

Jin-Hwan Cho

Jin-Hwan Cho is the maintainer of the DVIPDFMx translator, and a leader in supporting and encouraging the use of \TeX in Korea.

[Interview completed 21 May 2007.]



Dave Walden, interviewer: Please tell me a bit about yourself personally, independent of the \TeX world.

Jin-Hwan Cho, interviewee: I was born in 1968. I am living in Seoul with my wife, an 8-year-old son, and a 5-year-old daughter. In 1999 I got a Ph.D. degree mathematics. After that I spent one year at Osaka City University in Japan in a post-doctoral position. After next spending four years as a research fellow at Korea Institute for Advanced Study, I have been teaching mathematics in the University of Suwon as a “Full-time Lecturer” since 2004.

DW: Before I move on to the question I usually ask next, I hope you won’t mind if we talk briefly about your name, for those readers like me who are not familiar with Korean naming conventions. Which part of Jin-Hwan Cho is your “personal” name and which is your “family name”? Also, you sign your email ChoF; is this what I would call a nickname?

ChoF: “Jin-Hwan” is my “personal name” and “Cho” is my family name. In Korean, names usually consists of three Korean characters; one is for the family name and the other two are for the personal name. Because the personal name consists of two characters, some Koreans uses a space between them as “Jin Hwan” and some others use a hyphen as “Jin-Hwan” (my case). “ChoF” has been my nickname for more than 20 years. People often ask me the meaning of “ChoF”. I always reply that it’s top secret. But it is not really special because it is a combination of my name “Cho” and my Christian name “Francisco”. 20 years ago people in the (Catholic) Church called me “Cho Francisco” but the name was too long so that they simply called me “ChoF”.

DW: Thanks. Now for my usual next question—how did you first become involved with \TeX ?

ChoF: In 1987, my Calculus teaching assistant introduced PCTeX to me. His hobby was to make a Korean characters with Metafont. After that, until 1997, \TeX was just a toy for me to make mathematics documents, mathematical papers, and thesis.

DW: You seem to be suggesting that your involvement with \TeX changed in 1997. What happened then and thereafter with \TeX ?

ChoF: The web site called “ChoF’s \TeX Archive” started in 1997. The main goal of the site was: (1) to introduce the \TeX system, especially with MiKTeX because almost all PCs in Korea were running MS Windows at that time; (2) to instruct users how to set up $\text{H}^{\text{A}}\text{TeX}$ (<http://project.ktug.or.kr/hlatex/>), the most popular Korean $\text{L}^{\text{A}}\text{TeX}$

package written by Koaunghi Un; and (3) to provide an on-line place to discuss and share information in Korean.

At that time there were two famous web sites related to \TeX in Korea. One was my web site and the other was run by Kangsoo Kim, now the director of the Korean \TeX Users Group (<http://www.ktug.or.kr/>) and the current vice president of The Korean \TeX Society (KTS). Based on experience of more than four years, Kim and I agreed in 2001 to combine the two sites into one on-line community, the Korean \TeX Users Group.

Since then, I have spent quite a bit of time on \TeX and related things. For example: the DVIPDFMx project (<http://project.ktug.or.kr/dvipdfmx/>) started, with Shun-saku Hirata, in 2002; two presentations were given at TUG 2003 and TUG 2005; etc.

Most recently, the off-line Korean \TeX Society (<http://kts.ktug.kr>) community was founded, on January 27 of this year. I have a new job in KTS—creating a new \TeX journal, the *Asian Journal of \TeX* (<http://ajt.ktug.kr/>). The first issue is being printed and will be out during the week of May 21, 2007.

DW: Your answer bring several questions to my mind. First, I presume $\text{H}\text{\LaTeX}$ means Hangul \LaTeX where Hangul is the Korean alphabet; is that correct? Is it a lot more complicated to use \LaTeX with Hangul than with English?

ChoF: Right. Hangul is the native alphabet of the Korean language. Wikipedia describes Hangul as a phonemic alphabet organized into syllabic blocks, invented in the 15th century.

The main problem of CJK (Chinese, Japanese, Korean) languages in \TeX and \LaTeX is the huge number of characters. Theoretically, there is no limit for the number of Chinese characters and there are more than 1.8 billion characters for Korean. But, in our time, 11,172 Korean characters are used and they have already been included in Unicode.

As the \TeX system has developed, it is not hard today to use those characters in \LaTeX . For example, the CJK package developed by Werner Lemberg can typeset all CJK characters in a document. However, the CJK package lacks each country's own typesetting features. In Japan, $\text{p}\text{\TeX}$ is widely used because the engine supports Japanese typesetting features, and for the same reason the $\text{H}\text{\LaTeX}$ (<http://project.ktug.or.kr/hlatex/>) and Hangul-ucs (<http://faq.ktug.or.kr/faq/Hangul-ucs>) packages are used in Korea. It's a long story.

