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The benefits from handling translations electronically

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An examination of some of the equipment available and how it can be integrated into an office system, with a look at some of the benefits; also, management systems and how they can affect different areas of the company.

Ten years ago, few translators had electric typewriters, even fewer used carbon film ribbons. The industry standard was the manual machine, draft typing was commonplace and even manuscript was accepted. Like the aeroplane and the motor car, typing has developed extremely rapidly in a short time. It is hardly surprising that the users are bewildered by the choice of similar-but-different machines - not only the wide range of manufacturers, each with his range of models, but even the different types of equipment which are available.

My intention here is not to offer comparisons, nor really to offer specific advice. What I hope to do is to examine the various sorts of machines which can be of benefit to the translator, and end with some of the reasons which guided my own company's choice, as an illustration of our requirements and how we sought to satisfy them.

Let us start with a basic assumption that you are a translator and are in the market for some electronic equipment. At this stage, it does not matter whether you are an individual, a translation company or a translation department within a large company. The distinction comes later in the process, when you consider scale, and type of equipment, spending power and return on investment.

We have already come to the first problem. As a broad statement, equipment manufacturers were not - until relat-

ively recently - aware of the particular needs of the translation world. Many, I am sure, felt it safer not to dabble in those waters.

An alternative to doing your own evaluation is to seek the advice of the experts. Another set of problems, in that the expert will probably also suffer from lack of awareness of the translators' specific problems; he will learn (no doubt, at your expense) and take his questions back to manufacturers...who are also not aware. Furthermore, with the best will in the world, no consultant can be totally unbiased, nor can he have the depth and width of knowledge without extensive research.

It may be of interest to know that the British government once felt the need to offer grants to companies to pay for an evaluation of computerisation within their organisation. We applied, having been quoted £2,000 for a study to be carried out, and were refused on the grounds that we were not a manufacturing company (that scheme was called MAPCON). It is a significant coincidence that the grant limit was also £2,000.

After that, and several other experiences, we decided to use our own pooled ability within the company to decide first, what we wanted, and second, which equipment would do the job with the smallest amount of compromise.

The second part of this conference is on machine translation. I am interested, but not with a view to investing in the foreseeable future. We have looked at the cost of equipment, results and cost of post-editing, taking as guidance information gained from a previous Aslib and Translators' Guild conference. We shelved the idea, because we could not guarantee sufficient throughput per language, per subject, per year, because the costs of input, MT and post-editing exceeded our normal costs, and because we did not want to afford the cost of acquisition. We even considered the possibility of time-sharing with other companies, but realised that we would all suffer from the need to establish priorities - which is difficult enough to achieve even when everything is under one's own control.

What does that leave us?

1. Telephone answering machines
2. Telex
3. Facsimile
4. Word processors (WP) and electronic typewriters
5. Communications
6. Optical Character Recognition (OCR).

Some of the applications of this equipment have been formalised with jargon descriptors or system names, such as local area networks and Teletex, and may be of interest, but

mainly to organisations.

TELEPHONE ANSWERING MACHINES

Our company works normal business hours, five days a week; we close on English Bank Holidays, and, as policy, keep open with a skeleton staff between Christmas and New Year. There is nearly always someone in the office at least half an hour before and after normal hours. Outside that, if it really cannot wait until the next day, I am in the Translators' Guild Index and can usually be contacted; it is nearly always translators who ring me at home, and I prefer to talk and sort out the problem rather than to cause delay, doubt or even error for lack of contact. With that availability, which covers most needs, we have never felt that a telephone answering machine was an essential piece of equipment for us; the same or similar arguments would apply to most organisations.

However, I can see that an answering machine would be of great benefit to an individual translator, who may miss out on a large job simply because he couldn't answer the telephone when it rang. There are certainly others better able than I to advise or comment on answering machines, and I know that very informative and helpful surveys of what the market offers have been published. I also know a fair number of translators who have them - I remember one who used to leave his machine on permanently, and check it for calls every half an hour or so; he would then sort calls into priority order depending on the messages and ring those he wanted to talk to, but only when he was ready. It increased his telephone bill, but meant he was only interrupted when he wanted to be, not in the middle of something urgent, difficult, or important. I derive a certain amusement from listening to the messages people leave for callers but sometimes wish, when I am trying to place an urgent translation, that I could have some idea of when 'as soon as possible' might be. Having said that, of course, I can see you don't want to tell a potential burglar that you will be away until next Tuesday.

