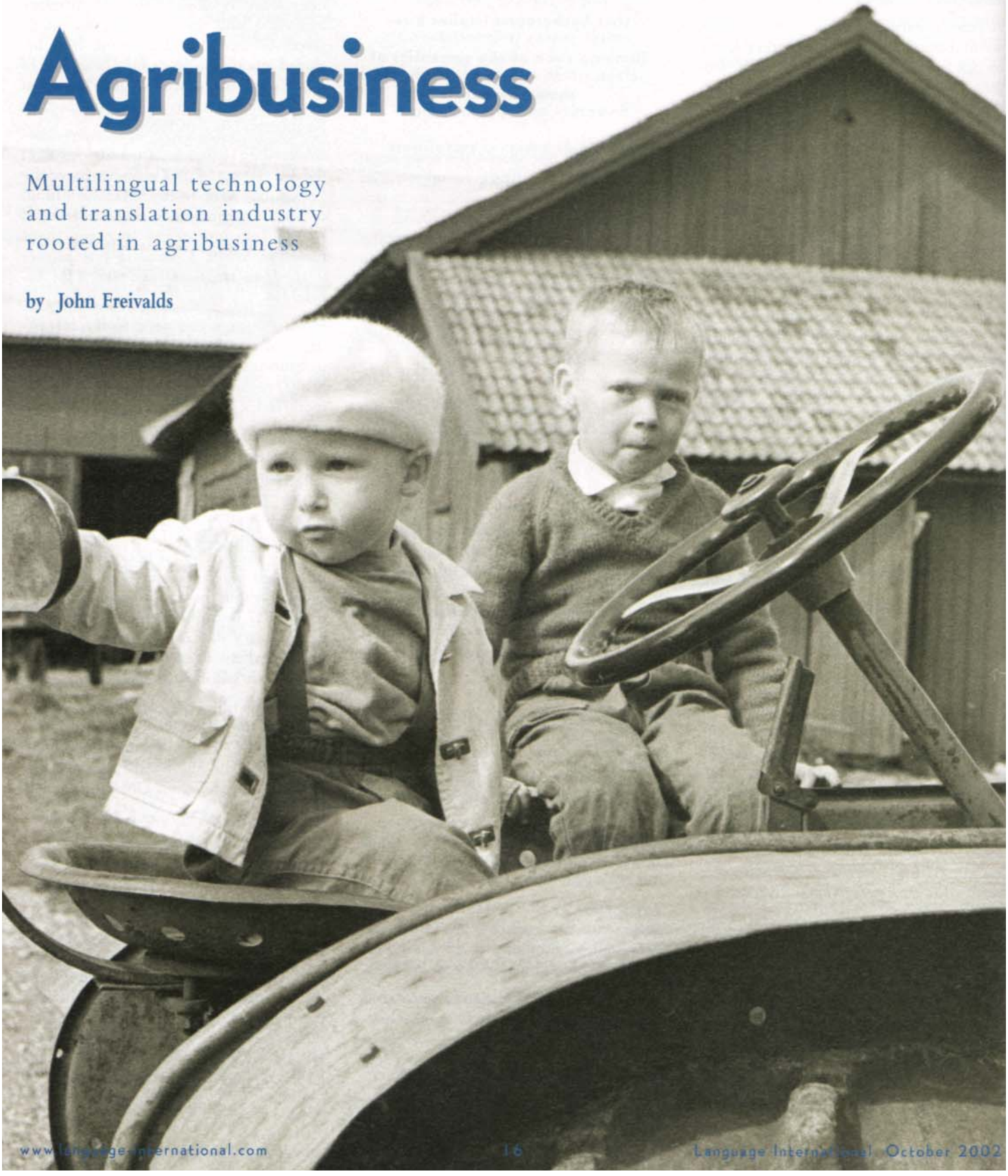
The Lessons from Agribusiness

Multilingual technology and translation industry rooted in agribusiness

by John Freivalds



As we go to press, the Society of Automotive Engineers (SAE International) just finished their annual symposium on translation and localization ("Multilingual Communications for the Automotive Industry") in Nashville, Tennessee—a city known more for its country music than multi-language communication.

