



Translating in the Deep End

By Michael Karpa

When the financial crisis hit, my biggest clients cut back or shut down translation operations altogether. I adapted. I signed up for webinars, Internet clearinghouses, social networking, and online training for computer-assisted translation environment tools (TEnTs). The already crucial Internet suddenly became even more central to my work. So when I recently encountered two visionaries discussing the role of the Internet, I was primed to consider that Internet use might have a greater impact on my translation life than I would ever have suspected.

The Shallows

Nicholas Carr's new book *The Shallows: What the Internet is Doing to Our Brains*¹ explores how the Internet is retraining and literally reconstructing our malleable brains. Others, such as *Newsweek* editor Malcolm Jones in his June 2010 article "Slow Reading: An Antidote for a Fast World?"² have also argued that we are reading too much too fast. But Carr maintains in his compelling book, amply informed by neurophysiology and history, that Internet usage is changing the nature of cognition itself.

We read more than ever, says Carr, but our reading buzzes over the surface as we click from link to link, with

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less time devoted to deep reading and deep thinking. Says Carr, "what the Net seems to be doing is chipping away at my capacity for concentration and contemplation." For translators, reading concentration is a particularly crucial skill. We have to understand every word we read in a source document, follow the sense across the entire text, make inferences from other material, and then demonstrate that understanding by reproducing the original in another language. If we get something wrong, the evidence is there on the page for all to see. So I began to wonder: Is this shallowness affecting me as a translator? Is it affecting those who use translation? And is it affecting our profession?

Are Translators Changing?

The Internet has been a boon. Online search capability has enabled us to access expert subject-matter knowledge to improve translation quality greatly. Online dictionaries

have boosted speed. I was initially skeptical that the Internet might be impairing my ability to concentrate. But then I recalled what happened when I discovered *The Atlantic* article ("Is Google Making Us Stupid?") that gave rise to Carr's book: I clicked on a link, printed out the article, and promptly put it on the shelf—it was too long, I was too busy.³ When I finally read the article, I found it well written, but my mind wandered on page three. I began to think Carr may have a point.

I had the chance to hear Carr discuss his book in a dialogue with Peter Norvig, Google's director of research, on a weekday evening in San Francisco. The auditorium was packed, with every seat filled. Afterward, I talked with Carr—a down-to-earth, writerly type—and he offered to answer questions I e-mailed him about translation. (*The Shallows* does not deal with translation and Carr noted that much of the subject ➤

lies outside his expertise and knowledge.)

Many in the audience that night seemed concerned, even frightened, that Carr was anti-Internet. But rather than inveighing against the Internet, Carr explained that he is investigating how it changes the act of reading and the toll it takes on our cognitive abilities.

The Shallows explains that when we read, we first use a type of short-term memory called working memory, which holds “our immediate impressions, sensations, and thoughts...[and] forms, in a very real sense, the contents of our consciousness at any given moment.” Working memory “plays an instrumental role in the transfer of information into long-term memory and hence in the creation of our personal store of knowledge.”

It takes time and repetition to move information to long-term memory, something translators can easily recognize in our role as editors of our own work. Ann Ebrecht, professor of writing at Temple University Japan, cites three days as the optimum time to set aside a piece of writing before editing it—as we allow working memory to fade, the work starts to seem fresh, a bit as though someone else had written it.⁴

But the Internet routinely overloads working memory by asking us whether to pursue links. Ad-funded websites are designed to boost click-through rates. Carr cites several studies of temporal lobe activity that indicate that the change in cognition when we use the Internet is a shift “from reading words to making judgments...[which has] been shown to impede comprehension and retention, particularly when it’s repeated frequently.” The result is that “our ability to learn suffers, and our understanding remains shallow.”⁵

If using the Internet is physically restructuring our brains—and Carr makes a convincing case that it is—will this degrade translators’ ability to retain new vocabulary and to engage in deep thinking “in the quiet spaces opened up by...sustained, undistracted reading...[where] we make our own associations, draw our own inferences and analogies, foster our own ideas?”

I asked Carr about the possible effects of translation tools on deep thinking. “I haven’t seen any studies on translation tools and their effects,” Carr responded. “In the book, I describe one study that showed that the more helpful a piece of software is in helping us solve difficult intellectual challenges, the less we learn about solving the problem ourselves.”

In that 2003 study, Dutch clinical psychologist Christof van Nimwegen had one group of subjects work through tricky logic puzzles aided by software designed to be as helpful as possible. Another group used a program that provided no guidance. Eight months after the experiment, van Nimwegen found that the people who had originally used the *unhelpful* software were able to solve the puzzles nearly twice as fast as those who had used the *helpful* software. Van Nimwegen concluded that as we externalize cognitive chores to our computers, we reduce our brain’s ability to build stable knowledge structures that can later be applied in new situations.