TELEX AND TELEX PREPARATION

The telex machine has been around for years, and ours still gets a lot of use, even if we do get the occasional request to translate something into Greek or Arabic and send it back by telex. Having decided that there was a sufficient need for us to keep one, as part of our 'global' philosophy, we looked at equipment.

With the old-style telex machines, there were two major problems:

no matter how urgent your message, an incoming call always interrupted your tape preparation, usually spoiling the tape;
there was a limited and inefficient method of preparation, using the slow and specialised telex keyboard.

There were five solutions open to us:

1. put up with the situation (cheap, but did not solve the problem);

2. acquire another telex terminal (this would have been possible but it was still a one-purpose slow unit);

3. acquire an electronic system (this was efficient but required special operator training, and cost significantly more);

4. link telex preparation into the word processor (again, viable, but it meant that most outgoing telexes had to be prepared by the WP operators - specialist training, conflict of priorities, and the telex bottleneck would then also affect typing load);

5. telex cutter. This is what we chose. It is an electronic box which is connected to a normal golfball typewriter and produces a telex tape. For our purposes, it had four advantages:

   (a) it was relatively cheap to buy outright (about £1,200 installed);

   (b) the typewriter could still be used as an ordinary typewriter, even to the extent of producing a telex tape with a proper confirmation typescript, simultaneously;

   (c) any typist could use it, including the two-finger variety;

   (d) it prepared standard telex tape at typing speeds, with a buffer memory to allow sensed error correcting.

I accept that our solution is not necessarily everyone's answer, and it may be that someone can fault our arguments sufficiently to show that we made a wrong decision. Fair enough, in that case we shall have served as an example

whereby others do not make the same mistake - isn't that what learning and sharing knowledge is all about?

Despite all the modern electronics, telex still serves a useful function. We find telex useful for quick communication between ourselves and our customers, and also for translations up to a maximum of about 1,000 words or 150 lines. Most telex messages are not longer than 300 words or 40 lines. The important drawback in translation by telex is that you cannot transmit accents except by using conventions which get the message across but are tedious to follow; ideally, both communicators need to know the language, or the circumstances must be such that any accents can genuinely be ignored.

Incidentally, we find it of great benefit to leave the tape punch on permanently. This enables us not only to retransmit the telex but also to rerun it if, for example, the paper jams in the machine. I have one customer who has taken this a step further: at our suggestion, his telex operators have a standing instruction that, if the message is 'in foreign', they automatically retransmit it to us; the first time the addressee sees it is when our translation appears on his desk attached to the original.

I am still surprised at finding resistance to telex - I have one customer who regularly makes a 15-mile round trip by car with incoming messages which his operators refuse to keyboard and which cannot wait for the post. What he needs is facsimile.

FACSIMILE TRANSCEIVERS

Fortunately for users, there is an international specification for these machines (otherwise known as telecopiers or telefax machines), which means that even if they have their own specific operating mode, they can communicate with any other machine of the same CCITT group. The old original telecopier is now labelled as a CCITT Group 1 machine; most users that I know have Group 2 transceivers, which give a transmission time of 3, 4 or 6 minutes for an A4 page. They are operable manually or with optional automatic reception. Group 3 machines are the latest standardised units on the market, intended for the high-volume user, and have transmission times per page measured in seconds (60 or less) rather than minutes.

Most, if not all, Group 2 machines have the ability to talk to Group 1 and a large number of Group 3 machines can communicate with their lesser brethren in Group 2.

