TEXniques in Siberia[1]

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Abstract

This article summarizes the problems of giving a LaTeX course in Siberia. It concludes with an overview concerning the future of TEX inside the USSR.

1   Introduction

My visit to Siberia in 1983 led to a long standing friendship with Siberian scientists. Mutual visits have since occurred frequently. During a Russian high-school computercamp at Ob Lake in 1989, which I attended with eight Dutch students,I surprised my Siberian hosts with the power of TEX. In Novosibirsk TEX was mainly known because it was written by Donald Knuth from Stanford University with which Novosibirsk University has an exchange program.

In November 1990 Dr. Anatoli Urvantsev[2] visited the Netherlands. During his visit he attended a meeting of the Dutch TeX Users Group (NTG), where he again became attracted to the power of TEX. Together we discussed the possibilities of TEX and especially the use of TEX in Siberia.

Urvantsev is working in the science city Akademgorodok, 30 kilometers South of the "Chicago" of the USSR: Novosibirsk. The level of Science is rather high, illustrated by the fact that Akademgorodok host about 100 international, USSR and regional conferences a year. Quick, high-quality publishing of proceedings is difficult and we agreed that TEX or LaTeX could simplify matters. So mutually we decided to set up a LaTeX course.

2   Why LaTeX?

In 1987 I started to use TEX. I wrote my own macros and concluded that in a way I was writing my own kind of LaTeX. I was forced to explore LaTeX upon request of my institute, which was introducing LaTeX as the **docu-ment preparation tool**. To train our seven secretaries in the use of the program i set up a three-day course, held in the middle of nowhere (still in the Netherlands) to guarantee that we weren't disturbed by daily work, phone calls, etc. The result of this training was a cook-book [2], full of examples, which is still in use.

During that time I also used LaTeX to edit my own books [3]. The editing of an astronomical yearbook proved to me that LaTeX is 99% powerful enough.

So I answered the request of initiating TEX in Siberia by offering an 18 hour LaTeX course based on my earlier experience. This time I really went to the middle of nowhere.

3   Course

3.1   Material

Since I am not a millionaire, it was impossible to buy books for the course, I had to prepare my own course material. This was based on the earlier-mentioned cook-book [2], important pages of Lamport's book [1] and the LaTeX manual [4]. Why re-inventing the wheel? I visited the USSR already ten times so I know about possible limitations: language problems, equipment etc. It's easy to give a course somewhere in the Netherlands, everything you want or need is available. Or you bring it yourself and charge them for it. Bringing all the things you need to Siberia is impossible nor can you charge them. That they create their own cook-book, example book is a rather stimulating result. I deny that I reinvented the wheel, it was an exclusive

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course adapted to my clients and based on a lot of experience. As mentioned earlier due to my job at the Institute I know rather well what scientists want to do with TEX or LaTEX.

ArborText was kind enough to provide the latest versions of μTEX and AMSTEX for cyrillic fonts. During the course we used the built-in previewer. In this situation it was not wise to wait two days before starting exercises. The previewer is also a good teaching-aid. Again as a result of the course we produced a Siberian LaTEX cook-book [5].

I also prepared 40 exercises, we made them all [3] through which I tried to test the knowledge and understanding of my students. Considering the language problem, **teaching by example** is the best approach. Appendix A gives an overview of the topics of the exercises.

3.2 Equipment

During the course we used 6 AT with 30 Mbyte hard disks. Imagine the fun of installing all the 45 ArborText diskettes. I felt like a disc-jockey. Urvantsev confessed it was a hard job to arrange for all the PC's. His colleagues couldn't believe the amount of effort he put in to organize the course, seminar. Later on we also used a HP-Laserjet IIP, but in fact we only used it to produce the course-certificates.

3.3 Students

The most important part of a course are the students. Urvantsev selected 13 students originating from different parts of the scientific community: a publishing house, computing center and university. Although I asked that students would be selected on the basis of their knowledge of English, their level of English was poor. So I simplified my English and, with the help of a Dutch friend,[4] I survived. Of course it's rather easy to visualize things in TEX. A remarkable fact was that 11 of the 13 students were female. The oldest student was over 50.

Figure 1: The author (top row, second left) and his students in the conference-room of the Vice-President of the Siberian Division of Academy of Sciences of the USSR (photo: Maaike van Koldam).

I presented the course in six lessons of three hours, and each with a tea-break (made in a "Samovar") according to Russian traditions .

It was an advantage that nobody had a really good knowledge of document preparation. Some of them knew about Chiwriter and only one knew about Ventura. It seemed that Soviets adored Norton, so we used the Norton Commander to perform our needs.