Could translators become so dependent on TEnTs, Web dictionaries, and online translation that our skills as translators—as thinkers—degenerate through lack of use? Carr notes that written correspondence lost expressiveness in the shift from personal letters to e-mail or texts and suggests that we ask if syntax is now

becoming formulaic. This is a noted issue for translation memory.

Translation memory encourages us to translate one sentence as one sentence and to leave 100% matches untouched, since adapting them to context is an omittable step. It is easy to see how this can lead to rigidity. The need for terminological consistency tempts clients to demand similar consistency for phrases, then sentences. Translators risk becoming what Maryanne Wolf of Tufts University calls “mere decoders of information”⁶ without the ability to, as Carr says, “make the rich mental connections that form when we read deeply.”

Are Translation Users Changing?

More of the translation we produce is being breezily consumed via the Internet. Translation produced by systems such as Google Translate is rarely consumed anywhere else. If Net-induced brain rewiring is complicating our lives as translators, what sort of effect is it having on our clients, our market, and our potential readers? Internet users can use online translation utilities to gain the gist of a page in an unknown language. A click produces a translation good enough for 90 seconds of skimming, providing a stepping stone to the next link.

I asked Carr if we were migrating to a standard of “good enough.” If skimming is good enough for reading, then an awkward or partially inaccurate translation may be increasingly acceptable as an end product. Is the concept of accuracy fading in importance? He thought it very likely. “There’s something of a vicious cycle at work, whereby as we become more dependent on external databases and search tools we entrust less knowledge to our biological memory, requiring even greater dependence on the external tools.”

Figure 1: Comparing Translations from Italian Which Version is the Machine Translation?

<p>NASA plans to send probe into Moon's surface</p> <p>NASA, the United States' space agency, has announced that its next mission to the Moon will not only orbit the moon, but also send two craft crashing into its surface.</p> <p>The Lunar Reconnaissance Orbiter (LRO), whose main mission pertains to mapping the Moon, will send a spent fuel stage and an impactor probe towards a crater on the South Pole.</p> <p>The crater seems to be rich in hydrogen and possibly ice.</p> <p>The mission is part of the run-up to trying to land astronauts back on the Moon, and perhaps keep them there for a longer period of time than the Apollo missions did.</p>	<p>NASA's Plan to Send a Probe on the Lunar Surface</p> <p>The American space agency, NASA, announced that the next mission to the Moon will not be limited to orbit around the satellite, but also include the launch of two spacecraft that will reach the lunar surface by means of a crash landing.</p> <p>The Lunar Reconnaissance Orbiter (LRO), whose mission is to explore the Moon, will send a shuttle to and support a probe into an impact crater located on the south lunar pole.</p> <p>It seems that the crater is full of hydrogen and possibly ice.</p> <p>This mission should be seen as part of a series of initiatives that aim to bring the astronauts on the moon and, perhaps, let us stay for a period longer than the Apollo mission.</p>
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Franz Och, who heads the machine translation effort at Google, gave a talk on July 30, 2009, concerning the development of machine translation.⁷ During his speech, he demonstrated the improved quality of machine translation by comparing a human-produced Italian-English translation to a machine translation of the same passage. (See Figure 1.) He asked the audience to identify which was which, and stated "It's quite challenging but some people actually figured it out." As a translator, it was immediately obvious to me which was the machine translation, even without knowing Italian, but for Och, they genuinely seemed indistinguishable. I suspect that to most Internet users, the difference is negligible, as Och suggests. And machine translation is much faster and cheaper.

Could gisting become acceptable as a final product because final products are themselves becoming obsolete, replaced by a series of imperfect iterations posted until interest wanes?

Many technological advances take away the simplest parts of our jobs and leave us with the most complex, but these are also the most rewarding.

If reading information snippets is the new Internet norm, will glossing over difficult details become a survival trait, or even a virtue?

Is the Translation Profession Changing?

To explore what this means to the translation profession, I looked at Google Translate in more detail. In an interview with David Sarno in the *Los Angeles Times*, Och called machine translation "really core to the mission of Google."⁸ Google's corporate website (www.google.com/corporate) declares that the firm's mission is "to organize

the world's information and make it universally accessible and useful." Carr posits that Google's philosophy is that intelligence is the output of a mechanical process that can be optimized. He characterizes Google as an outgrowth of Frederick Winslow Taylor's time and motion studies of the early 20th century and quotes Taylor as saying "In the past the man has been first," but "in the future the system must be first." Google Chief Executive Officer Eric Schmidt has indeed said Google strives to "systematize everything" it does.

But for Google Translate, the process may not be as mechanical ➡

as it first appears. Built into the system is the idea that perfection is not attainable. Franz Och noted in his July 30 talk that “natural languages are very ambiguous...[and] meanings depend on the context...To produce a [machine] translation, you have to make many decisions. You have to make decisions under uncertainty.” Google’s statistical decision theory system combines fuzzy information and learns from large amounts of knowledge sources to make optimal decisions.

