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## Response to John F. Bukacek's "Machine Translation: Boon or Boondoggle"

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**J**ohn Bukacek, Administrator of the Japanese Division, has written a rather thoughtful essay on machine translation which has been published in several of the chapter newsletters. His point, in essence, is that there is no substitute for the human intelligence of a human translator. And he's absolutely right. Bukacek understands the translation process and states the case well. As a translator of 30 years' experience and a user of machine translation for over a decade, I agree with everything he says about translation, but not everything he says about machine translation. Moreover, as Chair of the ATA committee on this subject, I feel it is important to point out that MT proponents accept all the same premises

that Bukacek advances and arrive at an entirely different conclusion. They recognize that MT does not produce a "proper" translation such as Bukacek requires, but they conclude that it is useful in certain circumstances. We should be careful not to overgeneralize.

### Let's Put Things in Perspective

Bukacek's assumptions about MT appear to be drawn from the vantage point of Japanese to English, which is recognized to be one of the most difficult language combinations in the business. Japanese as a source language poses daunting problems and offers the main case in which pre-editing is currently being used—especially in Japan, where monolingual speakers of Japanese can be hired to pre-edit the input for less than translators or bilingual editors to mas-

sage the output afterwards. Even so, however, the source text is not "rewritten." The modifications used in pre-editing are sufficiently predictable that several companies have developed user-friendly software prompts for the purpose. Interventions often involve the identification of word and phrase boundaries when the computer would tend to be baffled. On the other hand, to have a Japanese-to-English system that requires pre-editing would be impractical in the United States, where the demographics are reversed, and planners in the foreign literature industry are well aware of the need for a J-E system that does not require pre-editing. My point is that it is rash to extrapolate conclusions about MT in general from the specific problems of Japanese. In the Western languages MT has already chalked up an impressive record. The results are not

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as "meager" as Bukacek would have us believe: For example, MT has proven its mettle for over 20 years at the U.S. Air Force's Foreign Aerospace Science and Technology Center as a tool for "gisting" foreign technical literature. Annual production is about 12 million words (Vasconcellos & Bostad 1992:72). With texts from Russian, posteditors intervene in about 20% of the output. In another example, for some time now MT has been translating more than 45,000 words a day of weather forecasts for Environment Canada—some 16 million words a year, for an all-time total of well over 100 million words since 1978 (Chandioux 1991:123). Less than 4% of the output is modified by posteditors (Grimaila 1992:35). At the same time, MT has been successfully used by many corporate giants (ATA Conference-goers have heard from AT&T, Intergraph, Siemens, Unibank, Xerox, and others) to speed up the translation of repetitive, simply phrased user documentation and thus to hasten introduction of the companies' products in foreign markets. These firms use MT to beat out the competition. What could be a better test of its effectiveness? It has been enlisted especially to translate from one language to many, enabling products to be launched in multiple markets simultaneously. The attractiveness of MT to these managers does not necessarily correlate with the quality of the machine-translated output. For them, the re-keying of typographical format (SGML) codes represents half the cost of a translation. If these codes can be captured and the output can be fixed up for less than the cost of a human translation, they are going to save big bucks and they are going to use MT.

### **MT as a Tool for Translators**

This being said, it is still a sizable leap from the foregoing examples to the use of MT for anything that comes over the transom—the circumstance in which Bukacek's points are best taken. All good translators have a healthy respect for the challenge that this task represents. Personally, I am convinced that in serious translation the key to meaning lies not so much in syntax, semantics, or pieces of information as in the fabric of the overall discourse, expressed as cohesion, "themes," information build-up, and coherence. Of these components (or language systems), probably only cohesion is potentially reducible to

rules that could be used by a computer (Vasconcellos 1989). The rest depend on the writer's and the translator's personal lifetime stock of communication with their fellow human beings. I often like to quote the philosopher I.A. Richards, who called translation "very probably the most complex type of event yet produced in the evolution of the cosmos" (1953:250). Bukacek, coming from the perspective of Japanese to English, sees this complexity raised to the nth degree. Thus, the use of MT for "general" translations and for translations to be closely scrutinized by a demanding readership—the kind that Bukacek is talking about—is a different kettle of fish than the MT applications that have been so successful. Those who are not translators may have generalized from the examples above and projected some unrealistic optimism. As supervisor of a translation service that has used MT for 12 years, I tried out more than 50 posteditors, most of them professional translators, and found that for many of them it is indeed "harder to correct a bad translation than to translate correctly from the start," as Bukacek says. For others (a minority), however, MT speeds up the process, enables them to work for longer stretches without tiring, and does not impair the quality of the final product. This is true when the MT system is robust and when the source text is grammatical. When these conditions are not met, the advantage of MT quickly declines. Translators should explore MT and see whether or not their particular texts and personal style make for a happy marriage with the technology. In doing so, they should come already prepared with strong word-processing skills and they should eliminate such distractions as having to key in the source text by hand.

### **A Conflict of Interests?**

Bukacek demands to know if it is "a conflict of interests or a community of interests" for one to be a "key ATA official" and at the same time an official of the recently formed Association for Machine Translation in the Americas (AMTA). Since I am the only person who might be considered to fit this description (assuming that I have been promoted to KAO), I would like to make it clear that I wear my two hats with care and take great pains to never wear both

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of them at the same time. As I mentioned earlier, I have been a translator for 30 years, and my highest professional priority is understanding and producing translations of the best quality possible. In ATA I have worked on a variety of projects, of which MT has turned out to be the most notorious. I consider that the role of the MT Committee is to present translators and the ATA constituency (including the public who call in daily with questions about MT) with accurate, realistic, and useful information. I give my time because I think it's important that translators be well served. I have nothing to gain and a lot to lose in terms of hours and energy. The purpose of AMTA, in turn, is clearly set out in its Articles of Incorporation: "It shall bring together users, developers, researchers, sponsors, and other individuals or institutional or corporate entities interested in machine translation for the purpose of studying, evaluating, and understanding the science of machine translation and educating the public on important scientific techniques and principles of machine translation." AMTA is not slanted toward vendors; on the contrary, they represent only a small percentage of the membership—and those who do belong have been careful not to make exaggerated claims for their products. Nor does AMTA represent translators, as Bukacek suggests in referring to it as a "translation organization." Its purpose is exactly what its Articles say it is. I see the relationship between ATA and AMTA as a community of interests, and

an essential one. In his conclusion, Bukacek funnily enough calls on translators to avoid "a Luddite response to machine translation." He then goes on to urge them to "educate themselves about the value of human translation and the usefulness of computer-aided translation, as distinct from the applications of machine translation." I say, let's get educated about MT as well.

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