

## 7. TRANSLATION AND COMPUTERS

Digital technology as it relates to translation and to almost anything else in today's world is in a constant state of change. In the nearly three years since this handbook was last revised, computers have become more dominant in the translation craft. More work is now being transmitted electronically by e-mail attachment rather than by fax. The Internet has become a routine tool for translators – from work search to word search. And a growing number of translators has become involved in the translation of such computer-based material as websites, a process now generally referred to as localization. All this has resulted in this newly revised and expanded chapter that looks at all the above developments and how they benefit or fail to benefit translators.

Once you have read this chapter you will be glad to find out that one thing has not changed, which should come as no surprise: translation continues to be a human, rather than a machine function. Computers are no closer now to replacing human translation than they were three years ago, or at any other time in the past. Notwithstanding the great benefits translators are deriving from the digital revolution, computers continue to be the tools, rather than the decision-makers of the translation process.

### **Computers and Related Equipment**

As was mentioned before, only a few years ago a translator would use a pen or a typewriter to translate. In 1980, for example, the ultimate text-producing tool in the world was the IBM Selectric electric typewriter, which we thought we would proudly bequeath to our children and grandchildren. All of this changed forever with the birth of the word processor, and more specifically, the PC, or Personal Computer, which is getting better every year, as if it were a magical tool with boundless possibilities. Certainly the PC has changed the lives of transla-

tors, increasing their productivity and profitability three- and fourfold, and enabling them to receive and transmit work, look for answers to linguistic questions, communicate around the world, and take advantage of computer-assisted tools (see below) that in certain cases can save a great deal of time and effort.

### *Bare Minimum Hardware and the Wish List*

The electronic age offers a great deal more than the word-processor. There is the fax, modem, optical scanner, e-mail, various types of translation software such as translation memory, and last but not least, the Internet. No doubt, it all seems quite overwhelming. Which is the best tool? How much should I spend? How much do I need?

Perhaps the best way to start is by asking two questions: What is the bare minimum a translator needs to get started, and, if money were no object, what would be my wish list of electronic equipment?

The first thing you need to get is a good, current personal computer. This is a must. The question is whether to get a desktop PC, or a portable notebook? The desktop PC is bigger, heavier, has a larger, easier-to-read screen, and an easier-to-use keyboard. The notebook, on the other hand, only weighs a few pounds, can fit in your briefcase, can be used anywhere (it has a rechargeable battery that gives you several hours of use), and, like a toothbrush, becomes a truly personal item. This book is being revised on a three-year-old IBM ThinkPad notebook. Though thin (1.8 inches) and flimsy-looking, it is a real powerhouse. The base price was \$1,699.00. For \$99.98 I upgraded the memory from 32MB RAM (see glossary in the back of the book) to 64MB. For \$225.98 I got a second battery for more cordless computing hours while traveling. For \$237.98 I got a 3-year warranty for parts and service. It has a

*The information superhighway is already here. Everyone is invited to come for the ride. If you choose to stay home it's not because you weren't invited.*

266MHz Intel Pentium II processor, 3.2GB of hard drive space (upgradable to 6.4GB), a 56K modem, a 3.5 inch disk drive, and a CD-ROM drive which at the moment hosts a disk containing the entire Encyclopedia Britannica. The color monitor, a 12-inch SVGA, has good, sharp resolution. It operates on Microsoft Windows® 98. I use it mainly for word-processing, for e-mail, to surf the net, occasionally for graphics, and sometimes to hear music. At the moment it has some 25 programs, including WordPerfect 6.0 for Windows, MS Word, Lotus Notes, as well as my Internet provider, to mention only a few.

To me as a translator and a writer, this notebook is the best of all possible worlds. On the other hand, many translators prefer a desktop PC for all sorts of reasons, not all of which are known to me. Since I have access to both, it's hard for me to judge. My suggestion to you is to check around and try both, and make your own decision. But again, a translator without a computer in this day and age is like a painter without brushes. One more thing: The standard computer for translators is the IBM or IBM-compatible. The Macintosh, favored by graphics



a poster from Switzerland. The German text reads: "Computers help us solve problems—problems we didn't have before!"



people, is not nearly as widely used in our circles, so we will concentrate here on the former.

