox{@bgcolor}{@bgcolor}{\color{white}\thepage}}}%
232 \normalsize\dotfill
233 \raisebox{-\height}{\@evenfootmark\hspace*{25\p@}}}%
234 \egroup}%
235 \fancyfoot[L0]{%
236 \bgroup

```

```

237 \setlength\fbboxsep{10\p@}%
238 \color{@bgcolor}%
239 \raisebox{-\height}{\hspace*{25\p@}\@oddfootmark}%
240 \normalsize\dotfill
241 \raisebox{-\height}{\fcolorbox{@bgcolor}{@bgcolor}{\color{white}\thepage}}%
242 \egroup}%
243 }
244 \pagestyle{standardpagestyle}

\@partpagerpicture A picture in the part page. \@part defines it to the combination of the current
icons
245 \def\@partpagepicture{}

partpagestyle The page style for the parts introduction
246 \fancypagestyle{partpagestyle}{%
247 \fancyhf{}%
248 \fancyhead[L]{%
249 \begin{picture}(0,0)
250 \@partpagerpicture
251 \put(-7,63){%
252 \raisebox{-\height}{\begin{tikzpicture}
253 \fill[color=@bgcolor,opacity=.1]
254 (0,0) rectangle ($(\textwidth,\textheight)+(5cm,5cm)$);
255 \end{tikzpicture}}}%
256 \end{picture}}
257 \fancyhfoffset[LR]{2.22cm}%
258 \renewcommand\headrulewidth{\z@}%
259 \fancyfoot[LE]{%
260 \bgroup
261 \setlength\fbboxsep{10\p@}%
262 \color{@bgcolor}%
263 \raisebox{-\height}{\fcolorbox{@bgcolor}{@bgcolor}{\color{white}\thepage}}%
264 \normalsize\dotfill
265 \raisebox{-\height}{\@evenfootmark\hspace{20\p@}}%
266 \egroup}%
267 \fancyfoot[L0]{%
268 \bgroup
269 \setlength\fbboxsep{10\p@}%
270 \color{@bgcolor}%
271 \raisebox{-\height}{\hspace*{25\p@}\@oddfootmark}%
272 \normalsize\dotfill
273 \raisebox{-\height}{\fcolorbox{@bgcolor}{@bgcolor}{\color{white}\thepage}}%
274 \egroup}%
275 }

\faopartbloptop Some pages have “part blobs”: colored blobs on the specific positions of the page.
\faopartblobbottom These macros set the top and the bottom of the blob corresponding to the part
set in the second parameter:
276 \def\faopartbloptop#1#2{\expandafter\gdef\csname fao@blobstart#1\endcsname{#2}}
277 \def\faopartblobbottom#1#2{\expandafter\gdef\csname fao@blobend#1\endcsname{#2}}

```

3.10 Nonfloats

In Faoyearbook we used float package. Since we changed too much in the internals, here we just rewrite the code from scratch.

<code>\@toc@ext@list</code>	Added macro Comma-separated list of extensions for toc-like files: 278 <code>\gdef\@toc@ext@list{toc}</code>
<code>\nf@vert@sep</code>	Vertical separation between the floats 279 <code>\newlength\nf@vert@sep</code> 280 <code>\setlength\nf@vert@sep{20mm}</code>
<code>\nf@width</code>	The width of the nonfloat 281 <code>\newlength\nf@width</code>
<code>\nf@height</code>	The height of the nonfloat 282 <code>\newlength\nf@height</code>
<code>\nf@captionheight</code>	The height reserved for the caption 283 <code>\newlength\nf@captionheight</code> 284 <code>\setlength\nf@captionheight{11mm}</code>
<code>\nf@sourceheight</code>	The height reserved for the source lines 285 <code>\newlength\nf@sourceheight</code> 286 <code>\setlength\nf@sourceheight{2\baselineskip}</code>
<code>\nf@margin</code>	Margin for floats 287 <code>\newlength\nf@margin</code> 288 <code>\setlength\nf@margin{12\p@}</code>
<code>\nf@trianglebase</code>	The design requires a triangle under the caption. Here it is 289 <code>\newlength\nf@trianglebase</code> 290 <code>\setlength\nf@trianglebase{12\p@}</code>
<code>\chartwidth</code>	The resulting width of a chart 291 <code>\newlength\chartwidth</code>
<code>\chartheight</code>	The resulting width of a chart 292 <code>\newlength\chartheight</code>
<code>\nf@topskip</code>	Top separation for a nonfloat <code>@topskip</code>
<code>\nf@bottomskip</code>	Bottom separation for a nonfloat <code>@bottomskip</code>
<code>\nonfloat@type</code>	The counter to keep the next type to assign 293 <code>\newcount\nonfloat@type</code> 294 <code>\nonfloat@type=4\relax</code>

`\nf@contentsbox` The box to keep the contents of the float
295 `\newbox\nf@contentsbox`

`\nf@mainbox` The box for the float
296 `\newbox\nf@mainbox`

`\newnon@float` The macro `\newnon@float` has the following arguments: TYPE, EXT, NAME for example
`\newnon@float{map}{lom}{Map}`

It defines a nonfloat with these parameters.

297 `\def\newnon@float#1#2#3{%`

First, we need to define `\ftype@TYPE`: the type of the float. Note that tables are taken, so we need to make a special care of nonfloats that correspond to floats.

298 `\expandafter\ifx\csname ftype@#1\endcsname\relax`
299 `\expandafter\edef\csname ftype@#1\endcsname{\the\nonfloat@type}%`
300 `\multiply\nonfloat@type by 2\relax`
301 `\fi`

Now we define the extension for the floats

302 `\expandafter\def\csname ext@#1\endcsname{#2}%`
303 `\xdef\@toc@ext@list{\@toc@ext@list,#2}%`

The macro `\fnum@TYPE` formats the line like “Figure 1”. We need to check whether the counter is defined

304 `\expandafter\ifx\csname the#1\endcsname\relax`
305 `\newcounter{#1}\fi`
306 `\expandafter\def\csname fnum@#1\endcsname{#3~\csname`
307 `the#1\endcsname}%`

Now we want to define the environment TYPE. Since it might be already defined, we first delete this definition, otherwise `\newenvironment` might throw an error

308 `\expandafter\let\csname #1\endcsname\relax`
309 `\expandafter\let\csname end#1\endcsname\relax`

And the actual definition

310 `\newenvironment{#1}{\non@float{#1}}{\endnon@float}}`

`\@getfirstletter` An aux macro to get a first letter of a word. Used in constructs

`\edef\U{\@getfirstletter{AAAAA\@endword}}`

311 `\def\@getfirstletter#1{\@getfirstletter#1}`
312 `\def\@getfirstletter#1{#1\@gobbleword}`
313 `\def\@gobbleword#1\@endword{}`

`\non@float` Now we are ready to define the `\non@float` macro. It has three parameters: TYPE, SIZE and PLACEMENT. `\nf@source` is the source of the float.

