

## Chapter 2

# Natural Language and Sub-Languages with Controlled Vocabularies

### ABSTRACT

*This chapter describe differences between natural languages and special-purpose languages, where certain words used to describe observed regularities and patterns, acquire over time specific meanings that differ from their 'ordinary' meanings in the language. Folk taxonomies, encoded in languages of peoples who occupy narrow ecological niches, serve an existential need of encoding knowledge important for survival. While folk biology developed taxonomies based on the human sensory system, modern biology evolves by including observational data from molecular biology collected with modern bio-chemical tools – scientific 'extensions' of the human sensory system. In contrast to general language, the controlled vocabulary in 'specialist discourse', also referred to by linguists as 'sublanguage' and 'Language for Special Purposes' (LSP) allows specialists to communicate in precisely defined terms and to avoid ambiguity in discussing specific conceptual situations*

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## INTRODUCTION

In addition to the common use of language for everyday communications, a group of specialists can use the same language to encode and to communicate the encoded knowledge. As traced by Bloomfield (1938) the development and use of encoded language goes back to early division of labor and development of specializations in practical occupations such as carpentry, fishing, etc. The very nature of such specializations was rooted in careful observations of made by early humans that eventually resulted in awareness and recognition of certain patterns in the environment: Some fish travel in schools; follow certain weather patterns; certain fish are prone to be caught with certain bait.

Let us tell you a story that illustrates the difference in conceptual comprehension between two competent users of natural language. Imagine an expert in discipline X – name him EX, who invites his friend, a competent user of their common language – name him CU, to attend a lecture given by a colleague who happens to be a famous scholar in knowledge domain X. As the two leave the room following the lecture, EX asks CU “Did you get what he was talking about? I found his ideas exciting!” To which CU replies “Oh yes, I got it! I actually understood every word he said.”

We can imagine the concluding episode to this story. Upon quick questioning by EX it turned out that his friend CU did not really follow the speaker’s ideas; furthermore, he did not understand that certain expressions – word sequences – used by the speaker, carried meanings that were significantly different from the literal meaning of those same expressions in the common use of the language.

What are we to make of this story?

Should we really be surprised that CU did not get the meaning of the talk?

After all, scholars often communicate complex theories through the use of common language (this is true not only in social sciences, but also in mathematics and exact science); CU’s remark that he “understood every word” should not be surprising. On the other hand, we should also not be surprised that he failed to provide satisfactory answers to EX’s probing questions: unlike his friend, CU is just a competent user of the language, not an expert in the discipline X. CU understood the words, but missed the ideas communicated in the talk.

Our story highlights a phenomenon familiar to many language users, namely, the coding of discipline-specific knowledge under the guise of lexical labels

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