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.)

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Moving towards applications by augmenting verb classes with information structure

How, apart from their role in support of machine translation, might interlinguas be applied to various other information processing tasks (e.g., text summarization, information extraction, query systems, information retrieval, tutoring, multimodal communication, and the like)?

This depends very much on what the "interlingua" is. If it is a canonical "English" semantic network representation that includes coreference and links to the domain model (GRAIL <example>,
Mikrokosmos <example>, then it functions very much like a standard deep semantic/pragmatic representation (a la Pundit <example>). As such it would provide an appropriate basis for performing the tasks that comprise MUCK evaluations: named entity, template elements, coreference, and finally scenario templates <example>. But that does not necessarily mean that it does a good job of capturing cross-linguistic generalizations.

Is it possible to include the hooks for cross-linguistic generalizations in the canonical "English" semantic network? Yes, Mikrokosmos, also Pundit used LCSs, and Dorr bases an interlingua on LCSs, so it has to be possible - the primitive LCS predicates can correspond to supertypes of the verbs (and nouns). But that means that these supertypes must be carefully chosen to be universal or at least multilingual. Then they could be represented as either predicates or features that can map onto both source and target languages.

If the interlingua focusses more on cross-linguistic generalizations, (a la Dorr's LCSs <example>, a la verb classes in STAGs <example>) then it would need to be augmented with an information structure (a la Doran and Stone <example>), that would include the semantic and pragmatic information necessary for building an application. Does this then look any different from the canonical network mentioned above? Not necessarily, although it could allow two different languages to have different underlying predicate argument structures (a la STAG).

The two languages would need to share a discourse model and a domain model, and a set of common verb and noun supertypes that could be co-indexed in order to capture cross-linguistic generalizations. As long as the entities that are referred to by the arguments can be co-indexed by the source language rep and the target language rep, and the important cross-linguistic supertypes can be shared, then the representation can function as both an interlingua and a basis for applications requiring semantics/pragmatics.