Facsimile has certain significant advantages over telex, but without being a total substitute. It is possible to transmit diagrams and original documents without needing to

transcribe them, so the overall process is quicker, guarantees fidelity to the original and in the long term probably works out cheaper than telex. In this respect, facsimile transceivers are better than communicating word processors. It is also possible, of course, to transmit any language, whether it uses ideograms or non-Latin script - provided that the characters are large enough and clear enough to be legible after transmission (remembering that noise on the telephone line will appear as black dots and streaks). Almost certainly, the major disadvantage is in the comparatively small number of users; as a routine with new clients, I ask if they have facsimile, and am surprised at how many ask 'what's that?'. Yet the industry is already working towards a Group 4 standard.*

WORD PROCESSORS AND ELECTRONIC TYPEWRITERS

Without a doubt, the most significant piece of equipment for any translator is the means of presenting his work. As I said at the beginning, ten years ago the norm was a manual typewriter with fabric ribbon, and only a handful of translators offered work on electric machines with carbon film ribbon.

Now, the handful have screen-based dedicated word processors, another handful or so have microcomputers with a WP capability, a further handful have electronic typewriters, and the predominant method is now, it would appear, the electric typewriter. The 'trusty (rusty?) manual' is now very definitely down-market in terms of quality of appearance of work and ease of manipulation of text; not to mention typist's fingers as the translator's equivalent of barmaid's elbow.

So, where to aim, which type of equipment do we look for? Obviously, finance will play a large part in anybody's decision, and we are now fast approaching the point in this paper where the individual has a lesser need than his corporate counterpart; a translation company or department may arrive at the same decision as the individual translator, but want more units.

The range of machines is so vast and varied that I am not even going to attempt to discuss them in detail.

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* Since this paper was prepared, our company has upgraded to Group 3 facsimile with Group 2 talkdown. Interesting to note that at Group 3 speed it is quicker, more reliable and cheaper to transmit a one-page document by facsimile than by post. The quality of reception is also good enough to retransmit to a Group 2 machine with acceptable legibility.

The Choice

Light/heavy portable, manual
Portable, electric
Office manual
Office electric (single or interchangeable typeface)
Electronic: with/without 'window'
What level of memory?

WP:
Micro
Dedicated mini (stand-alone)
Central system (CPU + terminals)
Central system (mini + hard disk memory +
family of electronic typewriters)

The choice between manual, electric and electronic typewriters, with fixed basket typeface, golfball, thimble or daisy wheel, compared with microprocessor or dedicated word processor, is the first level of choice of any potential purchaser; he then has to examine all the offerings of all the manufacturers of equipment of the type he has decided to buy, and weigh the various operating benefits of each Against a cash budget. The nearest comparison I can offer is buying a car, where you first spend ages reading the brochures, then walk the showrooms, perhaps with a test drive or two, followed by price-hunting, comparison of specifications to see which is best value; do you want 1.1, 1.3, 1.6, 2 or 2.3 litre, in the Basic, L, GL or Ghia trim? After more decision-making on the choice of colours, off you go to the showroom for the last time and - 'I'll have that one, because it's a nice colour and I can have it tomorrow'. Fortunately, as yet, a choice of colour does not appear to be a major consideration in electronic office equipment.

When we as a company wanted to update our equipment and first started looking four years ago, I admit we were naive on the subject. For the most part, we had to use our own judgement, since WP and translation were new and unaccustomed bedfellows, and - I must be honest - a lot of manufacturers not only could not give us answers, but also had never even thought of some of the questions. As simple and quite recent examples, we had to buy Greek daisy wheels from a firm in Honolulu because that was the only place we could find them; Portuguese also proved a problem, because the accents on a normal daisy wheel are not high enough to be used on the upper case letters, even

if you can superimpose them.*

Looking back, I am amazed that our path into word processing was so smooth. I can remember, before we had full accent capability, that we used to have to add certain accents using one of our obsolescent golfball machines.

Let me, very briefly, give some of the thoughts which led us to dedicated word processors:

1. Electronic machines were a step up from electric, but the mini-memory available then was virtually worthless, so the cash difference really went on the buffer memory for sensed error and on the improved presentation and layout capabilities.

