

# Korean Article – X<sub>ƒ</sub>T<sub>E</sub>X

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## Abstract

We study the effects of warm water on the local penguin population. The major finding is that it is extremely difficult to induce penguins to drink warm water. The success factor is approximately  $-e^{-i\pi} - 1$ .

## 1 Korean Article – X<sub>ƒ</sub>T<sub>E</sub>X

This document illustrates the appearance of an article created with the shell Korean Article – X<sub>ƒ</sub>T<sub>E</sub>X. The shell produces typeset PDF documents similar in appearance to those created with the Standard L<sub>A</sub>T<sub>E</sub>X Article shell.

The document class base file for this shell is `article.cls`. A number of class options are supported by this typesetting specification, including setting the paper size and the point size of the font used in the body of the document. To see the available class options, choose **Typeset**, choose **Options and Packages**, select the **Class Options** tab, and then click the **Modify** button.

The typesetting specification for this shell document uses these options and packages with the defaults indicated:

Options and Packages	Defaults
Document class options	Standard
Packages:	
amsmath	Standard
amsfonts	None
fontspec	None
xunicode	None
xltxtra	None

Additional specifications have been added to the document preamble.

## 2 Creating Documents in Korean

### 2.1 Typing

Typing in Korean is keyboard-dependent. Keyboard mapping for Korean is available when you install East Asia regional support in Windows 2000 or XP

and is available automatically in Windows Vista. Once the support is installed, you can change to the Korean keyboard from the Windows Control Panel or the Language bar and then type directly in Korean.

This shell uses the Batang font available on Windows systems. You can specify any TrueType or OpenType font installed on your computer.

## 2.2 Typesetting

Typesetting documents in Korean requires  $X_{\text{K}}\text{T}_{\text{E}}\text{X}$ , an adaptation of  $\text{T}_{\text{E}}\text{X}$  available with  $\text{T}_{\text{E}}\text{X}$  Live, a free TeX/LaTeX distribution providing a comprehensive  $\text{T}_{\text{E}}\text{X}$  collection of  $\text{T}_{\text{E}}\text{X}$  programs, packages and fonts, including support for many languages.

$\text{T}_{\text{E}}\text{X}$  Live 2007 is available from our webstore at

<http://www.mackichan.com/store>.

It is also available to download as a disk image from

<http://www.tug.org/texlive/acquire.html>.

If you download, you must know how to work with a downloaded .iso disk image or burn a CD.

**IMPORTANT** To use  $X_{\text{K}}\text{T}_{\text{E}}\text{X}$ , you must install  $\text{T}_{\text{E}}\text{X}$  Live 2007 in the default directory using the default installation choices. The installation requires approximately 500 MB of disk space. Also, you must follow the instructions below to edit the  $\text{T}_{\text{E}}\text{X}$  Live 2007 configuration file to add information about the typesetting files included with SWP and SW.

You can create typeset PDF documents in Korean. Typeset DVI documents in Korean are not available with  $X_{\text{K}}\text{T}_{\text{E}}\text{X}$ .

> To typeset with  $X_{\text{K}}\text{T}_{\text{E}}\text{X}$  using SWP or SW Version 5.x

1. Obtain  $\text{T}_{\text{E}}\text{X}$  Live 2007 from the MacKichan Software webstore or download it from <http://www.tug.org/texlive/acquire.html>.
2. Install  $\text{T}_{\text{E}}\text{X}$  Live 2007 using the default directories.
3. Using an ASCII editor, modify the TeX Live configuration file:

(a) In the ASCII editor, open this file:

```
c:\TeXLive2007\texmf-var\web2c\texmf.cnf
```

(b) At any point in the file, add this line to the file, being careful to type forward slashes:

```
SWTEX=c:/swp55/tcitex
```

If you have an earlier version or the program is not installed in c:\swp55 (for SWP) or c:\sw55 (for SW), substitute the appropriate directory name.