The above configuration of my notebook computer, which one can also get in a desktop PC (except for the batteries), is quite close to what a translator would consider a "wish list" configuration. Keep in mind that there is a vast difference between storing text and storing graphics on a hard drive. One hundred pages of text take less disk space than one or two pages of graphics. If your translation work entails extensive graphics, you need a bigger hard drive and a faster computer, and the cost can go up 50%-100%. Most translators, however, do not have such a need. Instead, they can store data on their hard drive, and when it gets too crowded, they transfer files to a disk.

The other item that's a must is a printer. Although you can deliver text on disk or by e-mail, there are many good reasons why you need a printer. First, there is still a widespread requirement for hard copy. Second, you may want to print drafts to check your translation, and third, you need a printer for correspondence, for printing your resume, and certainly for printing an invoice. We recommend the Hewlett Packard family of printers, particularly the LaserJets. Depending on the volume, you can start with a smaller model and go up to the HP 4+ or a newer model, which is a bit faster and better.

The next item that's a must is the facsimile machine, popularly known as the fax. These days information travels very fast, and a sure way to get translation assignments is via the fax. Once you have translated a document, the fastest way to send it back is as an e-mail attachment. In other words, the basic translator tools today are the computer, the printer, the fax and the modem.

When purchasing a computer and/or peripherals, first decide exactly what configuration you are looking for. Then look around at retail outlets, mail order catalogues, and Internet sources. Get the best deal you can get when you are ready to make a purchase.

Another item you may want to look into is the optical scanner, starting with a recent model of the HP ScanJet family. Be sure to get it with the OCR, or Optical Character Reader. This optional piece of equipment provides two valuable functions—you can scan text from a page into a disk, which can be a great timesaving shortcut, and you can scan graphics, such as tables and photographs, into your text file.

What about the cost? You can easily spend around \$5,000 on the above four items, if you go directly to the top of the line. But you don't have to start at the top of the line. You can start a couple of notches below the top, and still be able to give yourself a decent start.

You could, if you really want to watch your pennies, take advantage of the fact that computers are changing so fast, and look in the paper for a year or two old second-hand computer, but not older. You should be able to find a good one for \$400-\$800. You can do the same with the printer, by getting a second-hand one for about \$100, or a new one for about \$300-\$400. A good modem (at least a 28.8 or higher) can be found for around \$100, although you could spend \$300-\$400. A plain paper fax machine (thermal paper is out) can be found for around \$200-\$400, or you could start out by using a local service, like Kinko's. In short, you could get started with the basic equipment for as little as \$600-\$700 if you had to, and go on from there. As you prosper, you can start upgrading.

### *Other Useful Kinds of Software*

You can use your word-processing software for doing record-keeping and invoicing as well, but if your operation becomes more involved you may want to consider a database program, such as Excel, for record-keeping (and also for other databases, such as glossaries), and some basic invoicing program, which only runs \$20-\$30.

To protect your computer against computer viruses—the dreaded new computer age affliction—you may want to get a program such as Norton AntiVirus. To be able to retrieve lost text, you need the Norton Utilities program. Both are excellent



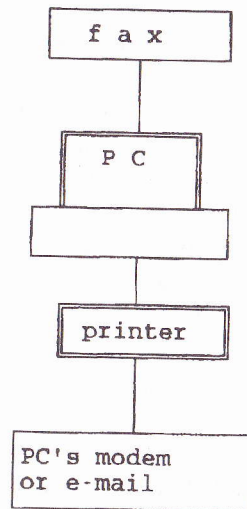
safety measures. Another safety measure is the constant backing up of all your files. This can be done on the hard drive

1. Text received from client by

2. Text translated using

3. Text printed (for editing) on

4. Translation text file sent to client via



### A typical translation process and the required hardware

or on an external medium such as floppy disk or CD disk. Computers are great when they work, but when they fail they can cause you serious losses, which you cannot afford.

For word-processing, translators use mainly Microsoft Word, but also WordPerfect, the old favorite.

### Foreign Language Software

English-language word-processing is the most advanced in the world. Great strides have been made in programs for other languages, but there is still a long way to go. Some languages, such as Russian, Chinese, Japanese, Arabic and Hebrew are

simply too complex in either their script or their noun and verb forms or both to lend themselves to, say, spell-check as readily as English. So don't expect to "cruise" as easily in those languages as you do in English. However, if you translate text from English into almost any other language, you are expected these days to deliver the text on electronic media, which means getting involved in word-processing in that language (see Appendix 3, Foreign Language Software Sources).