2. For a bit more, you could have a magnetic card memory which became infinite, but still without any VDU.

3. Micros - at that time - offered word processing in English and were still hesitantly mastering that level. A bit nearer to the ideal, but the thought of multiple conventional key operations also dissuaded us.

4. So it had to be a minicomputer at least. There remained only one other major decision and that was to compare stand-alone and central processor, bearing the future in mind. A central processor with individual terminals gave flexibility and the possibility of future expansion. On the other hand, if the CPU or printer failed, we would be stuck. However, applying our now habitual policy of redundancy (i.e. duplication of capability), two totally independent stand-alones would better meet our needs, since the breakdown of one would still enable us to shuffle priorities on the second machine and satisfy our clients. So that was what we did.

One other factor influenced us, and that was computer-ised accounting. Just as people may be literate or numerate, we felt (and were also advised) that word processors did not perform so well on accounts, nor did general-purpose machines process text as efficiently as dedicated equipment. We therefore decided that we would accept incompatibility of hardware and use a separate

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* Our equipment is 'clever' enough to enable us to adjust the height of the accents - a recent development - and also generate our own character sets (on-screen) and keyboard layouts, for example, for Russian, Greek and various Eastern European languages. The limitation is set by the availability of suitable daisy wheels.

specialised system to handle our accounts - but that is another story, and our most recent acquisition, again after much searching to find the best match to our needs.

With dedicated word processing, a single stand-alone system can easily reach £10,000, and this level of investment means a serious commitment in longer-term finance, not to mention a sufficiently stable workload and turnover to make the business risk viable. I can easily understand why individual translators hesitate, and assure them that their fears are shared at the company level. It is a lot of money, and the paying doesn't stop there. Ribbons are more expensive, diskettes work out at about £5 each depending on what you need, but the most significant after-sales costs are insurance and maintenance. I concede, reluctantly, that a maintenance contract is essential, since it ensures a priority response in case of need, but I really begrudge paying 10-12 per cent of the total hardware price, every year, and no argument will convince me that it is reasonable - after all, our translation work is expected to be consistently 100 per cent reliable.

It is in many ways a pity that in today's conference programme the users have their say after the manufacturers and suppliers. On the other hand, this seems to be a typical situation, where the seller dictates the buyer's range of choice. It would have been interesting for the suppliers to listen to the users' needs and then to say what is being done or what can be done to satisfy those specific needs. After all, we already know we are an elitist group of people, and what we need our equipment to do is very often far removed from the machines' original design capabilities.

COMMUNICATIONS

The next heading in my list, you will recall, was communic-ations. More and more people have word processors, more and more people want to communicate. Some, like my own company, have modems which enable us to exchange data With those who speak our language - using the standard teletype code or an IBM protocol. Even then, there is a problem, because we probably transmit at different speeds and so our communication is mutually unintelligible; simply put, I can talk to you but you cannot understand me, therefore we do not communicate. At the international level, an added complication which we have encountered is differences in the software between countries, for the same make of WP. Each manufacturer has his own machine system, and this further complicates the problem. The nearest we appear to have got so far is little nodes of CP/M micros that can intercommunicate, other hardware that can

be interfaced using IBM protocols or teletype code (which has limitations) and so on.

I have already had a need to supply soft copy (text in diskette form) to clients with other hardware, in one case Wordplex to Philips, and in a second, more recent case it was Wordplex to Wang. The exercise was carried out by transmitting text over the telephone, using the common teletype code, direct into the other machine. However, the text needed reformatting and some concentrated screen editing to make it presentable, simply because some software instructions were not identical in the two processors. The first exercise was English, and was relatively successful - at least, our client was happy with the result; the second one was German, and we had to do all sorts of global substitutions to present a correctly typed copy, in addition to editing work. Frankly, it would have been so expensive to do properly that we abandoned all screen editing and just transmitted from one machine to the other, with the client's agreement. In cash terms, it would have been cheaper to keyboard, although much more time-consuming. I must say however, that as an OCR exercise to get it onto our own WP it was extremely successful - will Teletex solve my problem?