DW: What Korean fonts are typically used?

ChoF: Among CJK countries, Korea may be in the best position because we already have a set of free Korean fonts in Type 1 format, called the UHC fonts by Koaunghi Un (the author of $\text{H}\text{\LaTeX}$). These fonts have been used with $\text{H}\text{\LaTeX}$ as well as Lemberg's CJK package. The translation from Type 1 to OpenType and TrueType format (called Unfonts) was done by Won-Kyu Park, and those fonts are the default Korean font for Hangul-ucs. Moreover, Unfonts are widely used in Linux and the famous multimedia software, mplayer, also uses the font to show Korean subtitles.

DW: Can you say a more few words on what DVIPDFMx is and why it is still important to be able to convert from DVI to PDF in these days of $\text{pdf}\text{\TeX}$?

ChoF: Many non-CJK people have asked me the same question. As I remember, the first one was Hans Hagen. Korean \TeX packages (and the CJK package too) are based on the subfont scheme dividing a set of huge characters into a set of fonts having 256 characters. In 2001, I implemented this scheme in both $\text{pdf}\text{\TeX}$ and in DVIPDFM (a program developed by Mark Wicks); my version of DVIPDFM was called dvipdfm-kor . At that time, I knew that there was also dvipdfm-jpn by Hirata in Japan which supported Japanese

pTeX. It was natural to combine the two projects into one, so “dvipdfm-cjk” came out in March 2002. After messing up quite many parts of DVIPDFM, we changed the name to “DVIPDFMx” in October 2002. Because there had been no progress with DVIPDFM since the release of dvipdfm-0.13.2c in 2001, we also had many things to maintain and to improve relating to DVIPDFM (bug fixes, upgrades, new features) and that work is ongoing. Actually Hirata wrote a lot of code, especially for handling CID-keyed font technology and OpenType fonts. That is the most important part of DVIPDFMx; even pdfTeX does not handle those fonts.

Now return to your question. As I just said, subfont and CID-keyed font technology are the most important parts for typesetting CJK TeX documents. A recent version of pdfTeX supports subfonts as well. So, there is now no problem in using pdfTeX with CJK packages based on the subfont scheme. But still pdfTeX does not support pTeX. Because of that reason, DVIPDFMx is widely used in Japan. Another reason why some people still use DVIPDFMx rather than pdfTeX is on the size of the result. In the case of documents using many different fonts, the result of pdfTeX is ten times bigger than that of DVIPDFMx.

This past January, while I was writing a paper for *The PracTeX Journal* (<http://tug.org/pracjourn>), I thought about the simplicity of the DVI format. DVI is not good for use as a final format, but it is still good for an intermediate format to translate into another format. Imagine that you are trying to convert PDF file into another format, e.g., HTML or XML. There might be many things we can do with DVI format. I am still learning. Moreover, I think that the pdfTeX team will never drop the DVI format. In fact, pdfTeX is a really good engine for getting improved DVI output.

DW: Congratulations on the imminent publication of the first issue of the Asian Journal of TeX. What exactly is your role in this journal? According to Barbara Beeton’s column in the last issue of *TUGboat*, your editorial board includes Prof. Haruhiko Okumura (Japan), Hàn Thế Thành (Vietnam), CV Radhakrishnan (India), and Werner Lemberg (Germany), as well as you; does this mean that other societies in addition to KTS are also involved, or is the journal a publication of KTS and merely has an international editorial board?

ChoF: Thank you so much. I’m (chief) editor of AJT. Now AJT has six associate editors, the four above and Hong Feng (China) and Kangsoo Kim (Korea).

It’s time to explain how AJT came about. At first KTS tried to make a new TeX journal for Korean TeX users, and that work came to me. At that time, I noticed that there was no journal which accepts a paper written in languages other than English or European languages. So, my model for AJT was a TeX journal (somewhere between *TUGboat* and *The PracTeX Journal*) which accepts papers written in Asian languages as well as English. People in KTS agreed with my idea, and I got positive answers from the current editors of AJT.

AJT’s goal is to be a journal of all TeX users groups in Asia. Because other TeX users groups in Asia are not active or do not have enough funds compared with TUG and the European LUGs, KTS took the responsibility for publishing the journal.

DW: Can you give us a hint at the table of contents of this first issue?

ChoF: The first issue contains seven articles written in Korean. It’s a kind of proceedings of the conference for the 5th anniversary of KTUG, which was held in January with more than one hundred participants. The table of contents can be found soon (in the next week) from the AJT web site (<http://ajt.ktug.kr>).

DW: Are you also an officer of KTUG?

