A Simple Book Design in ConTeXt

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Abstract

As a test of book design implementation in ConTeXt, I report on a design for
A Voyage to Arcturus by David Lindsay, including page setups, chapter heads,
headers, and typescripts for fonts.

1 Motivation

Whenever I learn a new \TeX system, I try to im-
plement a design for a significant number of pages.
Many years ago, when I was learning \LaTeX \textbf{(2.09)}, I
wrote a rawls.sty to mimic Harvard Press’s design
for John Rawls’s A Theory of Justice \textbf{[3]}, a design
that featured a number of interesting features: not
only were there parts, chapters, and sections, but
the sections were numbered consecutively through-
out the book, orthogonally to the chapters. So the
first section of Chapter 3, say, might be numbered
section 16. Page headers had rules under the head-
er texts. I mention all this because in those pre-
\LaTeX\textbf{2\epsilon} days, it was far from trivial to make sub-
stantive changes to the default styles. I remember
studying Don Knuth’s (plain) code for his Computer
Journal article on Literate Programming and think-
ing what a nightmare it would be to implement in
\LaTeX\textbf{; but that was 1988. Matters have certainly
improved since then.}

When I first encountered Con\TeX I was imme-
diately impressed by the setups mechanism of key/
value pairs approach to a design interface. I began
using Con\TeX\textbf{t} for typesetting internal documenta-
tion here at the Duke Press (coded in DocBook XML
and processed using Simon Pepping’s Docbook In
Con\TeX\textbf{t} \textbf{[2]}). But I had in mind all along trying out
Con\TeX\textbf{t} in a larger project. I wanted to see
how easy it would be to render a book design com-
pared to \LaTeX\textbf; I suspected it would be much easier;
I was right.

2 The Text

When I discovered that a very strange book I had
first read as a youth, A Voyage to Arcturus by David
Lindsay \textbf{[1]}, had been deposited in Project Guten-
berg, I knew I had my text. In the event, the OCR
text was quite corrupt, and it took a while to make
the necessary edits to bring it to an acceptable stan-
dard.

The design I had in mind for the book was based
on a mathematics text I read in college. The unify-
ing theme was a vertical rule separating visual ele-
ments of the chapter headings and page headers.

3 Fonts

I decided to use a Bembo clone (called Bergamo) for
the text and an Optima clone (called Opus) for the
chapter headings and header texts. Both are from
the FontSite 500 collection \textbf{[4]}.

Observant readers who know the Berry naming
conventions will see that Bergamo contains both full
‘f’ ligatures and old-style numerals.

In the following I declare that maths be in
scaled Palatino (even though in this project there
are no maths). I find that Palatino for maths blends
well with Bergamo, and I wanted to go ahead and
set this up for future projects.

\starttypescript [serif] [bergamo] [ec]
\definefontsynonym [Bergamo-Roman] [5borjx8t] [encoding=ec]
\definefontsynonym [Bergamo-Bold] [5bobjx8t] [encoding=ec]
\definefontsynonym [Bergamo-Italic] [5borix8t] [encoding=ec]
\definefontsynonym [Bergamo-Bold-Italic] [5bobix8t] [encoding=ec]
\definefontsynonym [Bergamo-Caps] [5borcj8t] [encoding=ec]
\definefontsynonym [Bergamo-Bold-Caps] [5bobcj8t] [encoding=ec]
\stoptypescript

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The code for Opus is similar. I store these typescripts in `type-fontsite.tex` and invoke them. Note that I use hanging punctuation and open up the lines to improve readability.

\begin{verbatim}
\usetypescript[serif] [hanging] [pure]
\usetypescript[berry] [ec]

% Load Bergamo and Opus fonts,
% declare sizes and leading.
% Looks better with lines opened a bit.
\usetypescriptfile[type-fontsite]
\usetypescript[Bergamo]
\setupbodyfont[Bergamo,10pt]
\setupinterlinespace[line=1.35em]
\setupalign[hanging]
\end{verbatim}

4 Chapter Heads, Page Headers and Footers

I set up the heads with these options

\setuphead
[chapter]
[page=yes, before=\blank[force,4*line], after=\blank[4*line], command=\mychap]

Note the \texttt{command} option. This allows me to design my own chapter head appearance. \texttt{\mychap} looks like this (#1 refers to the chapter number, and #2 refers to the chapter title):

\begin{verbatim}
\def\mychap#1#2% 
{\hbox to \hsize \bgroup 
\hfill \setupframed \[offset=0.5em,frame=off\]% 
\tbox \{\framed \[width=2cm,align=left\] \ss #1\} \% 
\tbox \{\framed \[width=.5\textwidth, align=flushright, leftframe=on\] \hyphenpenalty 10000 \ss #2\} \%
\egroup}
\end{verbatim}

I want dropped caps for my chapter openers, and small caps afterwards for a certain number of words that I choose. (It is also possible to set this up so the entire first line is in small caps automatically; but I prefer to choose my own breaks.) The dropped cap will be in Opus, be 3 \texttt{\baselineskip}s tall, be dropped one line, and have 2 points of padding.

\begin{verbatim}
\def\Drop \{\DroppedCaps \{} \Sans \{3\baselineskip\} \{2pt\} \{1\baselineskip\} \{2\} \%
\end{verbatim}

\begin{verbatim}
\def\chap#1/#2/\{\Drop #1\{\sc#2\} \}
\end{verbatim}

so I can say

\begin{verbatim}
\chapter{The S\’eance}
\end{verbatim}

\begin{verbatim}
\chap O/n a march evening/, at eight o\’clock, Backhouse, the
\end{verbatim}

You can see the result in Figure 1.