Hidden among the topics of "the pros and cons of outsourcing, machine translation, new translation technologies, translation quality metrics and education requirements" offered by automotive giants of Bentley, Ford, Volvo and General Motors are two unlikely presenters with language business leadership roles—John Deere and Caterpillar.

Deere's Norbert Ehrlich, service publication manager based in Mannheim, Germany, spoke on "Perspectives of Outsourcing" while Pat Fenner, corporate translations manger at Caterpillar based in Peoria Illinois, discussed the "Latest Developments in Machine Translation." While both manufacture vehicles that are *automobile* you could hardly put one in your garage or use it to drive to the grocery store.

Both companies were invited to participate because they, like other agribusiness

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manufactures, create demands for new translation technology and business processes. Yet, we frequently forget to acknowledge that agribusiness has played a significant role in the multilingual industry. As the world becomes more developed, we become less and less familiar with agribusiness. Some school children in the UK think cotton grows on the back of sheep while the farm state of Minnesota, USA, created a working farm at a city zoo to help urbanites better understand what they usually see driving along rural highways.

What is even worse than lack of awareness of the agribusiness contributions to technology and the multi-language field is the popular misconception that farming uses dated processes. An advertisement now running in US hi-tech magazines shows a photo of tractor wheels as the back of a Formula One car. The subtitle reads, "Are your systems mismatched." The inference here, of course, is that the Formula One car is advanced and the tractor is not. Failure to see innovation in the agribusiness manufacturing has led many to reinvent the wheel. No pun intended.

And while computer manufacturers presume a given level of education for its users and write their documentation accordingly, this is not the case in the farm sector.

"It's too bad," comments Paul Brink founder of PH Brink of Golden Valley Minnesota referring to the ad. His firm, founded in 1976, specializes in translation and localization for agribusiness manufacturers. As a result of its agribusiness experience, PH Brink continuously tailors services to fit its clientele and develops products to suit a number of other vertical industries. They have completed some 40,000 projects in multiple languages for Deere and CNH among others during the last six years.

"Today's sophisticated farming equipment comes with ground radar, global positioning, laser guidance, motors and systems all controlled by microchips. The top of the line combines and tractors can tell you how you farmed a given field the year before," says Brink. "Such technology demands our own innovation in assisting clients to communicate quickly and cost-effectively with their customers globally."

Each of the major agribusiness machinery companies has also developed a line of construction equipment based on some of the same platforms and engines. John Deere, like many of its competitors, took this even further and developed a line of lawn and garden equipment, which is sold around the world. Just try to think of a leading resort anywhere in the world without a golf course. Many of these golf courses are groomed by Deere equipment. But as one who has worked in this sector for the past twenty years, I know that concepts like time to market, global launch, multilingual glossaries, machine translation and content management were all ideas developed in the agribusiness sector long before Silicon Valley became the self proclaimed center of multilingual computing.

Much is written about how traditional industries use modern technology to go forward. The expression "click and mortar" is often used. Yet, agribusiness firms, as we will see, stand in the forefront of the language and translation field. Thus the names of Cyrus McCormick (the mechanical reaper), John Deere (the moldboard plow) and Benjamin Holt (the crawling tractor on tracks) contributed to the language industries just as much as Bill Gates and Steve Jobs.

How so? Since inception, both computer technology and agribusiness machinery had common characteristics—they were both labor saving, had immediate acceptance and found competitiveness in world markets. And given the fact that each day an additional 10,000 mouths have to be fed, agribusiness doesn't need to hire IDC or Forrester to try to estimate demand for its products. There is a *real* need for more food and the ability to grow it. It is true also that the farm machinery market has become more consolidated with the major brands being CNH (which combines JI Case and Ford New Holland), Caterpillar, Agco and John Deere. It is also true that they each have multi-million dollar documentation and translations budgets to support their products and services.

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Russia in the 1930's when huge collective farms of 20,000 to 400,000 acres were developed. Caterpillars' massive language documentation programs began with this project. Maybe I am giving too much history. This is a language magazine after all? But, then again, the historical context is important. A European translation company with a Chicago, Illinois, USA office approached Caterpillar a couple of years

ago seeking its business. Gerhard Auer, then head of Caterpillar's Translation program gave the company a test translation to do from English to Russian. The translation company's president was later called in to get the results. His firm had consistently mistranslated the word "track"—a word CAT had been translating into Russian for over 70 years! The European company did not get the job.