```

314 \def\non@float#1#2#3{
315   \def\@capttype{#1}%
316   \def\nf@size{#2}%
317   \def\nf@placement{#3}%

```

The macro `\nf@vert@pos` is either u or l

```

318   \lowercase{\xdef\nf@vert@pos{\@getfirstletter#3\@endword}}
319   \global\let\nf@source\@empty

```

Define the source command inside float

```

320   \def\source##1{\gdef\nf@source{##1}}

```

Define the caption producing command:

```

321 \long\def\@makecaption##1##2{\long\gdef\nf@caption{%
322   {\bfseries\large\color{white}
323     \MakeUppercase{##1}: ##2}}}%
324 \gdef\nf@caption{}%

```

We calculate the size of the float and skips

```

325   \nf@width=\columnwidth
326   \nf@height=\dimexpr(\textheight/2-\nf@vert@sep)%
327   \if\nf@vert@pos u\relax
328     \nf@topskip=\z@
329     \nf@bottomskip=\nf@vert@sep
330   \else
331     \nf@topskip=\nf@vert@sep%
332     \nf@bottomskip=\z@
333   \fi
334   \def\tempW{W}%
335   \def\tempT{T}%
336   \def\tempB{B}%
337   \ifx\nf@size\tempW
338     \nf@width=\textwidth
339   \fi
340   \ifx\nf@size\tempT
341     \nf@height=\textheight
342     \nf@topskip=\z@
343     \nf@bottomskip=\z@
344   \fi
345   \ifx\nf@size\tempB
346     \nf@width=\textwidth
347     \nf@height=\textheight
348     \nf@topskip=\z@
349     \nf@bottomskip=\z@
350   \fi
351   \charheight=
352     \dimexpr(\nf@height-\nf@captionheight-\nf@sourceheight
353       -2\nf@margin-\nf@trianglebase-2\baselineskip)%
354   \chartwidth=\dimexpr(\nf@width-2\nf@margin-0.5\nf@trianglebase)%

```

```
355 \nf@height=\dimexpr(\nf@height+\nf@topskip+\nf@bottomskip)%
```

Now we construct the main box.

```
356 \global\setbox\nf@contentsbox
357 \color@vbox
358 \normalcolor
359 \vbox to \chartheight
360 \bgroup
361 \hsize\chartwidth
362 \@parboxrestore
363 \@floatboxreset
364 }
```

\endnon@float The actual typesetting

```
365 \def\endnon@float{\@endfloatbox\par
366 \hsize=\nf@width
367 \setbox\nf@mainbox=\vbox to \nf@height\bgroup
368 \hsize=\chartwidth
369 \vskip\nf@topskip
370 \noindent
371 \begin{picture}(0,0)%
372 \put(0,0){\color{bgcolor}%
373 \begin{tikzpicture}[baseline=(current bounding box.north)]
374 \fill (0,0) -- (\nf@trianglebase,0) --
375 (0.5\nf@trianglebase,-\nf@trianglebase) -- cycle;
376 \end{tikzpicture}}
377 \end{picture}%
378 \def\@tempa{chart}%
379 \ifx\@tempa\capttype
380 \begin{picture}(0,0)%
381 \put(0,0){\color{bgcolor}%
382 \begin{tikzpicture}[baseline=(current bounding box.north)]
383 \draw(0,0) -- (\nf@width,0);
384 \draw (0.5\nf@trianglebase,-2\nf@trianglebase) --
385 (0.5\nf@trianglebase,-\chartheight-2\nf@trianglebase
386 -\nf@margin) --
387 (\nf@width-\pgflinewidth, -\chartheight-2\nf@trianglebase
388 -\nf@margin) -- (\nf@width-\pgflinewidth, 0);
389 \end{tikzpicture}}
390 \end{picture}%
391 \fi
392 {\color{bgcolor}\color@block{\nf@width}{\nf@captionheight}{.1\p}}%
393 \hskip\dimexpr(\nf@margin+0.5\nf@trianglebase)%
394 \vbox to \nf@captionheight\bgroup
395 \nf@caption\vfill\normalcolor
396 \egroup\par\nointerlineskip\vskip\nf@trianglebase
397 \vskip\nf@margin
398 \noindent\hskip\dimexpr(\nf@margin+0.5\nf@trianglebase)%
399 \box\nf@contentsbox\par\nointerlineskip
400 \vskip\nf@margin
```

```

401 \hskip\dimexpr(\nf@margin+0.5\nf@trianglebase)%
402 \vbox to \nf@sourceheight\bgroup
403 \leftskip-\nf@margin\parskip\z@\parindent\z@
404 \ifx\nf@source\@empty\else
405 \vskip0.5\baselineskip
406 \color{bgcolor}%
407 \rule{.2em}{.2em}~\rule{.2em}{.2em}~%
408 \rule{.2em}{.2em}~\rule{.2em}{.2em}~%
409 \rule{.2em}{.2em}~\rule{.2em}{.2em}~%
410 \rule{.2em}{.2em}\par\normalcolor
411 Source: \nf@source\par\vfill\fi\egroup
412 \vfill\egroup
413 \edef\nf@currbox{\expandafter\csname nfbox@\nf@size
414 @\nf@placement\endcsname}%
415 \global\setbox\nf@currbox=
416 \vbox{\box\nf@currbox\nointerlineskip\penalty0\box\nf@mainbox}}

```

`\map` A standard nonfloat:

```
417 \newnon@float{map}{lom}{Map}
```

`\listofmapsname` The name for the list of maps

```
418 \def\listofmapsname{List of Maps}
```

`\table` Another one

```
419 \newnon@float{table}{lot}{Table}
```

`\chart` And another one

```
420 \newnon@float{chart}{loc}{Chart}
```

`\listofchartsname` The name for the list of charts

```
421 \def\listofchartsname{List of charts}
```

3.11 Output Routine

This is hairy because output routines are hairy...

We need several insert boxes. Naming convention: the letter for the box size and two letter code for the location. We use `\newbox` instead of `\newinsert` since we do not use associated `\count`, `\dimen` and `\skip` registers.