I know translators and clients who have word processors and we are all - all - waiting, quivering in anticipation, for the magic system that will put us all in contact. I think it would be reasonable to say that my company is one of the pioneers in applying electronics to translation, and we have done our best to remain aware of progress, yet the way ahead still seems to us to be cluttered with incompatible alternatives.

An extremely strong message emerges from a recent survey carried out by the Technology special interest group of the Translators' Guild, and that is that translators with word processors want to communicate, and many of those who are not yet committed give the desire for widespread communications compatibility as one of their major reasons for holding back. The other obvious related factor is the high cost forecast for such a capability - even at today's postal rates, £2,000 buys a lot of postage stamps.

I sincerely hope that, even if nothing else results from this conference, this message goes home to all those who are in a position to influence matters, and that they act on it.

We are told that we can have access to Eurodicautom; we can have Prestel, Viewdata, Teletext with a 't', and so on, with the right communications capability. I already have one modem and software, why should I have to have half a dozen different and expensive ways of doing the same basic task?

OCR

I have perhaps spent rather too much time looking at equipment, but one needs to have the tools to use them in any form of system. There is one item which I have so far not mentioned and that is Optical Character Readers - or Recognition - OCR for short. An OCR can be connected to a word processor and, in very simple terms, it scans a page of typescript, identifies each letter and transmits a code for that letter to the word processor. To put a full A4 page on a WP takes well under a minute. It sounds marvellous, and it is, but it has limitations: the OCR will only read a limited number of typewriter faces, and may even balk at an equivalent typeface; it will only read portrait, not landscape; if it cannot read a letter, it transmits a block symbol, which is helpful, but it may also think it reads a character correctly and be wrong. Experience helps in remembering the weak points of any particular face. There are also difficulties in reading accented letters. The equipment is probably only of marginal interest to translation departments; individual translators are only likely to meet up with OCR by being asked to provide typescript suitable for input. We use ours primarily as an additional typist, but with variations which I hope to illustrate shortly.

SYSTEMS

'Systems' sounds so technical and complex; here it really only means organised work routes and methods, but using electronics.

My first and dominant piece of advice in this context is: take the brakes off your imaginations and let them run free; throw away the blinkers, and dream a little. People have tended to laugh at 'think tanks', but the idea does work, provided you don't produce a spontaneous idea from the depths of your mind only to let your conscious mind reject it as being impossible by normal conventions. We've found this once or twice, and made the idea work eventually, by saying 'I want to do this: how can I achieve it?' and going on from there.

Let me quickly list the relevant bits of Able's equipment, before illustrating some of our routines:

- IBM golfball + telex cutter
- telex transceiver
- facsimile (CCITT Groups 1, 2)*

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* Now Groups 2/3 but the application is unchanged.

- OCR
- 2 independent word processors (2 keyboards, 2 VDUs, 2 printers)
- communications - modem
- accounts micro + hard disk, other typewriters, photo-copiers, etc.

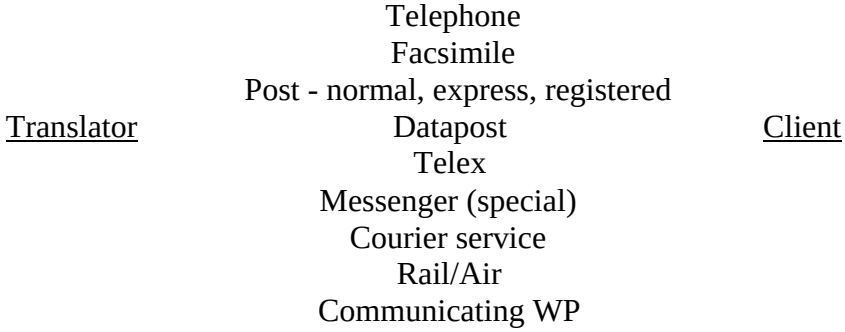
The two processors have dual-ground capability (back-ground, foreground), meaning that one operator can control a continuing background function whilst simultaneously carrying out another operation in foreground - effectively, doubling each machine's capabilities. One WP is hard-wired to the OCR, the other to the transceiver modem, which has a direct external telephone line avoiding the switchboard.