**NOTE** A convenient spot for adding the new line is just before the line referenced in step 3c.

- (c) Find the following line:
- ```
TEXMF = {!!$TEXMFVAR, $TEXMFHOME, !!$TEXMFMAIN, !!$TEXMFLOCAL, !!$TEXMFDIST}
```
- (d) Modify the line to read as follows:
- ```
TEXMF = {!!$TEXMFVAR,$TEXMFHOME,!!$TEXMFMAIN,!!$TEXMFLOCAL,!!$TEXMFDIST,$SWTEX}
```
4. Save the changes to texmf.cnf.
5. Specify  $\text{\XeTeX}$  as your PDF Formatter:
- Choose Typeset > Expert Settings.
  - Select the PDF Format Settings tab.
  - In the Select a formatter box, select TeX Live 2007 XeTeX.  
If the XeTeX PDF option isn't available, create it:
    - Choose Add/Modify.
    - In the box for Name for TeX to PDF Formatter, enter TeX Live 2007 XeTeX.
    - In the box for Executable filename, enter the location of the installed XeTeX executable file.  
The default is c:/TeXLive2007/bin/win32/xelatex.exe.
    - In the box for Command line to invoke formatter, enter `%x "%f"`.
    - In the box for Display appearance, enter XeTeX.
    - Under Command Handling, check Run in new command console.
    - In the box for Character set, select UTF8.
    - Choose OK to return to the PDF Format Settings tab.
  - Make sure the TeX Live 2007 XeTeX formatter is selected and choose OK.
6. Create your document with this shell and save it, specifying the Portable LaTeX (\*.tex) file type and the UTF8 character set.
7. Choose Typeset > Print PDF or Typeset > Preview PDF to typeset your document.
- IMPORTANT  $\text{\TeX}$  Live launches in a separate command prompt. To view the compilation process, click the icon that appears on the task bar. If the process yields compilation errors, you must click the icon to open the command prompt and respond to  $\text{\XeTeX}$ .

### 3 Using This Shell

The front matter of this shell has a number of sample entries that you should replace with your own. Replace the body of this document with your own text. You may delete all the text in this document to start with a blank document.

Changes to the typeset format of this shell and its associated formatting files (`article.cls`) are not supported by MacKichan Software, Inc.

If you modify this document and export it as "Korean Article-XeTeX.shl" in the `Shells\International` directory, it will become your new Korean Article-XeTeX shell.

## 4 Sample Text in Korean

The following is written using Korean characters:

몇개의 견본 한글 문자.

## 5 Features of This Shell

### 5.1 Subsection

Use the `Section` tag for major sections, and the `Subsection` tag for subsections.

#### 5.1.1 Subsubsection

This is just some harmless text under a subsubsection.

Subsubsubsection This is just some harmless text under a subsubsubsection.

Subsubsubsubsection This is just some harmless text under a subsubsubsubsection.

### 5.2 Tags

You can apply the logical markup tag `Emphasized`.

You can apply the visual markup tags `Bold`, `Italics`, `Roman`, `Sans Serif`, `Slanted`, `Small Caps`, and `Typewriter`.

You can apply the special mathematics-only tags `BLACKBOARD BOLD`, `CALLIGRAPHIC`, and `fraktur`. Note that blackboard bold and calligraphic are correct only when applied to uppercase letters A through Z.

You can apply the size tags `tiny`, `scriptsize`, `footnotesize`, `small`, `normalsize`, `large`, `Large`, `LARGE`, `huge` and `Huge`.

This is a `Body Math` paragraph. Each time you press the `Enter` key, `Scientific Workplace` switches to mathematics mode. This is convenient for carrying out "scratchpad" computations.

Following is a group of paragraphs marked as `Short Quote`. This environment is appropriate for a short quotation or a sequence of short quotations.

The only thing we have to fear is fear itself. Franklin D. Roosevelt,  
Mar. 4, 1933

Ask not what your country can do for you; ask what you can do for your country. John F. Kennedy, Jan. 20. 1961

There is nothing wrong with America that cannot be cured by what is right with America. William J. "Bill" Clinton, Jan. 21, 1993

The Long Quotation tag is used for quotations of more than one paragraph. Following is the beginning of Alice's Adventures in Wonderland by Lewis Carroll:

Alice was beginning to get very tired of sitting by her sister on the bank, and of having nothing to do: once or twice she had peeped into the book her sister was reading, but it had no pictures or conversations in it, 'and what is the use of a book,' thought Alice 'without pictures or conversation?'

So she was considering in her own mind (as well as she could, for the hot day made her feel very sleepy and stupid), whether the pleasure of making a daisy-chain would be worth the trouble of getting up and picking the daisies, when suddenly a White Rabbit with pink eyes ran close by her.

There was nothing so very remarkable in that; nor did Alice think it so very much out of the way to hear the Rabbit say to itself, 'Oh dear! Oh dear! I shall be late!' (when she thought it over afterwards, it occurred to her that she ought to have wondered at this, but at the time it all seemed quite natural); but when the Rabbit actually took a watch out of its waistcoat-pocket, and looked at it, and then hurried on, Alice started to her feet, for it flashed across her mind that she had never before seen a rabbit with either a waistcoat-pocket, or a watch to take out of it, and burning with curiosity, she ran across the field after it, and fortunately was just in time to see it pop down a large rabbit-hole under the hedge.