```

422 \newbox\nfbox@S@ul
423 \newbox\nfbox@S@ur
424 \newbox\nfbox@S@ll
425 \newbox\nfbox@S@lr
426 \newbox\nfbox@S@UL
427 \newbox\nfbox@S@UR
428 \newbox\nfbox@S@LL
429 \newbox\nfbox@S@LR
430 \newbox\nfbox@T@ul
431 \newbox\nfbox@T@ur

```

```

432 \newbox\nfbox@T@UL
433 \newbox\nfbox@T@UR
434 \newbox\nfbox@W@ul
435 \newbox\nfbox@W@ll
436 \newbox\nfbox@W@UL
437 \newbox\nfbox@W@LL
438 \newbox\nfbox@B@ul
439 \newbox\nfbox@B@UL

\@tempboxb Standard LATEX has \@tempboxa. We need more...
440 \ifx\@tempboxb\@undefined
441   \newbox\@tempboxb
442 \fi

\standard@output The standard LATEX output routine is saved as \standard@output. We use it for
one column pages—maybe one even wants a standard float here?
443 \edef\standard@output{\the\output}

\output Right now we use standard output on one column pages and the new one with
two columns
444 \output{\if@twocolumn\the\nf@output\else\standard@output\fi}

\nf@output Here we define our own output routine.
445 \newtoks\nf@output
446 \nf@output {%

    We define the current boxes \curr@nfbox.... Also, uc or lc mean Upper or
    Lower Current column
447   \ifodd\c@page
448     \global\let\curr@nfbox@S@ul\nfbox@S@UL
449     \global\let\curr@nfbox@S@ur\nfbox@S@UR
450     \global\let\curr@nfbox@S@ll\nfbox@S@LL
451     \global\let\curr@nfbox@S@lr\nfbox@S@LR
452     \global\let\curr@nfbox@T@ul\nfbox@T@UL
453     \global\let\curr@nfbox@T@ur\nfbox@T@UR
454     \global\let\curr@nfbox@W@ul\nfbox@W@UL
455     \global\let\curr@nfbox@W@ll\nfbox@W@LL
456     \global\let\curr@nfbox@B@ul\nfbox@B@UL
457   \else
458     \global\let\curr@nfbox@S@ul\nfbox@S@ul
459     \global\let\curr@nfbox@S@ur\nfbox@S@ur
460     \global\let\curr@nfbox@S@ll\nfbox@S@ll
461     \global\let\curr@nfbox@S@lr\nfbox@S@lr
462     \global\let\curr@nfbox@T@ul\nfbox@T@ul
463     \global\let\curr@nfbox@T@ur\nfbox@T@ur
464     \global\let\curr@nfbox@W@ul\nfbox@W@ul
465     \global\let\curr@nfbox@W@ll\nfbox@W@ll
466     \global\let\curr@nfbox@B@ul\nfbox@B@ul
467   \fi

```



```

468 \if@firstcolumn
469   \global\let\curr@nfbox@S@uc\curr@nfbox@S@ul
470   \global\let\curr@nfbox@S@lc\curr@nfbox@S@ll
471   \global\let\curr@nfbox@T@uc\curr@nfbox@T@ul
472 \else
473   \global\let\curr@nfbox@S@uc\curr@nfbox@S@ur
474   \global\let\curr@nfbox@S@lc\curr@nfbox@S@lr
475   \global\let\curr@nfbox@T@uc\curr@nfbox@T@ur
476 \fi
477 \let \par \@par

478 %
479 % There are several possibilities when we start the output routine for
480 % a single column in a two-column layout.
481 % \begin{enumerate}
482 % \item Wide or big non-floats completely cover the page. In this
483 % case we do not need to create columns, and directly go to the
484 % output.
485 % \item The column is occupied by tall or single nonfloats. We make
486 % a column of nonfloats and send it further.
487 % \item There is room for text on the page, but its height
488 % (\cs{@colroom}) is different from the one known to the page builder
489 % (\cs{vsize}). In this case we change \cs{vsize} and return.
490 % \item The room for text is exactly \cs{vsize}. In this case we form
491 % a column and return.
492 % \end{enumerate}
493 % \begin{macrocode}
494 \global\@colht=\textheight
495 \ifdim\ht\curr@nfbox@B@ul>0.5\baselineskip
496   \global\advance\@colht by -\textheight
497 \fi
498 \ifdim\ht\curr@nfbox@W@ul>0.5\baselineskip
499   \global\advance\@colht by -0.5\textheight
500 \fi
501 \ifdim\ht\curr@nfbox@W@ll>0.5\baselineskip
502   \global\advance\@colht by -0.5\textheight
503 \fi
504 \ifdim\@colht < \baselineskip
505   \nf@output@widepage
506 \else
507   \nf@makecol
508 \fi
509 }

```

`\nf@output@widepage` The macro `\nf@output@widepage` outputs a page completely filled by wide pictures.

```

510 \def\nf@output@widepage{%
511   \unvbox\@cclv
512   \penalty\outputpenalty
513   \if@firstcolumn\else

```

```

514 \ClassError{faosyb}{Wide or big nonfloats defined too late. Move
515   them up}{I encountered Big or Wide floats when I already made the
516   first column. Please move them up}
517 \fi
518 \ifdim\ht\curr@nfbox@B@ul>0.5\baselineskip
519   \setbox\@tempboxa\vsplit\curr@nfbox@B@ul to \textheight
520   \setbox\@outputbox \vbox\bgroup
521     \boxmaxdepth \@maxdepth
522     \box\@tempboxa
523     \vfill
524   \egroup
525 \else
526   \setbox\@tempboxa\vsplit\curr@nfbox@W@ul to 0.5\textheight
527   \setbox\@tempboxb\vsplit\curr@nfbox@W@ll to 0.5\textheight
528   \setbox\@outputbox\vbox\bgroup
529     \boxmaxdepth \@maxdepth
530     \box\@tempboxa
531     \nointerlineskip
532     \box\@tempboxb
533     \vfill
534   \egroup
535 \fi
536 \global\ysize\textheight
537 \global\@colht\textheight
538 \@outputpage
539 \@firstcolumntrue
540 }

```

`\nf@makecol` This macro tries to make one column of text. If successful, it puts first column into temporary storage, and outputs the page when or if the second column is ready.

When we start `\nf@makecol`, `\@colht` already reflects possible wide nonfloats. This to get `\@colroom`, we need to take into account only the narrow ones

```

541 \def\nf@makecol{%
542   \global\@colroom\@colht
543   \ifdim\ht\curr@nfbox@T@uc>0.5\baselineskip
544     \global\@colroom=0pt
545   \fi
546   \ifdim\ht\curr@nfbox@S@uc>0.5\baselineskip
547     \global\advance\@colroom by -0.5\textheight
548   \fi
549   \ifdim\ht\curr@nfbox@S@lc>0.5\baselineskip
550     \global\advance\@colroom by -0.5\textheight
551   \fi

```

Now there could be two cases. If `\@colroom` is small, we fill the column with the non-floats only. Otherwise we have a “mixed” column with both text and nonfloats.

```

552   \ifdim\@colroom<0.5\baselineskip
553     \nf@makenfcol

```

```

554 \else
555   \nf@makemixedcol
556 \fi}

```

`\nf@makenfcol` This macro outputs a column with only non-floats. If it is called, we already know that the narrow non-floats would fill the column, so we do not do any additional checks.

