Book Production

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Producing a book is comparable to making a wooden window. It is absolutely necessary to have a plan to work by. Materials need to be collected and only then can the cutting and preparing of the necessary pieces begin. Likewise for the production of a book, one must consider the needs of the typographer, the printer and the bookbinder. With regard to the typographer using ConTEXt, three special case examples are described and illustrated with pictures and sample code.

The Making of a Wooden Window

Having taken the dimensions of the window at the site of where it is to be placed, it is time to make a drawing to ensure that the end-product fits the requirements of the client and the place where it is to go. In the case of this example, I needed to make a single glass window which was to be put on the inside. The original iron window is under a preservation order so it had to stay intact. In order to minimize condensation and loss of heat through the iron window, it was decided to place another window on the inside. A nice aspect of this design is that the niche created will provide a good spot for putting decorations. Beyond the drawing for the window, decisions also need to be made about the type of wood to be used, the window fittings to be placed and last but not least, the kind of finish which should be applied to the wood.

In a few steps that would look like figure 1 to 6.

Book Project

The cycle of making a book is comparable to the making of a wooden window in that it requires one to setup a strategy/plan to arrive at the final book. Unlike the wooden window project, the development of a book usually involves different parties. There is the designer of the layout, the print shop and also at the end, the bookbinder. Each of them has their wishes and requirements which need to be considered throughout the project.

The Book from the Typographer's Viewpoint

First of all, the dimensions of the book need to be established. They must fit the material to be presented in the book. Further, we should know whether the book is going to have pictures or color elements, because this will influence the type of paper we will use for printing. Then the page must be given a layout and questions about the whitespace around the typesetting area need to be answered so that the
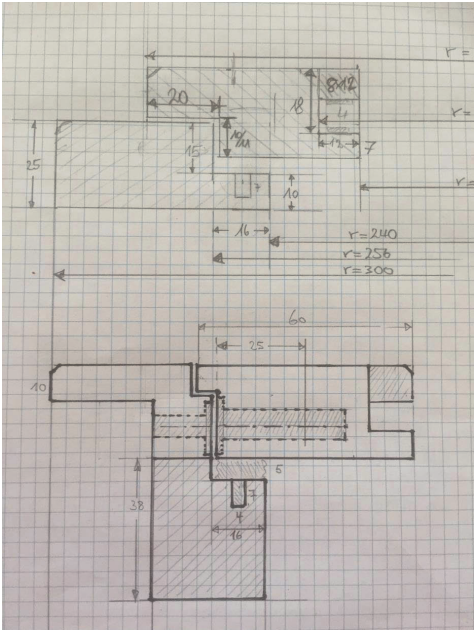
Figure 1. Drawing

Figure 2. Frame Building

Figure 3. Window Frame Building

Figure 4. Window Glass Fixtures

spread of the book has the right look-and-feel. Further, choices about section head-ings, appearance of lists, tables, comments have to be made. Do we want a running header and what should it contain? Where should the page numbering go? Does the type of book require a footer? Do we have footnotes and how should they look? How

Figure 5. Place in the Home

Figure 6. Window in Place

will pictures be placed? Will we make use of bleeding pictures? Does the book need an index? Do we have a bibliography to append? How should the table of contents look? Are there any graphical elements to be placed at the end of a chapter? And last but not least, the question about the font(s) to be used must be answered. There are more elements to be considered and decided upon: title page(s), editorial, ISBN etc. – I admit that this list is probably incomplete, but it shows how important it is to consider all the elements in order to have a good plan along by which a typographer can perform their job.

With all this information gathered, the layout of the book can be established. When all fits, the content of the book can be made up and typeset. At this stage the book is in electronic form and can already be viewed.

The Book from the Printer's Viewpoint

The printing process to be used depends on the print run (number of copies). For large runs, offset printing is still advisable, and the printer will tell you how they need the electronic book to be delivered. In some cases they might want color separated files in order to prepare the printing plates, although usually the print shop will take care of the positioning of the pages on the sheets (imposition).

On the other hand, for small print runs, the printer may opt for digital printing. In this case, it might make sense to deliver the electronic book with arranged (imposed) pages.

Considering the type and contents of the book, the printer will make suitable suggestions for the choice of paper. The choice of paper could be completely different depending on the printing method.