As a translator from English into a foreign language, you need software that accommodates not only your target-language, but also the source-language, namely, English. Sometimes you'll need to include English text in the body of your Chinese or Arabic text. Also, you have to make sure your foreign language software is compatible with English-language software, so that it can interface with your client's equipment. Therefore, we are focusing here on American-made foreign language software, rather than foreign-made.

### Foreign Language Software Sources

In recent years the leading source for European languages software was WordPerfect. Its language modules covered a large variety of languages, and there were frequent upgrades. The WordPerfect foreign language modules are still used by many translators, but the trend is shifting to the localized products of Microsoft. These products use the Unicode system which makes Microsoft's English word processing compatible with its foreign versions, enabling the user to use English and foreign word processing in the same document with relative ease. Microsoft's foreign language word processing is now part of its package of English word processing, which eliminates the high cost only a few years ago of buying foreign language modules separately.



### Machine Translation Vs. Human Translation

Machine Translation, or MT, is the term used to describe translation performed by a computer software program, as an alternative to human translation (HT), performed by a human translator. Machine Translation belongs in the area of artificial intelligence. Artificial intelligence is the branch of computer science that deals with using computers to simulate human thinking. It looks to create programs that can solve problems *creatively*, rather than merely respond to commands. In other words, to operate just like the human brain.

In the late 1950s people in organizations such as the U.S. Air Force believed that computers would soon be programmed to accept human language input and translate it into English or into any other language. During the following 50 years, millions of dollars were spent by the Air Force and by other U.S. Government bodies and by big business in the hope of having computers take over the human function of translation. So far, the results have been quite limited, for two main reasons: (a) while computers have a seemingly unlimited capacity for processing data, they are a long way from having the capacity to think creatively like human beings; and (b) human language is not merely a collection of signs and symbols that can be easily programmed, manipulated, and computerized. This is true of human language used not only in poetry and philosophy, but also in technical subjects, in which language expresses thought processes far more complicated than merely "one plus one equals two."

Many people today maintain that computers will soon replace translators. Most of those people are not translation experts. In fact, hardly any of them are. Some point to the fact that computers have already replaced typists and secretaries and reduced the work force of many companies. All this reminds me of a remark by George Bernard Shaw, according to which a monkey could write *Hamlet* if it managed to hit all the right keys on the typewriter. Very few translators can lay claim to creating literary works on the order of *Hamlet*, but lumping translators with typists and office support staff is

missing the whole point of translation. As long as language continues to communicate more than the immediate literal meaning of words, as long as there are shades of meaning that keep changing all the time, as long as people have to make value judgments about the meaning and intent of a text, one will continue to need human translators to get the job done.

In recent years several companies in the U.S. and around the world have produced software designed to translate from one language into another. This software varies from a very basic word finder for the tourist, to complex programs for translating technical and scientific data. Some of the latter range in price from as low as \$250 to as high as \$250,000, and have been sold to governments and international organizations. One important lesson, however, has been learned by both the makers of those programs and their consumers. Machine translation does not replace human translation. At best, the former can achieve around 60 percent accuracy, when the goal is as close to 100 percent as possible. Consequently, the expectations regarding MT have been modified, and it is now recognized that to achieve full accuracy such translations must be post-edited by a human translator.

All of the above notwithstanding, Machine Translation does have its uses. Certain limited language environments do allow for machine translation. One example is the Canadian weather bureau, which transmits weather reports in both English and French. The number of words involved in the daily weather report is very limited, and can be easily programmed into a computer for translation from one language into another. Another example is official forms which contain simple basic questions. An organization such as NATO can have forms put out in ten different languages and set up a program to automatically translate each form into those languages. A third example is the Caterpillar company in Illinois that sells its agricultural machinery around the world and maintains operation manuals in various languages. This company has invested millions in its in-house translation software which allows it to update and modify its technical literature in a cost-effective way. In all of the above examples the software was customized for one



particular work environment where repetition is the common denominator.

Another use of machine translation is for processing a large body of a foreign language text to find out what the gist of it is, rather than to achieve a fully accurate translation, in order to decide whether or not to select parts of it for accurate (viz., human) translation. This process is only partially reliable.