```

557 \def\nf@makenfcol{%
558   \unvbox\@cclv
559   \penalty\outputpenalty
560   \ifdim\@colht>0.9\textheight % one tall or two squares
561     \ifdim\ht\curr@nfbox@T@uc>0.5\baselineskip
562       \setbox\@outputbox\vbox\bgroup
563       \boxmaxdepth \@maxdepth
564       \vsplit \curr@nfbox@T@uc to \textheight
565       \egroup
566     \else
567       \setbox\@outputbox\vbox\bgroup
568       \boxmaxdepth \@maxdepth
569       \vsplit\curr@nfbox@S@uc to 0.5\textheight
570       \nointerlineskip
571       \vsplit\curr@nfbox@S@lc to 0.5\textheight
572       \egroup
573     \fi
574   \else % one square
575     \ifdim\ht\curr@nfbox@S@uc>0.49\textheight
576       \setbox\@outputbox\vsplit \curr@nfbox@S@uc to 0.5\textheight
577     \else
578       \setbox\@outputbox\vsplit \curr@nfbox@S@lc to 0.5\textheight
579     \fi
580   \fi
581   \nf@opcol
582 }

```

`\nf@makemixedcol` This macros used when we have a mix of text with nonfloats (or possibly just text).

We check whether the page builder has the right idea about the text size; if not, we return from the output routine

```

583 \def\nf@makemixedcol{%
584   \ifdim\@colroom=\vsize
585     \nf@makemixedcol@
586   \else
587     \global\vsize=\@colroom
588     \unvbox\@cclv
589     \penalty\outputpenalty
590   \fi}

```

`\nf@makmixedcol@` And now the real work of `\nf@makemixedcol@`

```

591 \def\nf@makemixedcol{%

```

```

592 \ifvoid\footins
593   \setbox\@outputbox \box \@cclv
594 \else
595   \setbox\@outputbox \vbox {%
596     \boxmaxdepth \@maxdepth
597     \unvbox \@cclv
598     \vskip \skip\footins
599     \color@begingroup
600     \normalcolor
601     \footnoterule
602     \unvbox \footins
603     \color@endgroup
604   }%
605 \fi
606 \ifdim\ht\curr@nfbox@S@uc>0.49\textheight
607   \setbox\@tempboxa\vsplit\curr@nfbox@S@uc to 0.5\textheight
608   \setbox\@outputbox \vbox
609     \bgroup
610       \box\@tempboxa
611       \nointerlineskip
612       \box\@outputbox
613     \egroup
614 \fi
615 \ifdim\ht\curr@nfbox@S@lc>0.49\textheight
616   \setbox\@tempboxa\vsplit\curr@nfbox@S@lc to 0.5\textheight
617   \setbox\@outputbox \vbox
618     \bgroup
619       \box\@outputbox
620       \nointerlineskip
621       \box\@tempboxa
622     \egroup
623 \fi
624 \nf@opcol}

```

`\nf@opcol` This is like the standard L^AT_EX `\@outputdblcol`, but with the treatment of wide nonfloats.

```

625 \def\nf@opcol{%
626   \if@firstcolumn
627     \global\@firstcolumnfalse
628     \global\setbox\@leftcolumn\box\@outputbox
629   \else
630     \global\@firstcolumntrue
631     \ifdim\ht\curr@nfbox@W@ul>0.5\baselineskip
632       \setbox\@tempboxa\vsplit \curr@nfbox@W@ul to 0.5\textheight
633     \else
634       \setbox\@tempboxb\box\@tempboxa
635     \fi
636     \setbox\@outputbox \vbox\bgroup
637       \box\@tempboxa
638     \nointerlineskip

```

```

639     \hb@xt@\textwidth {%
640       \hb@xt@\columnwidth {%
641         \box\@leftcolumn \hss}%
642       \hfil
643       {\normalcolor\vrule \@width\columnseprule}%
644       \hfil
645       \hb@xt@\columnwidth {%
646         \box\@outputbox \hss}%
647     }%
648   \egroup
649   \ifdim\ht\curr@nfbox@W@ll>0.5\baselineskip
650     \setbox\@tempboxa\vsplit \curr@nfbox@W@ll to 0.5\textheight
651     \setbox\@outputbox\ vbox\bggroup
652       \box\@outputbox
653       \nointerlineskip
654       \box\@tempboxa
655   \egroup
656   \fi
657   \@outputpage
658   \global\size\textheight
659   \global\@colht\textheight
660   \global\@colroom\textheight
661   \fi}

```

`\standard@clearpage` The usual `\clearpage` flushes the floats. We keep it in `\standard@clearpage`

```

662 \let\standard@clearpage\clearpage

```

`\clearpage` Now we can define `\clearpage` to take care of the mode:

```

663 \def\clearpage{%
664   \if@twocolumn
665     \nf@clearpage
666   \else
667     \standard@clearpage
668 \fi}

```

`\nf@totalheight` The total height of all non-floats

```

669 \def\nf@totalheight{\dimexpr(
670   \ht\nfbox@S@UL+
671   \ht\nfbox@S@UR+
672   \ht\nfbox@S@LL+
673   \ht\nfbox@S@LR+
674   \ht\nfbox@T@UL+
675   \ht\nfbox@T@UR+
676   \ht\nfbox@W@UL+
677   \ht\nfbox@W@LL+
678   \ht\nfbox@B@UL+
679   \ht\nfbox@S@ul+
680   \ht\nfbox@S@ur+
681   \ht\nfbox@S@ll+

```

```

682 \ht\nfbox@S@lr+
683 \ht\nfbox@T@ul+
684 \ht\nfbox@T@ur+
685 \ht\nfbox@W@ul+
686 \ht\nfbox@W@ll+
687 \ht\nfbox@B@ul)}

```

`\nf@clearpage` We keep ejecting pages until get rid of nf stuff

```

688 \def\nf@clearpage{%
689 \write\m@ne{}%
690 \if@firstcolumn
691 \ifdim\dimexpr(\pagetotal+\nf@totalheight)>\baselineskip
692 \leavevmode
693 \null\vfill\newpage
694 \null\vfill\newpage
695 \fi
696 \else
697 \leavevmode
698 \null\vfill\newpage
699 \fi
700 \ifdim\nf@totalheight>\baselineskip
701 \nf@clearpage\fi
702 }

```

`\clearspread` This is like `\cleardoublepage`, but with the logic inverted:

```

703 \def\clearspread{\clearpage\ifodd\c@page
704 \hbox{}\newpage\if@twocolumn\hbox{}\newpage\fi\fi\@firstcolumntrue}

```

We need to clear everything at the end

```

705 \AtEndDocument{\if@twocolumn
706 \ifdim\nf@totalheight>\baselineskip
707 \null\vfill\clearpage\fi
708 \fi}

```

3.12 Sectioning

`\if@mainmatter` This is used to check whether we are at main matter

```

709 \newif\if@mainmatter

```

`\frontmatter` We want Arabic numbers for front matter:

```

710 \def\frontmatter{%
711 \pagestyle{frontmatterpagestyle}%
712 \onecolumn\@mainmatterfalse}

```

`\mainmatter` We want Arabic numbers for main matter:

```

713 \def\mainmatter{\loadgeometry{standard}\onecolumn
714 \@mainmattertrue}

```

`\tocdepth` Only sections and up are allowed in TOC:
715 `\setcounter{tocdepth}{1}`

`\secnumdepth` Only the parts are numbered in out setup:
716 `\setcounter{secnumdepth}{-1}`

`\thepart` And the parts are numbered using Arabic numbers:
717 `\renewcommand \thepart {\@arabic\c@part}`

`\c@fao@partnum` To draw the blobs in part color in the proper position, we need to associate them with parts. However, some parts are numbered, some are not. The macro `\fao@partnum` keeps the current part number counted continuously from the beginning to end.
718 `\newcounter{fao@partnum}`
719 `\setcounter{fao@partnum}{0}`

`\fao@currentpartnum` The current value of `\fao@partnum` used in TOC:
720 `\def\fao@currentpartnum{0}`

`\part` The largest partition in the book
721 `\renewcommand\part{%`
722 `\secdef\@part\@spart}`

`\EndPartIntro` This command switches off the special formatting of part pages:
723 `\def\EndPartIntro{\end{adjmulticols}\clearspread\twocolumn\normalcolor`
724 `\pagestyle{standardpagestyle}}`

`iconfill` Fill a line with the icons of increasing size. The parameters are the initial size, length of the strip and the intensity of the background
725 `\def\@maxpart{1}`
726 `\def\iconfill#1#2#3{%`
727 `\expandafter\ifx\csname @icon@1\endcsname\relax\strut\else`
728 `\@tempcnta=1`
729 `\setbox\@tempboxa=\hbox{}}%`
730 `\loop`
731 `\@tempdima=#1`
732 `\setbox\@tempboxa=\hbox{\unhbox\@tempboxa`
733 `\colored@icon@fg[width=\@tempdima]{\csname`
734 `@icon@\the\@tempcnta\endcsname}\#3}\hspace{0.3\@tempdima}}%`
735 `\advance\@tempcnta by 1\relax`
736 `\ifnum\@tempcnta>\@maxpart\relax\@tempcnta=1\fi`
737 `\ifdim\wd\@tempboxa>\#2\else\repeat`
738 `\unhbox\@tempboxa`
739 `\fi}`

`\currenticonfill` Several iterations of the current icon with increasing sizes. The parameters are the initial size, length and the intensity of the background.
740 `\def\currenticonfill#1#2#3{%`

```

741 \expandafter\ifx\csname @icon@\thepart\endcsname\relax\strut\else
742 \setbox\@tempboxa=\hbox{}%
743 \@tempdima=#1
744 \loop
745 \@tempdima=1.44\@tempdima
746 \setbox\@tempboxa=\hbox{\unhbox\@tempboxa
747   \colored@icon@fg[width=\@tempdima]{\csname
748     @icon@\thepart\endcsname}{#3}\hspace{0.2\@tempdima}}%
749 \ifdim\wd\@tempboxa>#2\else\repeat
750 \unhbox\@tempboxa
751 \fi}

```

\@part This is the actual part making macro.

```

752 \def\@part[#1]#2{%
753   \clearspread
754   \onecolumn
755   \clearspread
756   \selectcolor
757   \selecticon
758   \color{@bgcolor}%
759   \rowcolors{2}{@bgcolor!10}{}%
760   \pagestyle{partpagestyle}%
761   \refstepcounter{part}%
762   \addcontentsline{toc}{part}{\thepart\hspace{1em}#1}%
763   \protected@write\@auxout{%
764     {\string\newicon{\thepart}{\currenticon}
765       \string\gdef\string\@maxpart{\thepart}}%
766   \def\@partpagepicture{%
767     \put(-15,-500){\rotatebox{30}{%
768       \iconfill{1.2cm}{0.4\textwidth}{20}%
769       \currenticonfill{1.2cm}{0.6\textwidth}{20}}}%
770     \put(40,-550){\rotatebox{30}{%
771       \iconfill{1.2cm}{1.2\textwidth}{100}}}%
772     \put(40,-600){\rotatebox{30}{%
773       \iconfill{1.2cm}{1.2\textwidth}{20}}}%
774   }
775   \markboth{#1}{#1}%
776   \null
777   \newpage
778   \def\@partpagepicture{\put(160,-180){\rotatebox{30}{\iconfill{1cm}{14cm}{20}}}%
779   \gdef\@partpagepicture{}}
780   {\interlinepenalty \@M
781     \vspace*{80\p@}
782     \captionfamily
783     \fontsize{240\p@}{240\p@}\selectfont\raggedright\thepart~%
784     \parbox[b]{0.8\textwidth}{\fontsize{64\p@}{72\p@}\selectfont
785       \raggedright\null#2\par}\par\vskip80\p@
786   }\par\normalcolor
787   \begin{adjmulticols}{1}{44mm}{0mm}}

```


`\@currentsymbol` he symbol for the next unnumbered part

```

788 \define@choicekey*+{fao}{symbol}[\val\nr]%
789 {righttriangle,square,rightsemicircle}{%
790   \ifcase\nr\relax
791     \gdef\@currentsymbol{(0,0) -- (1ex,0) -- (1ex,1ex) -- cycle}%
792   \or
793     \gdef\@currentsymbol{(0,0) -- (1ex,0) -- (1ex,1ex) -- (0,1ex) --
794       cycle}%
795   \or
796     \gdef\@currentsymbol{(0,0) arc[start angle=90, end angle=-90, x
797       radius = 0.5ex, y radius = 0.5ex] -- cycle}%
798   \fi
799 }{\ClassError{faosyb}{Bad symbol value \val}}
800 \faoset{symbol=square}

```

`\@spart` Unnumbered parts are only in the foreword

```

801 \def\@spart#1{%
802   \cleardoublepage
803   \loadgeometry{frontmatter}%
804   \pagestyle{spartpagestyle}%
805   \onecolumn
806   \selectcolor
807   \selecticon
808   \rowcolors{2}{@bgcolor!10}{}%
809   \phantomsection
810   \addcontentsline{toc}{spart}{\hspace{1em}#1}%
811   \makebox[0pt]{%
812     \raisebox{-\totalheight}%
813     [0pt][0pt]{\rotatebox{90}{\fontsize{9mm}{9mm}\selectfont
814       \captionfamily
815       \tikz\fill[color=@bgcolor]\@currentsymbol;\space
816       \color{gray}#1\strut}}%
817     \hspace*{50pt}}\par\vspace*{-\baselineskip}%
818   \vspace*{-\parskip}}

```

`\sectionmark` We do not want to have uppercase sections in the footers

```

819 \def\sectionmark#1{\markright{#1}}

```

`\section` New sections start on a recto page in one column mode and on a verso page in two column mode

```

820 \renewcommand\section{\par\clearspread
821   \@startsection {section}{1}{\z@}%
822                                     {-1sp}%
823                                     {2.3ex \@plus.2ex}%
824                                     {\normalfont\Large\bfseries\raggedright
825                                     \color{@bgcolor}}}

```

`\subsection` The subsection macro