A hypothetical job situation could arise where all this is needed. We may receive a telex enquiry, which is answered by preparing a tape on the telex cutter and transmitting it back; the text comes in by facsimile and is translated internally, draft typed in a machine-readable typeface. The draft is then fed into the WP, edited for layout and mis-reads, plus linguistic check (of course), then transmitted back to client via the modem and the normal telephone line. That's only a contrived illustration, but different combin-ations from it are part of our daily routine.

We are also able to generate our own character sets on the WP screen, and position the characters where we want them on the keyboard. This means that, apart from the obvious exceptions like Chinese, Japanese and so on, and, for the time being at least, languages like Arabic which read from right to left, in theory our language capability is only limited by the availability of suitable daisy wheels.

One aspect of British Telecom's Intelpost - facsimile - service which we have recently discovered, is that we as subscribers with an Intelpost contract can transmit from our machine to an Intelpost office near a client or translator, and they can use the link in reverse, back to us. It also works to and from other parts of Europe. Provided the recipient is prepared to accept the loss of quality for the sake of speed, it is beneficial.

Thinking of speed, with so many means of communic-ation available, it becomes more important to select the most efficient method for the task in hand.



I recall, a couple of years ago, seeing a promotional photograph showing a telex for translation that was around 6 metres long. Of course, it depends where it came from, and other factors, but consider the length of time needed to prepare, proof, correct and transmit that amount of text, let alone the cost of that work.

My office is about 40 miles, 65 kilometres, from London. A client insisted on sending us twenty pages by facsimile; it took about one and a half hours, and cost around £20. A motorcycle messenger, in that instance, would have given us a better copy, for less cost, more quickly. Is it cheaper or quicker to send twenty pages by Intelpost to Exeter, or is British Rail's Red Star cheaper and just as quick? It is not efficient to give the automatic response. You need to pause long enough to consider the relative costs and advantages of the different options (mind you, once communicating word processors are linked, this will all be academic instead of epidemic).

Coming back to word processors, one of their greatest advantages is the ease of changing your text, and playing with the shape on-screen until it is correct. In the 'bad old days', to produce camera copy, we used to read a translator's draft, edit it and mark it for layout; only when we were 100 per cent happy was it given for typing, and heaven help the editor if something had been overlooked and needed correction. Remember, too, the difference in quality between camera copy and headed paper texts - camera copy can have patches or obliterating fluid, provided that it photographs clean, but headed paper work must be perfect. The average page contains around 1,500 key strokes, all of which are potential errors - particularly when retyping and it's the last sheet of client's notepaper! The word processor has changed all that, for us. Now, the draft goes straight to the WP operator, and all the linguistic editing is combined with proofreading and layout approval into a single operation. That saves time and anguish. Only after the final corrections have been approved do we touch the headed stationery.

I said earlier that the norm for freelance translators was the electric typewriter - or better. The OCR helps us benefit from that, since a fair proportion of the translators I know can or naturally do produce their work using a machine-readable typeface. One hears tales of lengthy, complicated instructions to translators on how to prepare texts for machine input - simpler, almost, to type the camera copy. Our philosophy is that the OCR is an internal benefit, but not at the translators' expense. Our only brief is to ask for one of a choice of six common type styles. We have been forced to set this principle aside on two occasions, for German, but in both cases it was simply to

adopt the convention of 'e' to indicate umlauts, which were then reinstated using global substitutions. It was the logical course of action and was with the active - not reluctant - help of the translators concerned.