Translators for the most part are not fond of post-editing machine translation. Often the pay is not adequate, and the work can be harder and more time consuming than translating directly from the original. This certainly applies to freelancers, but also to in-house translators who are on a salary.

At the present time the ones who benefit the most from machine translation are not those who buy such services, but rather the companies who develop and manufacture the software and the translators who work on those machine translation projects either as developers of the programs or editors of the machine-translated text. In other words, machine translation has not made translation cheaper for the average consumer of translation services, and therefore does not pose a real threat to translators.

*Example of machine translation from Russian into English:*

**Raw machine translation:** A contemporary airport is the involved complex of engineer constructions and techniques, for arrangement of which the territory, measured sometimes is required by thousands of hectares (for example the Moscow Airport Domodedovo, Kennedy's New York airport).

**Text edited by humans:** The modern airport is an elaborate complex of engineering structures and technical devices requiring a large territory, which, in some places, measures thousands of hectares (for instance, Domodedovo Airport in Moscow or Kennedy Airport in New York).

## Translation Memory

One computer tool commonly used today in the area of computer-assisted-translation (CAT) is called translation memory. Here sentences and other parts of translated texts are stored and can be used again when the same or similar translation is required. This tool is best applied to major projects, such as automotive operation manuals that are updated or modified on a regular basis, whereby most of the text remains the same while certain sentences and/or paragraphs are changed.

While this tool has its practical uses, it has been hyped beyond its actual application and has been promoted as a universal aid for translators in nearly all types of translation. Here one should be careful not to invest in this kind of software unless one has a clear ongoing use for it. This applies both to individual translators and to translation companies, since in both cases only a small percentage of the work done is of the above-described kind.

Furthermore, as in the case of machine translation and localization (see below), here too the tools are far from able to accomplish their stated goals, and are still being improved upon. Translation memory is certainly not human memory, and while it does work part of the time, human memory remains irreplaceable.

*The power of language:*

**Once, in the "good old days," the Russian Czar decided to grant clemency to one of his unfortunate subjects who had been sentenced to death. He ordered his communications expert to send a telegram to the prison in Siberia, stating: "Clemency, period, no execution."**

**The careless clerk at the telegraph office did not proof-read the telegram. It came out as: "Clemency no, period, execution."**



## Localization

Localization is defined as

the process of creating or adapting a product to a specific locale, i.e., to the language, cultural context, conventions and market requirements of a specific target market. With a properly localized product a user can interact with this product using his or her own language and cultural conventions. It also means that all user-visible text strings and all user documentation (printed and electronic) use the language and cultural conventions of the user. Finally, the properly localized product meets all regulatory and other requirements of the user's country or region.

Clearly, this definition takes us out of the strict realm of translation into the domain of computer programming and international business. It alludes primarily to the localization of websites (as well as software) in other languages and cultures. Two other terms often used in conjunction with localization are internationalization and globalization. The first refers to the preparation of computer text to be used in localization in such a way that it meets the requirements of the target language and culture. Globalization generally refers to both processes together, namely, internationalization and localization.

With the fast proliferation of websites and the rapid growth of many kinds of computer software, a growing number of translation companies have ventured into the field of localization, and more than a few computer hardware- and software-producing companies (including giants like IBM and Microsoft) have turned to the field of translation as a function of localization.

Thus, localization has been presenting translators with new opportunities and some difficult questions. On the one hand, there is a huge volume of text these days in website and software development that necessitates multilingual translation. On the other hand, for a translator to become involved in

localization a specialized knowledge of computers is usually required, since website and software localization requires not only language translation but also adaptation of computer commands to the requirements of the target language. Hence, a translator may want to carefully consider how far he or she may wish to become involved in technical computer work that requires skills and training beyond the scope of actual translation work.

It should be mentioned that localization in the sense of translating a text and adapting it to another culture existed long before the computer age. Thus, for example, an American advertisement company in the pre-computer era that planned an international ad campaign for a company such as Coca Cola, had to study the cultures of other countries and customize the ads not only in terms of the target language, but also the cultural conventions, preferences, taboos etc. of the target country. Furthermore, the act of translating itself is in a sense a form of localization, since language does not exist separately from its culture.

Website and software localization has been around now for several years. It relies heavily not only on human translation but also on machine and machine-assisted translation tools, such as translation software and translation memory. Given the limitations of these tools, the often unrealistic expectations of the marketplace and the eagerness to process a large volume of material in record time, localization has been experiencing many problems, and the goals its pursuers have set for themselves are yet to be realized. One should keep all of this in mind before getting involved in this area of translation.