The Book from the Bookbinder's Viewpoint

When printed material is being turned into a book, the bookbinder likes to be involved at an early stage. In projects, decisions must be made about what kind of binding to use. Will the book be sewn or will it be glued up (perfect bound)? What will be the cover material, printing paper, bookbinder's cloth, combinations of both? How big, that is how thick and how heavy, will the book block be? How thick should the cover boards be?

It is also important to emphasize again that the grain direction of the paper should be parallel to the spine. If the book is printed with the wrong grain direction, page turning is hampered and the heavier the paper, the more pronounced the problem. As a book lover, you will always be unhappy when opening a book which has been printed with the wrong grain direction!

The type of binding will influence the width of the gutter margin, either for cutting and gluing up the book block or for folding the sections.

If you're planning on a hardcover, the weight of the book block will have an influence on its thickness because the cover, in technical terms, has the primary function of protecting the book block.

It must also be mentioned that the bookbinder is not always very happy with digitally printed material. In this method there often are fuser oils (silicone) involved which makes it almost impossible to glue the paper. So whenever possible, you should ask to keep the gluing areas free of these oils.

It should also be mentioned that there are cases in which the client or publishing house requires special bindings e.g. leather bindings with tooling and gilding or maybe edge gilding needs to be applied. Often such luxury bindings require a careful choice of the paper, because not all papers are suitable for edge gilding. Also, one needs to carefully evaluate the suitability of the cover material (e.g. goat vs. sheep or calf leather; calf, goat or sheep parchment; exotic hides like ray skin, ostrich leather etc.).

Some Typographical Challenges

ConTeXt is a wonderful tool for preparing a book in electronic form. It not only provides a vast range of possibilities for typesetting, it also provides the possibility to prepare a book already arranged on sheets. This can then be given to the print shop with the simple order to print it.

However before we can go to the print shop, we must often clear a few hurdles. In the following I'll present some of the challenges that I have encountered during recent book projects.

Ornaments at the Section End

In a book taken from the Project Gutenberg library, there were two different ornaments which were placed at the end of the chapter depending on whether it was odd or even. The original omitted the ornament when the chapter ended at the bottom of the page, i. e. when there was not enough space left on the page for a decoration. This behavior should also be respected in the ConTEXt version of the book. With help from Taco Hoekwater and Wolfgang Schuster, the following solution was found:


```
\definepagechecker
  [willi]
  [method=1,before=,after=,inbetween={\setups{endsection}}]

\def\stopmysection
  {\checkpage[willi][lines=4]}

\def\stopmysubject
  {\checkpage[willi][lines=4]}

\startsetups[section:odd]
  \vfil
```

```
   \placefigure
     [middle,none]
     []
     {}
     {\externalfigure[ornament2][height=2\lineheight]}
   \stopsection
\stopsetups

\startsetups[section:even]
   \vfil
   \placefigure
     [middle,none]
     []
     {}
     {\externalfigure[ornament1][height=2\lineheight]}
   \stopsection
\stopsetups

\startsetups endsection
   \ifodd\namedheadnumber{section}
     \directsetup{section:odd}
   \else
     \directsetup{section:even}
   \fi
\stopsetups
```

The wrapper \checkpage uses before= and after= if the test forces a page break, otherwise the inbetween= is executed. This behaviour results in precisely what we need, i. e. if there is enough space, an ornament is placed, otherwise a page break is executed.

A Strange Table of Contents

In a book about beekeeping, also taken from Project Gutenberg, we encountered a rather strange type of ToC. As shown in the picture, each chapter is mentioned with its title and the page number. All the "sections" within each chapter are presented as a block of continuous titles and page numbers. The reason that I put sections in quotes is that the book's sections are actually references to statements in the text and not actual headings.

```
\unexpanded\def\Mysectioncommand#1#2#3{#2,\hskip0.5\bodyfontsize
#3.\quad}

\setuplist
       [chapter]
       [prefix=no,
        after={\blank},
```

CONTENTS.

```
    starter={\WORD{chapter~}},
    distance={5.5em}]


\setuplist
       [section]
       [prefix=no,
        sectionnumber=no,
        headnumber=no,
        alternative=command,
        command=\Mysectioncommand]


% ...
\writetolist[section]{}{Deplorable state of bee-keeping. New era
anticipated}
% ...
\writetolist[section]{}{Superiority of movable comb hive}
```

Influencing the Breaking of Lists

Sometimes when generating lists, the breaking of the contents is not as one would expect, however, there is a way to influence its behavior. It is important that these commands are used only in the final fine-tuning stage of the project. The two commands involved are `\showinjector` and `\setinjector`. They have both two arguments: `list` and `register`. These can be used singularly or in combination i.e. `\showinjector[list]` or `\showinjector[list,register]`.

