

# THE LANGUAGE INTERNATIONAL INTERVIEW

## Takehiko Yamamoto

of Bravice International Inc.

The interview was conducted by *Geoffrey Kingscott* in English, which is not Mr Yamamoto's first or even second foreign language, and is abbreviated from the original transcript.

GK: *Could you tell us something about Bravice?*

TY: Well, our turnover was 2 billion yen last year, with 450 million yen in translation. We really think we are the number one in the machine translation business. No company has sold as many software packages or machine translation systems (3500) as we have. At present we have close to 25% repeat orders.

Last fall we won a US Ministry of Defense sub-contract for the development of a huge communications system. The core of the project is to develop a machine translation system English to Korean and Korean to English. The system is the Theater Automated Command and Control Information Management System (TACCIMS) and is to support the Combined Forces Command in the Republic of Korea.

The TACCIMS Project's MT system will be based upon Bravice's System 2. System 2 uses the so-called Lexical Functional Grammar (LFG) approach which is expected to become the main stream in future MT developments. The TACCIMS MT system comprises separate and independent sections for the translation engine, source language analyser, transfer unit and target language generator. Our approach increases translation accuracy while reducing cost and time.

GK: *How did you start in this business?*

TY: Bravice was established 17 years ago as a consulting company for Japanese industry in Brazil. Then, ten

years ago, the nature of the company completely changed drastically. Here is how.

While running the consulting company I had to handle a big volume of translation, which was always a headache for us. Lack of capable translators was and still is a serious problem.



*Takehiko Yamamoto*

I thought that if there were some software which could translate from one language into another that would be a great help. By mere chance, we found a company in Provo, Utah, Weidner Communications and we purchased their system for English/Spanish and Spanish/English. This was in 1978. In 1979 we signed a contract for Weidner to develop a Japanese to English system. That did not develop as we wished, so we decided to take over Weidner. First we acquired 50% equity, then we increased to 80%. Then, in January 1988 we added the final 20% and now I own 7% and the other 93% are owned by Bravice.

GK: *And Bravice is your company in a sense?*

TY: My family have 56% equity of Bravice, but the majority of the

remaining shares is owned by Japanese companies. We also have investments from the UK, USA, France and Italy.

GK: *Which seems to show a lot of faith in Machine Translation by experienced investors who evaluate investments for that type of company.*

TY: Yes.

GK: *Can you tell me something about yourself?*

TY: (Laughing) I'm an old man — born in 1933. I went to Tokyo University law school but I think I was perhaps the worst student and felt rather frustrated there. When I started working for a cement manufacturing company I first came in contact with computers and this drew my attention immediately. It took quite a long time before I became involved with the computer business. I did a variety of jobs in the cement company and my last assignment was related to Brazil.

GK: *Moving forward, as a result of your contacts with Brazil you set up your own development company which was Bravice and so you came into Machine Translation because you were a dissatisfied customer.*

TY: Yes, that is true, but another reason is that I was married to a Brazilian lady and we had a problem communicating with each other. I learned very much of this, though it wasn't easy. It felt as though I had stepped into a communication gap which certainly exists between people of different mother tongues. Now I feel I have an advantage over other Japanese people, who are generally monolingual. I now speak English, Portuguese, Spanish, some Italian and French and I can read German.

GK: *I find that remarkable; you certainly have a good command of English.*

TY: Not really; the problem is that I have never lived in a country where English is spoken as the main language.

GK: *Can we turn to Machine Translation? In which direction do you think it is going to go? How big is it going to be?*

TY: Essentially machine translation is a game of probability. It cannot be compared to human translation. To try to parallel MT with human translation is to challenge God and I will never attempt it. Machine Translation is a tool to assist human beings, that is why it is appreciated.

When we speak of translation quality we have to be careful. Some people ask me, "How many points do you give to your system?" It's a most difficult question to answer. We cannot evaluate machine translation quality by counting mistakes. If we find a single fatal error then the translation is useless. On the other hand, even if errors are found, if such errors are not crucial, then MT can help to a great extent.

GK: *Can you tell me something of Bravice's marketing plans?*

TY: We plan to penetrate the education market, for which we will develop low and high end products. It is a bit premature to go into this in detail.

GK: *You educate students on Weidner for the future. Is that part of your philosophy or part of the educational expansion?*

TY: Partly so. Weidner products would not be sufficient for educational purposes. As high end product, we are looking at tools to educate students for natural language processing. We see a tendency towards new natural language processing courses and related fields in major universities all over the world. Looking back at the history of computers, they used to handle only digits, not languages. In my opinion, it is becoming

increasingly essential for students in the natural sciences to learn about natural language processing. By providing the tools we will be catering for an important sector.

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GK: *This more or less brings us up to date. Let's go back to Weidner, or World Communications Corporation (WCC) as it is now known. What is the position now. Where and how are you going to trade?*

TY: WCC was mainly run as a sales and marketing company. Now, the development body of the old Weidner is still operating as a new organisation: the Executive Communication System (ECS). ECS works for Bravice only and all the resources come from Bravice. We have an extremely good relationship and operate as real partners.

GK: *What about the European market?*

TY: I think we could have really good results in the European market. We need a good solid sales organisation in Europe to promote new Bravice products, that is, European Languages MT systems developed by Bravice as well as our new architecture-based products, such as Toolkit. Some time in 1989 we are going to launch an English to Japanese system on the Japanese market which is based upon our new architecture. It is being developed in Japan and in Provo, Utah by a team of 65 people altogether.