```

826 \renewcommand\subsection{\@startsection{subsection}{2}{\z@}%

```

```

827 {-1sp}%
828 {1.5ex \@plus .2ex}%
829 {\normalfont\large\bfseries\raggedright
830 \color{@bgcolor}}}
```

3.13 Tables

`\tablepages` Long tables at the end of a part

```

831 \newenvironment{tablepages}{\onecolumn
832 \bgroup\narrowfamily\multicolsep=\z@
833 \vspace*{-2cm}%
834 \def\emph{\textsl}%
835 \begin{adjmulticols}{1}{-1.3cm}{-1.3cm}\centering\normalcolor}%
836 {\end{adjmulticols}\egroup}
```

`\tablemph` Some styles define `\tablemph` commands. Here we supply a stub

```

837 \AtBeginDocument{\providecommand{\tablemph}[1]{\emph{#1}}}
```

We define new column types for table headers:

```

838 \newcolumntype{d}[1]{D{.}{.}{#1}}
839 \newcolumntype{H}{>{\columncolor{@tableheadcolor}}[1.01\tabcolsep][1.01\tabcolsep]c}
```

P columntype is much more complex. Basically we want a centered entry with a parbox of the given width inside.:

```

840 \newcolumntype{P}[1]{>{\columncolor{@tableheadcolor}}[1.01\tabcolsep][1.01\tabcolsep]%
841 \@fao@Pentry{#1}}c<{\end@fao@Pentry}}
```

`\@fao@Pentry` Since `\parbox` needs “real” braces to delimit the argument, we use this trick. Note `\hspace{0pt}` to allow T_EX to hyphenate the first word.

```

842 \def\@fao@Pentry#1#2\end@fao@Pentry{%
843 \parbox[t]{#1}{\centering\strut\hspace{\z@}#2\strut}}
```

Same with C entry:

```

844 \newcolumntype{C}[1]{>{\columncolor{@tableheadcolor}}[1.01\tabcolsep][1.01\tabcolsep]%
845 \@fao@Centry{#1}}c<{\end@fao@Centry}}
```

`\@fao@Centry` This macro is similar to `\@fao@Pentry`, but with different way to set the width of the `\parbox`:

```

846 \def\@fao@Centry#1#2\end@fao@Centry{%
847 \settowidth{\@tempdima}{${-99.999$}}%
848 \@tempdima=#1\@tempdima\relax
849 \parbox[t]{\@tempdima}{\centering\strut\hspace{\z@}#2\strut}}
```

`\LT@makecaption` This macro produces the caption for the long tables. We redefine it to get the tables in the way specified by the designer

```

850 \def\LT@makecaption#1#2#3{%
851 \LT@mcol\LT@cols {@{}}1{\cellcolor{white}}%
852 \rlap{\fcolorbox{white}{@tableheadcolor}{\normalsize
```

```

853 \captionfamily\large\strut
854 \textcolor{white}{#1{\MakeUppercase{#2}: }#3}}}%
855 \begin{picture}(0,0)%
856 \put(.5,-7){\color{@bgcolor}%
857 \begin{tikzpicture}[baseline=(current bounding box.north)]
858 \fill (0,0) -- (\nf@trianglebase,0) --
859 (.5\nf@trianglebase,-\nf@trianglebase) -- cycle;
860 \end{tikzpicture}}
861 \end{picture}\normalcolor
862 \raisebox{-17pt}{\strut}}

```

3.14 Front Matter

`\@generic toc` This is a generic macro with two parameters: name of the toc and file extension

```

863 \def\@generic toc#1#2{\clearpage\loadgeometry{standard}%
864 \pagestyle{frontmatterpagestyle}\onecolumn
865 {\fontsize{48pt}{48pt}\selectfont
866 \captionfamily\color{black!40}#1\par}\@mkboth{#1}{#1}\bigskip
867 \@starttoc{#2}}

```

`\tableofcontents` Our table of contents

```

868 \renewcommand\tableofcontents{\clearpage\loadgeometry{standard}%
869 \pagestyle{frontmatterpagestyle}\onecolumn
870 \@mkboth{\contentsname}{\contentsname}%
871 \makebox[0pt][l]{\fontsize{24pt}{32pt}\selectfont \bfseries
872 \color{black!70}\MakeUppercase{\contentsname}\space}%
873 \par\vspace{-2\baselineskip}\vspace{-\parskip}%
874 \@starttoc{toc}}

```

`\@tocpartskip` This is the skip between the parts in TOC:

```

875 \newlength{\@tocpartskip}
876 \define@key{fao}{tocpartskip}{\setlength{\@tocpartskip}{#1}}
877 \faoset{tocpartskip}=\z@

```

`\@fao@tocrule@start` The start of the current TOC colored rule

```
878 \newdimen\@fao@tocrule@start
```

`\@fao@tocrule@height` The height of the current TOC rule

```
879 \newdimen\@fao@tocrule@height
```

`\@draw@tocrule@part` Drawing the toc rule for a part

```

880 \def\@draw@tocrule@part{\@fao@tocrule@height=\pagetotal
881 \protected@write\@auxout{}\{\string\@fao@partblobbottom{\@fao@currentpartnum}{\the\@fao@tocrule@height}\}
882 \advance\@fao@tocrule@height-\@fao@tocrule@start
883 \bgroup\parskip\z@
884 \parbox[b][\z@]{\z@}{\hspace*{-15\p@}\color{@bgcolor}\rule{2\p@}{\@fao@tocrule@height}}%
885 \parbox[b][\z@]{\z@}{\hspace*{330\p@}}%
886 \color{@bgcolor}\rule{41\p@}{\@fao@tocrule@height}}%
887 \par\vspace{-0.5\baselineskip}\egroup

```

```

\@draw@tocrule@section Drawing the toc rule for a section
888 \def\@draw@tocrule@section{\@fao@tocrule@height=\pagetotal
889 \protected@write\@auxout{}\string\@fao@partblobbottom{\@fao@currentpartnum}{\the\@fao@tocrule@height}
890 \advance\@fao@tocrule@height-\@fao@tocrule@start
891 \advance\@fao@tocrule@height5\p@
892 \bgroup\parskip\z@\small
893 \raisebox{\baselineskip}[\z@][\z@]{\parbox[b][\z@]{\z@}{\hspace*{-35\p@}\color{\@bgcolor}\rule{41\p@}{\@fao@tocrule@height}}}%
894 \raisebox{\baselineskip}[\z@][\z@]{\parbox[b][\z@]{\z@}{\hspace*{310\p@}%
895 \color{\@bgcolor}\rule{41\p@}{\@fao@tocrule@height}}}%
896 \par\vspace{-\baselineskip}\egroup}

\l@part This prints the part in TOC:
897 \renewcommand*\l@part[2]{%
898 \ifnum \c@tocdepth >-2\relax
899 \addpenalty{-\@highpenalty}%
900 \setlength\@tempdima{3em}%
901 \addvspace{\@tocpartskip}%
902 \begingroup