To unify the design, I make the headlines mirror the chapter openers, with a vertical rule separating verso the page number and book title and recto the chapter title and page number, all in Opus. First I declare doublesided pages and turn off auto page-number placement. Then I specify a different scheme for chapter opening pages.

\begin{verbatim}
\def\mychap#1#2% 
{\hbox to \hsize \bgroup 
\hfill \setupframed \[offset=0.5em,frame=off\]% 
\tbox \{\framed \[width=2cm,align=left\] \ss #1\} \% 
\tbox \{\framed \[width=.5\textwidth, align=flushright, leftframe=on\] \hyphenpenalty 10000 \ss #2\} \%
\egroup}
\end{verbatim}
A page spread can be seen in Figure 2.
Now I specify the Table of Contents:

\begin{itemize}
\item \textbf{5 Setting Up the Pages}
\end{itemize}

Last (actually first) I set up the pages and a switch for page imposition. Pay attention to the commented lines for crop marks, etc.

% Set the sizes.
\begin{verbatim}
some code
\end{verbatim}
\setuplanguage [en] [spacing=broad] % french spacing

Finally, for output targeted for a computer screen instead of print, I can say

\setppapersize[S6][S6] \setupinteraction[state=start]

I can’t argue emphatically enough for this approach to books and articles destined for a computer screen. The advantages to making one’s way through the text by just the touch of the space bar are, to me, self evident.

6 Future Work

Clearly, implementing a simple design in Con\TeX is quite straightforward. In fact, the advantages of using Con\TeX become more obvious the more complicated the document design. I hope that this article might motivate others to give Con\TeX a try for their own typesetting projects.

Eventually I plan to code the book in XML along with supporting files for browser display and direct typesetting with Con\TeX. For the moment, I will post the screen version at \url{http://www.duke.edu/~grath/arcS6.pdf}, after a friend designs a suitable cover page for it. Other versions will follow when ready.

But be warned—many have found Lindsay’s philosophy detestable (a worship of suffering is one characteristic of it). The English writer C. S. Lewis certainly found it so, even if the book did influence his wonderful space novels.

Acknowledgments. Thanks are due to Hans Hagen for improving my humble code in places and for writing the Con\TeX \textit{TUGboat} style.

References

[1] Lindsay, David, \textit{A Voyage to Arcturus}, London, Methuen, 1920. Text available at Project Gutenberg: \url{http://www.gutenberg.net/etext/1329}. Other, corrupt editions can be found on \url{amazon.com}.


[4] FontSite. \url{http://www.fontsite.com}. \TeX font metrics and \LaTeX support files by Christopher League are available at \url{http://contrapunctus.net/league/haques/fs500tex/}.
On a March evening, at eight o'clock, Backhouse, the medium—a fast-rising star in the psychic world—was ushered into the study at Prolands, the Hampstead residence of Montague Faull. The room was illuminated only by the light of a blazing fire. The host, eying him with indolent curiosity, got up, and the usual conventional greetings were exchanged. Having indicated an easy chair before the fire to his guest, the South American merchant sank back again into his own. The electric light was switched on. Faull’s prominent, clear-cut features, metallic-looking skin, and general air of bored impassiveness, did not seem greatly to impress the medium, who was accustomed to regard men from a special angle. Backhouse, on the contrary, was a novelty to the merchant. As he tranquilly studied him through half-closed lids and the smoke of a cigar, he wondered how this little, thick-set person with the pointed beard contrived to remain so fresh and sane in appearance, in view of the morbid nature of his occupation.

“Do you smoke?” drawled Faull, by way of starting the conversation.

“No? Then will you take a drink?”

“Not at present, I thank you.”

A pause.

“Everything is satisfactory? The materialisation will take place?”

“I see no reason to doubt it.”

“That’s good, for I would not like my guests to be disappointed. I have your check written out in my pocket.”

“Afterward will do quite well.”

“Nine o’clock was the time specified, I believe?”

“I fancy so.”

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Figure 1 A chapter opening page
"It is Shaping stripped of illusion."

"How comes this horrible world to exist?"

"Catice did not answer."

"Who is Surtur?"

"You will get nearer to him tomorrow; but not here."

"I am wading through too much blood," said Maskull. "Nothing good can come of it."

"Do not fear change and destruction; but laughter and joy."

"Maskull meditated."

"Tell me, Catice. If I had elected to follow Spadevil, would you really have accepted his faith?"

"He was a great-souled man," replied Catice. "I see that the pride of our men is only another sprouting—out of pleasure. Tomorrow I too shall leave Sant, to reflect on all this."

"Then these two deaths were not a necessity, but a crime!"

"His part was played and henceforward the woman would have dragged down his ideas, with her soft love and loyalty. Regret nothing, stranger, but go away at once out of the land."

"Tonight? Where shall I go?"

"To Wombflash, where you will meet the deepest minds. I will put you on the way."

"He linked his arm in Maskull's, and they walked away into the night."

"For a mile or more they skirted the edge of the precipice. The wind was searching, and drove grit into their faces. ... appeared. Maskull saw no familiar constellations. He wondered if the sun of earth was visible, and if so which one it was."

"They came to the head of a rough staircase, leading down the cliff. It resembled the one by which he had come up; but this descended to the Wombflash Forest."

"That is your path," said Catice, "and I shall not come any farther."

"Maskull detained him. "Say just this, before we part company—why does pleasure appear so shameful to us?"

"Because in feeling pleasure, we forget our home."

"And that is..."

"Muspel," answered Catice. Having made this reply, he disengaged himself, and, turning his back, disappeared into the darkness.

"The east wind, the salt, the time—"