*Computers will never replace translators, but translators who use computers will replace translators who don't.*

**Timothy R. Hunt**



## The Uses of the Internet for Translators

The translation field has become increasingly "wired," witnessing a proliferation of sites relating to professional activities, job-hunting, commercial products, and online reference materials for translators. It is not an exaggeration to say that translators do themselves (and potentially their clients) quite a disservice by ignoring the virtual translation community.

This section will introduce you to a selection of highly-regarded and well-maintained sites of use to translators. It assumes basic Web literacy. Of course, the Internet's ever-changing nature guarantees that certain websites will decline or disappear, while new ones will emerge by the time this book becomes available. So please be aware that you will probably have to do some updating of the following information on your own.

### *Where We Are on the Web*

First, let us invite you to Schreiber Publishing's website. Our address: [schreiberpublishing.com](http://schreiberpublishing.com). Its objective is to provide reference literature, training materials, and useful information for translators.

### *Professional Activities*

Translators wishing to learn about the state of their profession will benefit from a visit to the American Translators Association's

site, [www.atanet.org](http://www.atanet.org). I discuss the ATA in greater detail in the chapter on Translators' Organizations; its Website includes information on the Association's formal activities such as conferences, publications and accreditation procedures. Even if you are not an ATA member, the site is useful because it can guide you to other translation-related sites.

The Internet has opened up opportunities for translators as never before in human history.

Another major website of interest to translators is the site of the international umbrella organization of the world's translator associations, the International Federation of Translators, found on [www.fit-ift.org](http://www.fit-ift.org).

*Aquarius*, at [www.aquarius.net](http://www.aquarius.net). Claims to be "the world's language network." This commercial website lists translation agencies seeking translators and interpreters who, in turn, can post resumes to make their services known. It also links to other translation sites.

### *Networking with Other Translators*

An extremely popular program on the Internet for translators has been the *Language Forum* of Compuserve, popularly known as FLEFO (Foreign Language Education Forum). You have to subscribe to this forum to be able to participate. You enter FLEFO in the keyword box and you find yourself in a virtual forum full of translators from around the world, who post messages and get answers to almost any question a translator may ask, from the cost of a dictionary, to the meaning of a word, to a social get-together. FLEFO can also link you to translation websites.

Another online forum for translators is the newsgroup: subscribers post messages and receive answers (say, to a specialized translation query). A newsgroup for translators is [sci.lang.translation](mailto:sci.lang.translation).

### *Reference Materials*

*The Translator's Home Companion* at [www.rahul.net/lai/companion.html](http://www.rahul.net/lai/companion.html), provides Links to glossaries, dictionaries, translation publications, and other translators.

*The Human Languages Page* at [www.june29.com/IDP](http://www.june29.com/IDP) provides links to other translation-related sites, including some listed here.



*Language Today*, an online publication (also available in print; see Bibliography appendix) covering language technology, translation and interpreting: [logos.it/language\\_today](http://logos.it/language_today)

### *Online Dictionary Services*

*Eurodicautom* at [www.europa.eu.int/eurodicautom](http://www.europa.eu.int/eurodicautom) is a very useful service, Eurodicautom handles European languages such as Spanish, Portuguese, French, German, Italian, English, Danish and Dutch. Includes many specialized dictionaries in non-technical, legal and technical areas. Terms are both translated and defined.

*Online Dictionaries* at [www.yourdictionary.com](http://www.yourdictionary.com) covers a far greater range of languages than the above entry. It provides links to dictionaries and translations in many specializations.

### *Glossaries*

There are many mediocre glossaries out there in cyberspace, so use caution with this type of online resource. Here are some better ones:

[www.refer.fr/termisti/liste.htm](http://www.refer.fr/termisti/liste.htm)

[www.yahoo.com/references/dictionaries](http://www.yahoo.com/references/dictionaries)

U.S. Government agencies provide some very useful glossaries. For example:

[www.epa.gov](http://www.epa.gov) (for environmental terminology).

### *Finding Cultural Information*

A quick way to access cultural and historical information on other countries is via The Electronic Embassy at [www.embassy.org](http://www.embassy.org). This service provides links to embassy and/or United Nations home pages of many nations. Most