
Topic Addressed: What Are Other Uses of Interlinguas?

Will Computers in the Future Speak English to Each Other?

Kevin Knight

knight@isi.edu

Computer programs enjoy artificial, unambiguous languages. That's how they talk to each other, and to us. Right now we have thousands of such languages and protocols. People can only master a few of these, and programs too. This heavily restricts who can talk to whom. If you call up an airline computer, you have to know exactly what to type.

Unfortunately, this restrictiveness lets a lot of air out of the promise of software agents. These agents are supposed to be autonomous and communicate freely with one another. When communication is restricted by language barriers, we wind up with impoverished hierarchical models (like the so-called "food chain"). I talk to the software travel agent, who talks to the airline computer. If an airline agent wants to coordinate with a hotel agent, they have to learn each other's languages.

People solve this problem with shared natural language. Interlinguas may solve this problem for software agent society. If the whole travel industry settled on a common set of terms, relations, and speech acts, then any agent could talk to any other one.

That would still leave people out in the cold, at least those who don't learn interlinguas. If our enterprise is modestly successful, there may be "interpreter" agents that translate between English and various interlinguas. Then again, it may be useful for each software agent to have its own "personal" interpreter (for example, one that knows that "plane" means "airplane" in its context). Then every program will have English capabilities. The question is: will they speak English to each other? To the extent that broad, shared interlinguas can be developed, they won't. But as long as language barriers exist, English may find a niche in software agent society. (Or, Chinese: which is where machine translation comes in.)