What you need to know about agribusiness machinery

Understanding the translation and localization requirements for agribusiness machinery requires that you know how and by whom the machinery is used. Also, the same applies to maintenance. Just as with computers, not all tractors are created equal. Large technologically advanced

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farm equipment is used in capital intensive farming in the United States, Canada, Australia, Brazil, Argentina and South Africa. Medium scale farming is practiced throughout Europe and parts of Asia while small scale framing is more common in parts of Africa, Asia and the Caribbean. All of this bears mention when you consider the multiplicity of languages, models, parts, parts catalogs on line and product information now sent over the internet directly to farmers and other documentation that manufacturers need to run their business.

And while computer manufacturers presume a given level of education for its users and write their documentation accordingly, this is not the case in the farm sector. A South African tractor operator didn't attend Ohio State University in the US for special training or Wageningen in the Netherlands. As we shall see, this disparity in education levels has led the industry to do a lot of experimentation on how documentation should be put together.

In the mid-1980s Brian Dearden, the long time global communications director of Ford New Holland (now CNH) recognized the need for more effective documentation assembly. He documented six versions of English (American, U.K., Australia, New Zealand, South Africa and the rest of the world) and five versions of French (France, Switzerland, French West Africa, and the Caribbean). Accordingly, he developed glossaries in 17 languages so that you could understand what a "double axle thruster" meant wherever you were.

Time to Market-Global Launch

The first time I heard those terms was not in a recent Silicon Valley seminar but rather in a speech given by the aforementioned Brian Dearden in 1986 in New Holland Pennsylvania.

"Today (1986) it is perfectly possible to produce one million copies or more of a 36 page brochure in as many as 24 or more different language versions with total consistency in style, content and color illustrations. Yet changing text and illustrations to suit local conditions in each market, printing all this simultaneously on five continents and finally producing print at very little more in unit cost than it would take to print the same brochure in one language for one market. It can be done, the technology is here, the expertise is available..." Dearden also noted that you could save 50% of the total cost by doing the documentation work on a coordinated global basis rather than by individual companies. The pace has stepped up even more since.

In reading over a Web site of a leading GMS (globalization management system) company the other day, I came across a similar statement written in 2002: "Our revolutionary software allows companies

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to manage content on a global level, automate the synchronization of multilingual content and perform translations more efficiently and cost effectively." There seems to be no collective memory in the translations business—be it how "tracks" are translated or what business processes are truly new and even less so the role of the agribusiness.

In 1986, Dearden noted that they produced a 32-page brochure in 11 languages which was printed in four different pieces and delivered nearly a quarter of a million pieces of literature to 30 locations in 23 countries in a total of sixty days. P.H. Brink reports that one division of John Deere has increased that pace significantly. Brink now gets 400 jobs to be done in six languages with a required schedule of only three days. The multiplicity of projects and the quicker turnaround time made possible by telecommunications has led translation vendors like PH Brink to develop business processes to keep pace. Brink, whose business grew with its agribusiness customers, first developed iTrac' to allow clients to track jobs more closely by putting information in a single place including start and due dates, which languages were shipped and which were still in process. This is another case, notes Brink "where project and content management software must follow business processes, not the other way around."

Jeff Brink, the company's president, notes that the "one intangible benefit to our agribusiness clients was that the system helped overcome the 'island' mentality that exits in large corporations. The overseas offices always feel slighted for one reason or another. If you can offer a way for them to check their own projects as with iTrac, it helps give them a feeling of greater control. This then makes headquarters happy as they can do their work and not have to smooth tensions."

Controlled English and Machine Translation

But even innovations in business processes were not able to keep up with the demand for quicker documentation. Accordingly, Caterpillar introduced Caterpillar Fundamental English (CFE) in 1970 that linked its English documentation usage to 70,000 terms. CFE was intended as a form of English as a Second Language (ESL) for non-English speakers who would be able to read service manuals after some training. This approach was planned to *eliminate* the need to translate service literature. It didn't work out that way and CFE became the basis for Caterpillar controlled English (CTE) one of whose goals was to *facilitate* translations.