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[3] A result I never expected

[4] She graduated from Groningen University and speaks Russian fluently

4   Topics

As mentioned earlier I used Urban's manual as the main text of the course. Table 4 shows the set-up of the course. Chapters are referring to Urban's manual [4].

lesson 1	Chapter 1 & 2
	Introduction & Getting Started
2	Chapter 3
	Control Sequences
3	Chapter 4
	begin and end environments
4	Chapter 5, partly Chapter 6
	Putting It Together
5	Chapter 6,7 & 8
	Tables and Figures,
	Cross-References,
	Equation Formatting
6	Chapter 8
	Equation Formatting

Table 1: Course setup, each part is 3 hours

Based on my earlier experience I used examples relevant to my students work. In the case of the aforementioned astronomy secretaries I used astronomical examples. And for the simple text I used phrases from the gossip journals. Since there are no such magazines in the USSR, I either used the examples of Urban's manual or invented them myself. We also used some examples from the LaTeX manual composed by Samarin. This booklet (in Russian) was brought along by one of the students. Nobody in the Computing Center knew about this booklet. It was also useful to explain commands. As mentioned earlier, the lack of knowledge of English was sometimes a problem.

Also I used my own experience and the experience of "my ladies" in the course. At my institute I am the local TEX answering machine so I have a good impression of what the users of TEX or LaTeX want to do. I tried to introduce commands through examples which are frequently used in making documents. The following example illustrates that:

```
\newlength{\novo}
\setlength{\novo}{5cm}
\hangindent=\novo \noindent But last
week, humour turned to alarm when the
group .....

\settowidth{\novo}{novosibirsk}
\hangindent=\novo \noindent But last
week, humour turned to alarm when the
group .....

\addtolength{\novo}{3cm}
\hangindent=\novo \noindent But last
week, humour turned to alarm when the
group .....
```

Another practical example is the use of \@ in tabular-environment. And because the array-environment is a special form of the tabular-environment it's rather useful in the array-environment too.

```
\begin{tabular}{lr@{,}l}
          & \multicolumn{2}{c}{p}\\
          & \multicolumn{2}{r}{p}\\
apple, 1 kilo & 2&50 \\
coffee, 250 gram & 10&09 \\
bread & 0&25 \\
\end{tabular}
```

In illustrating \newenvironment I used a too simple example. After the complaints of my students I gave an example using \newenvironment to define the head of a complicated, often used table. The default question when using lists is how to change the default labels.

Error recovery etc. (Chapter 9 of Urban's manual), was addressed during each of the lessons. The best way to do it: make and recover your errors yourself.

5   Cyrillic

I intended to use AMSTEX to do the cyrillic things but unfortunately one of the distribution disks was damaged. So my colleagues from Groningen sent me some files by email and also a local hacker helped me create cyrillic fonts. Dimitri Vulis supplied programs to do the encoding from the Russian keyboard to TEX.

6   CyrTUG

To stimulate TEX it's necessary to first have an organisation, like CyrTUG. In the Soviet Union having enthusiastic people is not enough — you have to organise. Otherwise Novosibirsk is knowing about what is going in Leningrad our vice-versa. In Western-Europe, in general, everybody knows about everybody. In the Soviet Union it's not the case. The end of May CyrTUG is founded: a logical and necessary step. Keep them informed and communicate with them.

References

[1] Leslie LAMPORT, *LaTeX user's guide and reference manual*, Addison-Wesley, Reading, Mass., 1986.

[2] Theo JURRIENS et. al., *LaTeX kookboek*, 1988.

[3] Theo JURRIENS, *Hemelwijzer 1989*, De Feniks Pers, Meppel, 1988.

[4] Michael URBAN, *An Introduction to LaTeX* TEX Users Group, P.O. Box 9506, Providence, RI 02940, U.S.A, 1986.

[5] Theo JURRIENS et. al., *A Siberian LaTeX cookbook*, 1991.

A   Exercises

- simple text, illustrating the meaning of `\par`, blank lines and spaces,
- `\indent` and `\noindent` ,
- dashes, the use of ~ and overfull boxes and how to hyphenate ,
- special characters, control words and - symbols,
- preamble, changing sizes, `\newlength` ,
- type faces and type sizes,
- two column, `\raggedright`,

- `\begin{center}` , `\begin{quotation}` etc,
- floats ,
- lists ,
- `\newcommand` and `\newenvironment` ,
- the different styles ,
- footnotes,
- title-page,
- page-numbering and page-style,
- table of contents, list of tables etc,
- `\include`,
- `\ref` and `\label`
- bibliography and `\cite`
- tabbing and tabular,
- a lot of math,
- letters,
- cyrillic .