Geoffrey Samuelsson-Brown is going to be talking in detail about glossaries on word processors. Those who heard me speak at the Translators' Guild Forum in June will already know that I have devised a word processor-based glossary:

P olyglot

B i-directional
A lphabetical
R eversible entry
B y user and field coded
E lectronic
R evisable

W ord
P rocessor
B ased

GLOSSARY

which uses a system of languages, subject and user codes to extract specific vocabularies from a polyglot alphabetical list. With, I hope, the kind permission of the editor, and since it is both relevant and not in print elsewhere, I have included the text of that talk at the end of this paper. The system goes further than that simplified description, because the language and subject codes are used to help in translator selection; they are also used in the accounts computer and for subsequent statistical analysis. The user code also serves as the client account code, and each translator on our records has a personal reference number. Theoretically, if I wish, I can analyse our periodic workload in terms of words per language per client or per translator; I can analyse our workflow in a given set of combinations to see whether it is regular and high enough perhaps to recruit an additional full-time staff translator to handle it. The whole point of this is that a single unfettered idea can be made to serve many useful purposes, creating a truly integrated system. My next obvious stage will be to look at incorporating order processing into the same system. This is about as far as we can go, since I believe the rest of the job - the translation itself - is best done by humans.

The ability of word processors to reprint text can be put to good use with even such simple spare-minute tasks as running off address labels for regular contacts, so that they

are already accurately done when you have just two minutes to get an envelope in the post.

Another simple help is with your own personal list of telephone numbers. We used to have a thumb-indexed list of regular numbers - that is, all the A's together, all the B's and so on, but not in alphabetical order within each letter. We then had to scan two or three pages to find the name. Life is much simpler now it is on word processor, in strict ABC order, and updated on demand.

This is what I meant by letting your imagination run free. Some ideas are big and complex, but others are so simple and obvious that they get missed.

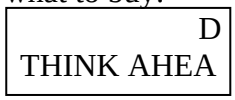
I would like to end with one more illustration on the use of electronics, followed by an open question which I hope will merit wider debate. Various methods of calculating and pricing texts are used around Europe, and all have their merits and disadvantages which I assume are well known. Their main common disadvantage is that they are all very time-consuming. I reckon that in my company we waste well over 2,000 man-hours a year - more than one person-year - on that task, and the results are still only approximate, conventional, and open to debate.

Word processors are capable of producing a tally of the length of text automatically - ours produce a character count, others count words, but whether it is bits, bytes or nibbles, it does establish a finite electronic length of text.

Let me go a stage further. Not every text which comes into our office needs to go on word processor, but it takes a fraction of the normal counting time for us to put the typescript through the OCR and establish a WP character count. The joy of this is that it will still happen if the typeface is not machine-readable (experimentally, we have even achieved consistent results with Arabic, for example; not a true count, admittedly, but sufficiently accurate for the purpose).

Now that the use of word processors is becoming more widespread, the time seems ripe to consider adopting a common counting method, and this would appear to be an acceptable solution. Yes, there are still problems to be solved, and yes, there would be a need to convince and educate at all levels. When I think of all the wasted productive time, I certainly feel it is worth serious consideration by all those who are affected or afflicted by Word counts.

May I leave you with one last thought to bear in mind When you are considering what to buy:



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APPENDIX

Glossary on word processor*

How many times have you knocked over a box of index cards and spent the next hour or more cursing them and everything else under the sun for getting in the way? That's the first question.

How many times have you said to yourself: 'I've seen that term before' and wished that your immaculate filing system was also an efficient retrieval system? That's the second question.

Years ago, in my youth, I was in the happy position of working in a government department which had a card index system of the sort that terminologists dream about. It stood so high that the top drawers canted down for access, and it was around forty feet from end to end. I imagine that by now it is all on computer. In those days it was an idealist system, full of sources and references and cross-references and so on. The Institutional terminologists - or could I coin the term 'terminologophile'? - among us would have been in raptures. I said government department; like all such monsters, it had an army of contributors and must have cost a considerable sum to produce, over the years. After all, there were no pressures of time or cost-effectiveness. It was simply recognised as essential.

When I first joined Able Translations, in 1972, I was full of enthusiasm for term banks of this sort, and perfectionist dictionaries where every term was actually proven by a text reference, in context, in both source and target languages - all terms then being totally interchangeable. I quickly learned about the economics of necessity.