First, some metrics: Caterpillar, like many of its competitors, sells half its production overseas. It produces 1000 new pages of documentation a day and has 350 current

products as well as many older products. Unlike your average car, which gets traded in every few years, a caterpillar product last for an average of 17 years. The company ships about 110 tons of printed material per day!

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To help deal with the island mentality issue referred to by Jeff Brink, Caterpillar set up SIS (Service Information System) for its near 200 dealerships around the world. This enables the dealers to find the information they need when they need it. Documentation is routinely translated into German, French Spanish, Italian, Portuguese, Dutch, Danish, Finnish, Swedish, Norwegian, and Greek and of course Russian where the company got its big start.

To keep pace, Caterpillar did not only introduce CTE but CAT was also one of the first companies to try and develop its own machine translation system. Long before the introduction of large capital investment into language technology became popular, CAT reportedly invested as much as US $20 million in its program.

"It's a matter of competition in the marketplace" says Christine Kamprath, a linguist at CAT. "We have a worldwide market...But many of our documents are still in English. We would have a competitive advantage if we had more languages available."

CAT launched their MT system using CTE in 1991. It built upon KANT (Knowledge Based Accurate Natural Language Translations). The original goal was to develop 15 language pairs and then license the software to others (well maybe not to John Deere or other competitors). The system, developed in 1996, began with the English/French language pair which brought five-fold productivity gains. Spanish was added a year later and German is in the works now.

Asked why it has taken so long to develop other languages, Kamprath noted, "Multilingual operations like KANT do not start to work overnight. We can't do a new language like Thai unless Carnegie Mellon's Center for Machine Translation has the relevant computational linguist ready. You need at least a two-year cycle to implement each new language. The European languages available for KANT do not necessarily reflect our market priorities." They need more tractors in China than in Denmark.

Deere took a different approach to machine translations. It first educated itself by researching what CAT and other industry players were doing. When a seminar on MT was given at Carnegie Mellon in the early 1990s, only two companies came—IBM, which had a seven-person delegation, and Deere, which brought four. Based on what Deere saw, it became further convinced about the validity of MT. It had been using the old Weidener MT technology in house from 1983 to 1988 until Weidener went bankrupt.

At that time Deere was using one language firm, which wasn't using MT. P.H. Brink, on the other hand, was using MT. Brink was asked to become a strategy vendor. The use of MT has helped develop a glossary of 12,000 technical terms for Deere.

Deere had its own innovations with documentation based on TWIST (Technical Writers Information System Tool, an authoring system it developed) and a heavy use of photos in its documentation. Deere has always taken the position that it is better to use a photo instead of a lot of words. The photos also had the added benefit of being reusable.

Deere is now in the midst of changing everything again to get cost down and more languages out. At present Deere has glossaries in eight languages (for parts catalogs and invoices). Additional languages are however planned. Text publications (operators and workshop manuals) are translated using translation memory tools, which built to some degree glossaries on their own. Norbert Ehrlich says they have 30 glossaries of this type.

As to the future, Ehrlich informs us "That the demand for translations is growing rapidly. Considering that our machines are becoming more and more complex, we expect translation demand growing in the range of 20% to 30% per year. Considering the additional languages required when our products are marketed in "new" language areas, the estimate might even be conservative."

Content Management

The need to introduce new products to spur sales and the fact that products purchased from agribusiness manufactures are used for more than 15 years created a real content management problem. And, if you add significant demand for multiple languages to the mix, the problem compounds. At last glance there were 284 content management firms but very few with multilingual expertise.

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Meanwhile, the language managers at agribusiness firms are asking: "How can you make my life easier?" One answer may be OTTO™, just developed by the P.H. Brink firm to handle content management. "It helps companies migrate from the publication based environment to a content management system," says company president Jeff Brink. Brink is betting that what is learned in the agribusiness will find a wider audience. The automotive industry could be next.

The Future

All the major firms now have multilingual Web sites but another whole new dimension in communications will come when these companies directly send information via the Web to farmers. To date farmers have relied on printed publications and online magazines. Considering the industry's history, agribusiness manufactures will continue to play a leadership in role shaping Internet language content and translations.

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