We store the current vertical position of the page into \@fao@tocrule@start
903 % \addvspace{-2pc}\par
904 \@fao@tocrule@start=\pagetotal
905 \protected@write\@auxout{}\string\@fao@partblobtop{\@fao@currentpartnum}{\the\@fao@tocrule@height}
906 \parindent \z@ \rightskip \@pnumwidth
907 \parfillskip -\@pnumwidth
908 \leftskip180\p@
909 {\leavevmode
910 \color{\@bgcolor}\bfseries\partname\space#1:
911 \hfil \hb@xt@\@pnumwidth{\hss #2}}%
912 \par\@draw@tocrule@part
913 \nobreak
914 \global\@nobreaktrue
915 \everypar{\global\@nobreakfalse\everypar{}}%
916 \endgroup
917 \fi}

\l@spart This adds unnumbered part to TOC
918 \newcommand*\l@spart[2]{%
919 \ifnum \c@tocdepth >-2\relax
920 \addpenalty{-\@highpenalty}%
921 \setlength\@tempdima{3em}%
922 \begingroup
923 \@fao@tocrule@start=\pagetotal
924 \protected@write\@auxout{}\string\@fao@partblobtop{\@fao@currentpartnum}{\the\@fao@tocrule@height}
925 \parindent \z@ \rightskip \@pnumwidth
926 \parfillskip -\@pnumwidth
927 \leftskip180\p@
928 {\leavevmode
929 \color{\@bgcolor}\bfseries#1:
930 \hfil \hb@xt@\@pnumwidth{\hss #2}}%

```

```

931 \par\@draw@tocrule@part
932 \nobreak
933 \global\@nobreaktrue
934 \everypar{\global\@nobreakfalse\everypar{}}%
935 \endgroup
936 \fi}

```

`\l@section` This prints the section in TOC:

```

937 \renewcommand*\l@section[2]{%
938 \ifnum \c@tocdepth >-2\relax
939 \addpenalty{-\@highpenalty}%
940 \setlength\@tempdima{3em}%
941 \begingroup
942 \small
943 \@fao@tocrule@start=\pagetotal
944 \leftskip200\p@\relax\parskip\z@
945 \parindent \z@ \rightskip \@pnumwidth
946 \parfillskip -\@pnumwidth
947 {\leavevmode\small\strut
948 #1\hfil \hb@xt@\@pnumwidth{\hss #2}}\par\@draw@tocrule@section
949 \nobreak
950 \global\@nobreaktrue
951 \everypar{\global\@nobreakfalse\everypar{}}%
952 \endgroup
953 \fi}

```

`\appendix` We do not draw colored rules in the TOC part of the appendix:

```

954 \renewcommand\appendix{%
955 \bookmarksetup{startatroot}%
956 \addtocontents{toc}{\string\let\string\@draw@tocrule@part\string\relax
957 \string\let\string\@draw@tocrule@section\string\relax}}

```

We use special formatting of metadata in the lists of... This requires explicit `\pars` at the end:

```

958 \AtEndDocument{%
959 \immediate\write\@auxout{\string\@writefile{loc}{\string\par}}%
960 \immediate\write\@auxout{\string\@writefile{lot}{\string\par}}%
961 \immediate\write\@auxout{\string\@writefile{lom}{\string\par}}}

```

`\nf@dottedtocline` This is like the standard `\@dottedtocline`, but with colored page numbers

```

962 \def\nf@dottedtocline#1#2#3#4#5{%
963 \ifnum #1>\c@tocdepth \else
964 \vskip \z@ \@plus.2\p@
965 {\leftskip #2\relax \rightskip \@tocrmarg \parfillskip -\rightskip
966 \parindent #2\relax\@afterindenttrue
967 \interlinepenalty\@M
968 \leavevmode
969 \@tempdima #3\relax
970 \advance\leftskip \@tempdima \null\nobreak\hskip -\leftskip

```

```

971      {#4}\nobreak
972      \leaders\hbox{$\m@th
973          \mkern \@dotsep mu\hbox{.}\mkern \@dotsep
974          mu$}\hfill
975      \nobreak
976      \hb@xt@\@pnumwidth{\hfil\normalfont\color{@bgcolor}#5}%
977      \par}%
978      \fi}

\l@nonfloat The generic listing of a nonfloat in a list
979 \newcommand*\l@nonfloat{\nf@dottedtocline{1}{\z@}{2.3em}}

\numberline The number in table of contents
980 \def\numberline#1{%
981     \raisebox{\z@}[\z@][\z@]{%
982         \fcolorbox{@bgcolor}{@bgcolor}{%
983             \hb@xt@\@tempdima{\color{white}#1\strut\hfil}}}\hspace{2em}}

\listofmaps Our list of maps
984 \newcommand\listofmaps{\@generic toc{\listofmapsname}{lom}}

\l@map Entry in the list of maps
985 \let\l@map\l@nonfloat

\listoftables Our list of tables
986 \renewcommand\listoftables{\@generic toc{\listtablename}{lot}}

\l@table Entry in the list of tables
987 \let\l@table\l@nonfloat

\listofcharts Our list of charts
988 \newcommand\listofcharts{\@generic toc{\listofchartsname}{loc}}

\l@chart Entry in the list of charts
989 \let\l@chart\l@nonfloat

```

3.15 Metadata

```

\metadatassection The section for metadata:
990 \newcommand\metadatassection[1]{\clearspread\twocolumn\normalcolor
991     \section{#1}}

\metadata This starts the metadata section. The commands inside are local to the metadata.
992 \def\metadata#1{\bgroup
993     \def\meta@key{@@@}%

```

Now we define the commands for metadata:

`\key` This sets the key:

```

994 \def\key##1{\NR@gettitle{##1}\phantomsection\label{##1}%
995 \gdef\meta@key{##1}}

```

`\source` This typesets the source:

```

996 \def\source##1{\emph{Source: }##1. }%

```

`\owner` This typesets the owner:

```

997 \def\owner##1{\emph{Owner: }##1. }%

998 \begin{list}{}{\topsep8\p@\labelwidth\z@
999 \labelsep\z@\itemindent\z@\parsep0.4ex plus 0.5ex minus
1000 0.2ex\relax\listparindent\z@\leftmargin\z@\rightmargin\z@
1001 \partopsep\z@}%
1002 \item{\bfseries\textbullet~#1\par\penalty10000}}

```

`\endmetadata` This closes the environment:

```

1003 \def\endmetadata{%
1004 \expandafter\ifx\csname
1005 metaback@\meta@key\endcsname\relax
1006 \else
1007 \emph{Referenced in: }
1008 \csname metaback@\meta@key\endcsname
1009 \fi
1010 \end{list}\egroup}

```

`\refMetadata` The way we actually reference the metadata:

```

1011 \def\refMetadata#1{%
1012 \ifx\@capttype\@undefined\def\@capttype{table}\fi
1013 \if@filesw
1014 \immediate\write\@mainaux{%
1015 \string\fao@metaback{#1}{\@capttype}{\csname the\@capttype\endcsname}{\thepage}{\@currentpage}}
1016 \fi
1017 }

```

`\fao@metaback` This reads the backreferences to metadata and prepares the the list. The arguments are: key, float type, number of float, page and hyperref

```

1018 \def\fao@metaback#1#2#3#4#5{%
1019 \expandafter\ifx\csname metaback@#1\endcsname\relax
1020 \expandafter\gdef\csname metaback@#1\endcsname{%
1021 \hyper@linkstart{link}{#5}#2~#3\hyper@linkend}%
1022 \else
1023 \expandafter\g@addto@macro\csname metaback@#1\endcsname{,
1024 \hyper@linkstart{link}{#5}#2~#3\hyper@linkend}%
1025 \fi}

```

3.16 Further Reading

`\fitemize` This is the special version of `itemize` for further reading pages. Basically it is a patched kernel version.