In another moment down went Alice after it, never once considering how in the world she was to get out again.

### 5.3 Mathematics and Text

Let  $H$  be a Hilbert space,  $C$  be a closed bounded convex subset of  $H$ ,  $T$  a nonexpansive self map of  $C$ . Suppose that as  $n \rightarrow \infty$ ,  $a_{n,k} \rightarrow 0$  for each  $k$ , and  $\gamma_n = \sum_{k=0}^{\infty} (a_{n,k+1} - a_{n,k})^+ \rightarrow 0$ . Then for each  $x$  in  $C$ ,  $A_n x = \sum_{k=0}^{\infty} a_{n,k} T^k x$  converges weakly to a fixed point of  $T$ .

The numbered equation

$$u_{tt} - \Delta u + u^5 + u|u|^{p-2} = 0 \text{ in } \mathbb{R}^3 \times [0, \infty[ \quad (1)$$

is automatically numbered as equation 1.

### 5.4 List Environments

You can create numbered, bulleted, and description lists using the Item Tag popup list on the Tag toolbar.

1. List item 1

2. List item 2

(a) A list item under a list item.

The typeset style for this level is different than the screen style. The screen shows a lower case alphabetic character followed by a period while the typeset style uses a lower case alphabetic character surrounded by parentheses.

(b) Just another list item under a list item.

i. Third level list item under a list item.

A. Fourth and final level of list items allowed.

• Bullet item 1

• Bullet item 2

– Second level bullet item.

\* Third level bullet item.

· Fourth (and final) level bullet item.

Description List Each description list item has a term followed by the description of that term. Double click the term box to enter the term, or to change it.

Bunyip Mythical beast of Australian Aboriginal legends.

## 5.5 Theorem-like Environments

The following theorem-like environments (in alphabetical order) are available in this style.

Acknowledgement 1 This is an acknowledgement

Algorithm 2 This is an algorithm

Axiom 3 This is an axiom

Case 4 This is a case

Claim 5 This is a claim

Conclusion 6 This is a conclusion

Condition 7 This is a condition

Conjecture 8 This is a conjecture

Corollary 9 This is a corollary

Criterion 10 This is a criterion

Definition 11 This is a definition

Example 12 This is an example

Exercise 13 This is an exercise

Lemma 14 This is a lemma

Proof. This is the proof of the lemma. ■

Notation 15 This is notation

Problem 16 This is a problem

Proposition 17 This is a proposition

Remark 18 This is a remark

Solution 19 This is a solution

Summary 20 This is a summary

Theorem 21 This is a theorem

Proof of the Main Theorem. This is the proof. ■

## 5.6 Citations

The references that follow this section automatically generate a References section heading. It has no relationship to the previous text, but can be used to show sample citations such as [5] and [6]. The typesetting specification determines the appearance of each citation and the References section. If you want multiple citations to appear in a single grouping you must type all of the citation keys inside a single citation, separating each with a comma. Here is an example: [3, 6, 9].

## References

- [1] D. Black, *The Theory of Committees and Elections*, Cambridge: Cambridge University Press (1958).
- [2] C. Blyth, Some probability paradoxes in choice from among random alternatives, *J. Amer. Statist. Assoc.* 67 (1972), 366–373.
- [3] Chang Li-chien, On the maximin probability of cyclic random inequalities, *Scientia Sinica* 10 (1961), 499–504.

- [4] Marquis de Condorcet, *Essai sur l'application de l'analyse à la probabilité des décisions rendues à la pluralité des voix*, Paris (1785).
- [5] N. Dunford and J. Schwartz, *Functional Analysis*, v. 2, John Wiley and Sons, New York, 1963.
- [6] W. W. Funkenbusch, A gaming wheel based on cyclic advantage in symbol choice, *The Gambling Papers*, Vol. XIII (1982), 68–83 University of Nevada, Reno.
- [7] M. Gardner, The paradox of the nontransitive dice and the elusive principle of indifference, *Scientific American* 223 (1970), 110–114.
- [8] M. Gardner, On the paradoxical situations that arise from nontransitive relations, *Scientific American* 231 (1974), 120–125.
- [9] W. W. Funkenbusch and Saari, D. G., Preferences among preferences or nested cyclic stochastic inequalities, *Congr. Numer.* 39 (1983), 419–432.
- [10] M. Struwe, Semilinear wave equations, *Bull. Amer. Math. Soc.* 26 (1992), 53–85.
- [11] W.P. Thurston, *Geometry and topology of three manifolds*, Lecture notes, Princeton Univ., NJ, 1979.

## A The First Appendix

The appendix fragment is used only once. Subsequent appendices can be created using the Section Section/Body Tag.