Let me throw a few thoughts at you:

1. A conscientious translator will automatically make a note of recurrent terms to ensure consistent repetition.
2. Assuming an expectation of repeat business, those terms need to be identified in some way and kept for future use.
3. Problem terms and abbreviations - things which are perhaps of more general use, but which caused problems in solving - need to be recorded, and retrievable.
4. Now, multiply each of these mini-glossaries by the number of languages you work in.
5. And now, multiply the total by the number of discrete subject fields into which your work may fall.

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* Delivered at a forum of the Translators' Guild, London, June 1983.

6. Finally, multiply by your number of clients - not just the active ones. Don't forget that a client source may send you work from several of their clients (translation companies, advertising agencies, translation departments of companies, and so on).

The simple answer to this complex problem is... utter confusion.

Let me give you a little more history or perhaps a skeleton from our cupboard: Able's reference library contains several thousand terms which have been painstakingly gathered over the years. Little bundles of cards with a rubber band round them, pages of typescript notes, pages of manuscribble, and so on. For years we had realised that they were useless as they were and - that famous promise - one day we would merge them. The problem was the method.

After a year of research and enquiry, demonstrations and quotes, in 1981 we bought two Wordplex WP systems. The word processors gave us an immediate ability to file, alphabetise and search for terms, so the essential problem was solved, but we still had to sort out exactly what we wanted to achieve.

First a riddle: why is it that whenever you are hunting for a term, if you are going to find it at all, it is in the last place you look? Because, when you find it, you stop looking...

A shelf-full of dictionaries is typical of this. There is nothing to be done at that level... yet. But glossaries, term banks, collections of words which you make yourself are a different question, because the decisions are yours. For good or bad, this is what we have done.

Our problem

1. As a company, we handle many language combinations.
2. We work in a wide range of subjects.
3. We need to isolate specific customer-preferred terms.
4. We wanted to minimise search time and locations.

Our solution

1. A single word processor-based glossary.
2. Capable of identifying language combination by tag system.
3. Multilingual (Latin alphabet).
4. One alphabetic sort, regardless of language.
5. Bi-directional: where terms are direct equivalents in source and target language, they are reversed electronically and entered both ways.

6. User or usage coded by tag system.

Since developing the original idea, we have added a fifth column, for which I am grateful to Barbara Snell. This enables us - if we wish - to add a two-letter tag taken from our translation subject code, to mean that a term, which may otherwise have several equivalents, only has this particular equivalent in a specific subject context.

How did we arrive at this solution?

1. Having a single reference source avoids not only oddments of subject or language, but duplication of terms. It also saves search time in that you only look once.
2. As many of my freelance colleagues have discovered, we are putting our translator files on diskette, and will search these by a series of codes we have devised. It made sense to use a common set of language codes for both glossary and translators.
3. How often have you failed to find a term and resorted to looking at dictionaries in a related language? In one small area of our glossary I would expect to find, for example, all the Latin-based equivalents of a given term.
4. Avoiding essential classification by subject has avoided any limitation of the field in which a term may be found, for example, types of nuts, bolts and screws. On the other hand, the terms can be tagged for a particular user as a preferred term. They can also be tagged for a specific field of use.
5. Turning term pairs round, with care, has meant that we not only have the translation in the opposite direction, giving the translator a genuine term, but occasionally we can match pairs so that we have a source term in both languages.
6. With the various tags, we can extract a specific language combination or client's vocabulary and print out just that part of our word bank, as reference for a translation task, or for any other reason.
7. Abbreviations and capital letters have caused a significant problem. Remember that each letter, whether capital or lower case, has a specific value assigned to it in the computer program. This is something which the user cannot control. When we started alphabetising, we found that all capitals - AA to ZZ - came before lower case aa to zz. This meant that German could not mix with other languages. We solved the problem, for us, by starting every entry with an initial letter. So far, since upper or lower case can be of vital significance (e.g. MW, mW), we have had to accept the shortcoming inherent in the system, and have two alphasorts. I'm open to advice or suggestions.

I think the principal ingredients for something like this are imagination and an unwillingness to accept that something cannot be done, coupled with a helpful equipment supplier contact. I am convinced that we have nowhere near exhausted either our own inventiveness or the equipment's capabilities.