GK: *I believe you said earlier that it included Korean when we talked about the US Defense contract, is this part of a new product too?*

TY: Yes it is. The product for the US Military Force is also based upon the new architecture. The product may be the first MT system based on Lexical Functional Grammar that will be

applied. Several Japanese institutions and companies are conducting research and development using LFG. We are the first to have it available right now.

GK: *Do you know if anyone else is going to release anything based on Lexical Functional Grammar soon?*

TY: I don't think so. I have no news to indicate that. LFG has advantages as well as disadvantages. The biggest advantage is that all syntactical analysis for a given sentence can be shown, but you still have to pick out the right one. If you have a good breakthrough to pick up the right solution, you will be OK but you can be faced with a wide range of possibilities.

Computer resources needed for an LFG-based MT systems tend to become bigger, even so, we stick to micro-computers for economical reasons. We will be targeting work stations soon with a much bigger capacity.

GK: *Just on software, are you thinking of developing systems for other European languages, which is obviously the big market apart from Japanese?*

TY: That is a subtle question and I haven't come to a definite conclusion yet. However, we do need a kind of association with European companies, simply because if I say here I have an English/French system and would you buy it, nobody would buy it from an oriental company.

GK: *What about the previous European company you had, did you decide it was not satisfactory for your purposes?*

TY: I don't think that our product concept or our philosophy on MT was ever properly transferred to our subsidiary in Europe. One problem was that the old WCC management did not know any language other than English. If we are going to handle cultures or knowledge across the borders, we need to have a good understanding of other languages. That didn't exist in WCC.

Perhaps I ought to tell you about our distributors in Europe because some reports have been published. The truth is that in January 1988, when I bought the remaining equity in WCC, I

gave its former manager non-exclusive distributor's rights of WCC products worldwide. He also acquired the right to transfer his rights to a company he owned entirely (ESC — not ECS — is such a case). In August 1988 we advised him that we would terminate his distributorship.

*GK: Can we talk more generally about your marketing strategy. What about your Toolkit product, for instance?*

TY: We had been working mainly on micro-computers and I think it was the right strategy. Some people stick to a mainframe, that means they stick to translation speed. Mainframe gives you more speed, quite naturally. But, we opened up in a big way to end users, sacrificing translation speed. Translation is a very personal and local thing. Mr. X may prefer one style, while Mr. Y will want a different style. In order to satisfy such needs, each user should have his own system which can be adapted to his own requirements. This kind of flexibility is only possible at the micro-computer level.

Toolkit is a very flexible system upon which one can build up one's own MT systems or any other natural language processing systems. We introduced the idea to some university and they gave us a verbal commitment to get one. This customer is going to build a new MT system for a particular language pair.

Toolkit consists of a translation engine which drives linguistics tools and consults dictionaries. The engine is good for any language. As part of Toolkit we provide an English parser and a core English dictionary. If the user of Toolkit wants to develop a new language pair he must create a target language generator (or a parser) and a transfer portion between a source language and a target language.

*GK: When will that become available?*

TY: We are very much pressed by the university and we are trying to give them user manuals as soon as possible

because only the manual is still incomplete, the system is ready.

*GK: And this Toolkit you see as a basis for a separate marketing operation once it has proved itself?*

TY: Yes. And Toolkit should go on our worldwide sales network. This cannot be built in a day, and we have to be communicative enough in the way in which we transfer our philosophy on MT to our European partner. On this trip I wanted to get a feel of the market.

*GK: So what you are doing is essentially just testing the water? Really you've got to build up your network and the marketing strategy will depend on that. Will you go back into services?*

TY: The answer is no. In Japan translation bureaus never made big money. They are sandwiched between clients and translators, translators ask for more money and clients ask less money so between the two, to my knowledge, no translation company made substantial money. I don't know the situation in Europe but what I have said about Japan also applies to the US. Services are not attractive to me.

*GK: How do you see the whole market developing long term? What do you see happening to translation and the machine translation elements in translation?*

TY: Well, this is not a direct answer to your question but my personal feeling is that the technologies created for MT will find applications in other things like the educational tools. In other words, the technology will not only continue to live in the translation world but step out of it too.

*GK: What about long-term things like voice recognition? Is this going to have an impact? It is said the Japanese are ahead of Europe on this.*

TY: Naturally, if voice recognition becomes workable it will have a huge impact on MT. That's quite true.

*GK: Where would you see Bravice*

*being in 10 years time?*

TY: Well, I want to be [Stock-Exchange] listed before that time. Whether or not we are successful at that depends on how fast we develop. We have lots of new ideas and new applications, the question is how soon can we convert them into sellable products.

*GK: Would it be true to say that you are fascinated by the MT business?*

TY: Yes, definitely. This is a difficult but very exciting business. I am very happy being here. But there is another side to each coin. I am happy in this business, but I regret I don't have much time for the opera.

*GK: What are your general interests? You mention opera.*

TY: I am especially interested in the music and life of Maria Callas. One of my dreams is one day to visit the places where she marked her major musical events. I am taking singing lessons once a week. I am learning Italian operas. I finished 'La Traviata', I covered all the arias and the major duets of 'Alfredo' and now I am struggling with Rodolfo of 'La Bohème'.

*GK: One of your associates has told me that you have quite a collection of musical instruments and a very sophisticated hi-fi system.*

TY: Yes, I have a system which reproduces the resonance of the major opera houses of the world, like Covent Garden, The Metropolitan Opera House, La Scala, but the system is too big for my house and if I operate it at its full capacity the complaints will shower in! I play a little bit of piano so I have a grand piano and an Electron, an electric organ and a keyboard which is mainly for light music and I also have a guitar.

*GK: Music is obviously a very major interest. Do you live in the centre of Tokyo?*

TY: Yes in the heart of Tokyo. The only reason for that is to save time.