Machine translation has a history of two approaches. The rule-based approach systematizes language into rules that are applied to convert one language into another. Those systems have not proven adept at translation. Google instead employs a kind of brute force, statistics-based linear approach that goes through multiple models to find the translation that is the best. It requires vast repositories, or corpora, of translations done by human translators.

The key element is the phrase

table/translation dictionary. From the large corpora, the system infers how words in one language translate to words in the other through co-occurrences. It runs over massive amounts of data to learn which phrases correspond to which and then associates these pairs with quality metrics to indicate how good the phrase correspondence is. Google Translate functions as a sort of library that extrapolates: its algorithms catalog, match, and modify text to create new translations from old ones.

But many translators have encountered the client-mandated 100% context match in a TEnT that renders all the words accurately but is nonetheless wrong. No mind has taken the time to think through the tough bits. So what the human translator brings is understanding. Thus, our role may shift away from being generators of new language toward being judges of it: editors of text generated by computers.

Use of bilingual understanding is already an established part of the

translation industry. Intellectual property lawsuits typically include a process called “discovery,” in which litigating parties produce aggressively large masses of “relevant” documents. When those are in different languages, translators perform a function involving a great deal of judgment: reading documents and ascertaining their true relevance. In the future, such understanding-driven tasks are likely to be a larger part of our work.

Translation is Good for You

Non-translators frequently believe that online translation eliminates the need for translators. Carr makes the counterargument in terms of writing itself. He notes that in Plato’s *Phaedrus*, Socrates feared that with the development of writing, people would substitute the written word for knowledge they used to carry inside their heads. Their memory abilities would decline, and without the ability to understand the new information they were getting, they

Figure 2: *Phaedrus*, by Plato, Translated by Benjamin Jowett

SOCRATES: I cannot help feeling, Phaedrus, that writing is unfortunately like painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence. And the same may be said of speeches. You would imagine that they had intelligence, but if you want to know anything and put a question to one of them, the speaker always gives one unvarying answer. And when they have been once written down they are tumbled about anywhere among those who may or may not understand them, and know not to whom they should reply, to whom not: and, if they are maltreated or abused, they have no parent to protect them; and they cannot protect or defend themselves....

[Socrates goes on to speak of the composers of written discourse:] [I]f their compositions are based on knowledge of the truth, and they can defend or prove them, when they are put to the test, by spoken arguments, which leave their writings poor in comparison of them, then they are to be called, not only poets, orators, legislators, but are worthy of a higher name, befitting the serious pursuit of their life.

PHAEDRUS: What name would you assign to them?

SOCRATES: Wise, I may not call them; for that is a great name which belongs to God alone, — lovers of wisdom or philosophers is their modest and befitting title.

would feel wise when they were not. (See Figure 2.) However, says Carr, writing and reading spur fresh ideas, spread information, and expand human knowledge. In his *Los Angeles Times* interview, Och stated that “we now have the idea of cross-lingual translated search. If you have a question about something, you should be able to type a query in, and if the answer is in a Web page in a completely different language, you should be able to find that and understand the information there.” Many have speculated that online translation will enable potential translation clients to discover information of interest in languages they do not speak, stimulating the desire for translation. And indeed, surveys consistently show the market is growing.

Many technological advances take away the simplest parts of our jobs and leave us with the most complex, but these are also the most rewarding. Just as law firms can now use programs like IBM’s eDiscovery to narrow the pool of discovery documents to those that require a human eye, the Web’s gisting role may allow translators to use the more sophisticated parts of our skill set.

There is more information than ever. With the fast pace of ad-driven click-throughs on the Internet, we can feel as if we are drowning in it. But, as *Newsweek*’s Malcolm Jones said, “Yes, we’re drowning in information, but, clearly, reading faster and faster is not the way out of the deep end.” It may turn out to be that the nature of translation—that it forces us to demonstrate the completeness of our understanding—could increase the value of what we do. If we cultivate it, the greatest skill that translators have may prove to be the very thing that the Net is making rarer: the ability to read deeply.

Notes

1. Carr, Nicholas. *The Shallows: What the Internet is Doing to Our Brains* (W.W. Norton & Co., 2010).
2. Jones, Malcolm. “Slow Reading: An Antidote for a Fast World?” *Newsweek* (June 23, 2010).
3. Carr, Nicholas. “Is Google Making Us Stupid?” *The Atlantic* (July/August 2008).
4. Ebrecht, Ann. “Clear and Concise Writing,” presentation at the 21st International Japanese/English Translation Conference (April 24, 2010).
5. For an extensive critique of Carr’s argument and a passionate defense of links, see Scott Rosenberg’s “Delinkification is Bunk: Linking is Good for You,” www.salon.com/news/opinion/feature/2010/09/07/defending_links_open2010.
6. Wolf, Maryanne. *Proust and the Squid: The Story and Science of the Reading Brain* (Harper, 2007).
7. Franz Och, www.youtube.com/watch?v=y_PzPDRPwIA.
8. David Sarno (*Los Angeles Times*, March 11, 2010).

Additional Information

Useful works cited by Carr include:

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