If we issue the command `\showinjector[list,register]` and compile the document, we will see sequential numbers in the margin that indicate the position in the given list.

Table of Contents

Output of `\showinjector`

Now we can see where we want to use an injector i. e. a pointer to the list item where an action must be taken. We can insert different commands as the argument to the injector e. g. `\page` or `\column` or `\blank[big]` etc.

After running the document again we can see the effect of the set injectors. It should be mentioned that those items that have undergone a `\setinjector`-action are now labeled in red color.

Register

<1> **f**
<2> first   *5, 8, 11*

<3> **s**
<4> second   *6, 9, 12*

<5> **t**
<6> third   *7, 10, 13*
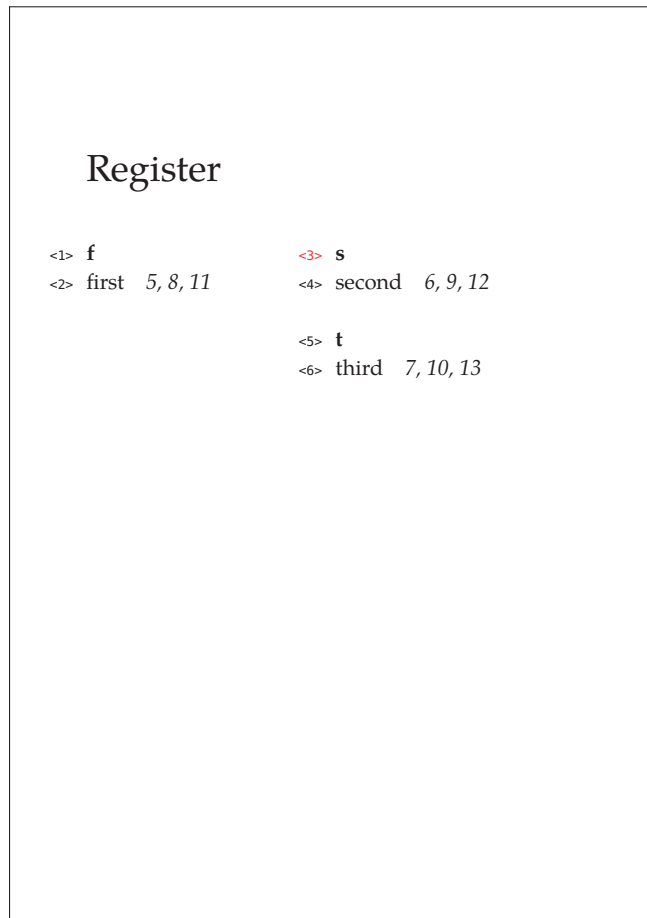
Output after Inserting Injectors

The example code looks as follows:

```
\showinjector[list,register]

\setinjector[register][3][\column]
\setinjector[list]    [3][{\blank[6*big]}]

\starttext
  \starttitle[title=Table of Contents]
    \placelist[chapter,section][criterium=all]
  \stoptitle
      \starttitle[title=Register]
    \placeregister[index][criterium=text]
  \stoptitle
  \starttitle[title=Figures]
    \placelistoffigures
      \stoptitle

      \dorecurse{3}
    {\startchapter[title=Alpha] first  \index{first}
     \startsection[title=Alpha] first  \index{first}
       \startplacefigure
         [title=test-figure]
         {\externalfigure[hacker][width=.5\textwidth]}
       \stopplacefigure
      \stopsection
              \stopchapter
    \startchapter[title=Beta]  second \index{second}
      \startsection[title=Beta]  second \index{second}
\stopsection
              \stopchapter
    \startchapter[title=Gamma] third  \index{third}
      \startsection[title=Gamma] third  \index{third}
\stopsection
     \stopchapter
              }
\stoptext
```

Acknowledgment