ChoF: No. There is only one officer in KTUG, the director.

DW: You say that KTUG is an on-line community and KTS is an off-line community. What do you mean by the distinction between on-line and off-line?

ChoF: The on-line community, KTUG, has no members. It's a kind of open place to discuss things related to \TeX . There is only one director who maintains the web site. On the other hand, KTS has membership as TUG does. KTS will regularly send to its members printed copies of AJT and the KTUG collection CD (based on Akira Kakuto's $\text{W32}\text{\TeX}$ system).

DW: Is your work with \TeX supported or encouraged in any way by your university, or is it a distraction from your academic work in math (as it has become for so many other mathematicians)?

ChoF: To date it gets neither support nor encouragement from my university. I am so busy since I do my own research (not related to \TeX) to keep a position in the university. But I'm trying to show them that working with \TeX is not a hobby but a kind of research. The paper published in LNCS became a good example.

We also founded KTS which was registered as a formal society by Korea Research Foundation (like another big societies, e.g., the Korean Math. Society). KTS is trying to collect research funds. We already have more than US\$10,000 to host an international conference (Jan 25–26, 2008 at Gongju in Korea). I think that \TeX and digital typography will be recognized as a new research field through the activity of KTS.

DW: What is your area of non- \TeX research and, as a “full-time lecturer” what sorts of courses do you teach?

ChoF: Originally I studied Transformation groups in the area of Topology. Currently I am also working on Topological Dynamics in low-dimensional topology, and a mathematical approach to “phylogeny”, a kind of bio-mathematics.

In this semester, I am teaching Calculus, Maple (mathematical software) and Topology for undergraduate students. Unfortunately, I haven't had any chance to teach \TeX or \LaTeX to them.

DW: I can imagine that the field of phylogeny involves drawing diagrams as well as normal math typesetting. If so, do you make use of any \TeX or \LaTeX graphics packages to help with that?

ChoF: The diagrams are not so complicated. I always use MetaFun by Hans Hagen.

DW: One of the concerns of many people in the \TeX world is that \TeX is relatively unknown in the larger worlds of typesetting and word processing compared with commercial programs such as Adobe's InDesign and Microsoft Word. How do you see the future of \TeX when it comes to Asian languages?

ChoF: The situation is getting worse. I no longer say that the typesetting quality of \TeX is better than other software (except for math typesetting). Since \TeX was created for 8-bit languages, it does not have an advantage over alternative systems for the 16-bit or 32-bit Asian languages.

But I do not feel pessimistic about the future of \TeX . In Korea, MS Word is not a dominant word processor. As far as I know, the market share of MS Word is less than 50 percent. Another word processor developed by a Korean company fits better for making Korean documents. This is a good model for \TeX .

In my opinion, \TeX must find its special place where it is better than other software. One of KTS's missions is to design a new \TeX engine which supports Korean typesetting features better than other software. Using \TeX as a base engine for automatic typesetting is a good example too.

DW: What configuration tools for \TeX do you typically use (distribution, engine, format, editor, etc.)? Is there consensus in Korea about which set of tools are most appropriate for using \TeX there, or does everyone have his or her own favorite as in the English-speaking world of \TeX ?

ChoF: In my case, I use Mac \TeX under Mac OS X. Because of DVIPDFMx, pdf \TeX in DVI mode is my favorite engine. For editors, TeXShop and Vim are used.

In Korea, many people used Aleksander Simonic's WinEdt on MS Windows. In these days, people are moving from H \LaTeX to Hanguk-ucs because Hanguk-ucs supports those 11,172 Korean characters included in Unicode. Unfortunately, the Delphi tool with which WinEdt was developed had some trouble in handling Unicode. So people are also moving to other editors which handle Unicode well.

Moreover, since 2005, KTUG and KTS have been developing our own \TeX system based on Akira Kakuto's W32 \TeX (<http://fsci.fuk.kindai.ac.jp/kakuto/win32-ptex/>). The name is "KTUG Collection" and it is the only \TeX system which KTUG and KTS support. The biggest problem is that there is no good editor which can be used without cost.

DW: You said that 11,172 Korean characters are included in Unicode. Is this sufficient?

ChoF: These 11,172 characters are for the modern Korean language; the default Korean fonts in MS-Windows and Mac OS X contain those 11,172 characters. In the case of typesetting the old Korean language, we need more characters.

There is another encoding for Korean characters which is not Unicode. The name is KSX 1001 or KSC 5601 (EUC). Some Korean fonts using this encoding contain just 2,350 characters.

DW: Thank you very much for participating in this interview. I previously knew nothing about Asian fonts and the use of \TeX in your part of the world. Best wishes for the success of KTS and your new journal.

ChoF: Thank you so much for giving me this wonderful chance.