```
1026 \def\fitemize{%
1027   \ifnum \@itemdepth >\thr@@\@toodeep\else
1028     \advance\@itemdepth\@ne
1029     \edef\@itemitem{labelitem\romannumeral\the\@itemdepth}%
1030     \expandafter
1031     \list
1032       \csname\@itemitem\endcsname
1033       {\def\makelabel##1{\color{@bgcolor}{##1}\space}%
1034        \itemsep\z@\labelwidth\z@
1035        \leftmargin\z@\labelsep\z@}%
1036   \fi}
```

`\endfitemize` This is standard:

```
1037 \let\endfitemize =\endlist
```

`\freading` This is the “Further Reading environment”

```
1038 \newenvironment{freading}{%
1039   \vfill\section*{Further reading}\par
1040   \vspace{-\baselineskip}{\color{@bgcolor}{\rule{\columnwidth}{1.5pt}}}\par
1041   \vspace{-\baselineskip}\bgroup
1042   \let\itemize=\fitemize
1043   \let\enditemize=\endfitemize}{\egroup}
```

3.17 Publications

`\@publicationskip` Skip between the publications. By default `\medskip`:

```
1044 \newlength{\@publicationskip}
1045 \define@key{fao}{publicationskip}{\setlength{\@publicationskip}{#1}}
1046 \faoset{publicationskip=6pt plus 2pt minus 2pt}
```

`\@publicationparskip` Paragraph skip between the publications.

```
1047 \newlength{\@publicationparskip}
1048 \define@key{fao}{publicationparskip}{\setlength{\@publicationparskip}{#1}}
1049 \faoset{publicationparskip=6pt plus 6pt minus 4pt}
```

`\publication` This typesets one publication:

```
1050 \newenvironment{publication}[2][]{%
1051   \par{\bfseries#2\par}\begin{minipage}[t]{0.49\columnwidth}%
1052     \setlength{\parskip}{\@publicationparskip}%
1053     \gdef\pub@cover{#1}%
1054     \long\def\pDescription##1{\par##1\par}%
1055     \def\pEdition##1##2{\par##1: ##2\par}%
1056     \def\pCycle##1{\par Publication cycle: ##1\par}%
1057     \def\pWeb##1{\par \raggedright Webpage: \url{##1}\par}}%
1058   {\end{minipage}}%
```



```

1059 \ifx\@pub@cover\@empty\else
1060 \hspace{0.1\columnwidth}%
1061 \raisebox{\dimexpr\baselineskip-\totalheight}{\%
1062 \includegraphics[width=0.4\columnwidth]{\@pub@cover}}\fi\par
1063 \vspace{\@publicationskip}}

```

3.18 Subscripts

`\textsubscript` This follows standard L^AT_EX:

```

1064 \DeclareRobustCommand*\textsubscript[1]{%
1065 \@textsubscript{\selectfont#1}}
1066 \def\@textsubscript#1{%
1067 {\m@th\ensuremath{_{\mbox{\fontsize\sf@size\z@#1}}}}}

```

3.19 LyX code

`\lyxlist` It seems Lyx wants this:

```

1068 \newenvironment{lyxlist}[1]
1069 {\begin{list}{\setlength{\labelwidth}{#1}}
1070 {\setlength{\leftmargin}{\labelwidth}}
1071 {\setlength{\leftmargin}{\labelwidth}}
1072 {\addtolength{\leftmargin}{\labelsep}}
1073 {\renewcommand{\makelabel}[1]{##1\hfil}}}
1074 {\end{list}}

```

3.20 The final word

```

1075 \setbgcolor{gray}\selectcolor
1076 \loadgeometry{standard}%
1077 \pagestyle{empty}
1078 \normalsize\normalfont
1079 \end{class}

```

References

- [1] Boris Veytsman. *L^AT_EX Style for FAO Yearbook*. FAO UN, 2011.
- [2] UK T_EX Users Group. UK list of T_EX frequently asked questions. <http://www.tex.ac.uk/cgi-bin/texfaq2html>, 2008.
- [3] Pavel Farář. *Support Package for Free Fonts by ParaType*, May 2011. <http://mirrors.ctan.org/fonts/paratype>.
- [4] Stephen G. Hartke. *Arev Sans for T_EX and L^AT_EX*, May 2006. <http://mirrors.ctan.org/fonts/arev>.
- [5] Uwe Kern. *Extending L^AT_EX's Color Facilities: the xcolor Package*, January 2007. <http://mirrors.ctan.org/macros/latex/contrib/xcolor>.

Change History

1.3		General: Added Further Reading	
	\@spart: Rewrote	from the old code	40
1.4		Added metadata from the old	
	\@spart: Changed fonts	code	38
2013/12/16		Added Pubs from the old code	40
	\@currentsymbol: T	partpagestyle: Changed position	
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v0.2		Rewrote using tikz	18
	\@part: Changed formatting . . .	\EndPartIntro: Added \normalcolor	
	iconfill: Rewrote	31
	\EndPartIntro: Deleted \clearspread	\evenfootmark: Introduced macro	16
	\frontmatter: Deleted change in	
	\newicon: Added macro	the pagenumbers	30
	\section: Redefined	\LettrineFontHook: Redefined . .	13
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	\@generic toc: Added macro . . .	pagenumbers	30
	\@toc@ext@list: ll	\metadata: Rewrote	38
	\EndPartIntro: Restored	\metadatassection: Added macro	38
	\clearspread	\nf@opcol: Typo corrected	28
	\l@chart: Added macro	\oddfootmark: Introduced macro	16
	\l@map: Added macro	\subsection: Redefined	33
	\l@nonfloat: Added macro	\tableofcontents: Rewrote	35
	\l@table: Added macro		
	\listofcharts: Added macro . . .	v1.4	
	\listofchartsname: Added macro	\@generic toc: Added geometry	
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	\colored@icon@fg: Added macro	\frontmatter: Added new geome-	
	iconfill: Rewrote	try	30
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	\colored@icon@fg: Added argu-	\nf@dottedtocline: Introduced	
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	iconfill: Rewrote	\nf@sourceheight: Changed . . .	19
	\currenticonfill: Added macro	frontmatterpagestyle: Intro-	
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