Frame Based Terminology: an EcoLexicon Tutorial*

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Lecture Review by
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The importance and applications of Framed Based Terminology research were highlighted on April 7, at the Caracol Museum of Science and Aquarium in Ensenada, Baja California, with the lecture “Frame Based Terminology: an EcoLexicon Tutorial” I, given by Dr. Pamela Faber Benitez II, within the framework of the 7th International Congress of Translation & Interpretation (CITI 7) III. The talk aimed to show future translators the advantages and importance of knowing terminology and the use of electronic resource such as EcoLexicon. The terminological database material is organized following the cognitive approach: Frame Based Terminology.

In a didactic manner, Dr. Faber presented students and the audience with the importance of studying Terminology with real world applications while maintaining a descriptive approach in which social, linguistic and cognitive aspects that are to be considered. She, also, emphasized that the cultural factor is important for the conceptual organization because the field of terminology is not closed to the current trends of language use. Here is a summary of the most outstanding ideas from Dr. Pamela Faber:
Dr. Pamela Faber:

Do you want to be translators? If you want to make money, because no one is going to pay you to translate something beautiful well, at least not a lot of money, you have to know terminology, because if you don’t then you are not going to understand the text. I translate texts that nobody else wants to translate and that means that I have to become an expert very quickly of very strange and exotic disciplines, like how to translate things about the design of breakwaters, ports, harbors, coastal structures and also things in medicine. My projects are now in engineering and engineering terminology, why? Because doctors are always busy and engineers are not, so you need an expert and an engineer is always available whereas doctors are never available.

Why do we need a theory of terminology? Is terminology just a bunch of words? No, it’s not, it’s what we have in our minds, it’s how we connect things, it’s how we think about things, how we organize the world. And you have to think about this because everything’s in categories. If you’ve ever been through an airport security process which I have just been, you categorize everything in your suitcase, for example liquids; now, some of these liquids are rather non-product typical types of liquids. Water is a liquid but depending on the level of security your face cream could be a liquid, when it’s really bad even your lipstick can be a liquid. So, we have categories here on mind that change depending on the context and that’s how we have to think about terminology.

We have categories of coastal structures, of processes that affect or have an impact on our environment and we have to know not only the individual words and the concepts, we have to know how these things are related in order to retrieve them quickly, that is what Frame Based Terminology is about. It’s based on a series of grammatical, conceptual semantic models which are based on linguistic theories, not on grammar nor subject-verb-object, they’re based on what’s common to all languages semantic structure.

Now you might say: glossaries, dictionaries there are tons of them, why do we need another one? This one is different, it is an online visual thesaurus of specialized language for translators. It’s based on frames and on the way categories relate to each other because it aims to represent conceptual information visually, you get definitions for the terms and related terms.
In *Ecolexicon*, you can see for example the word *lithosphere*, the page displays an accurate definition and you can also have access to all the concepts that are related to *lithosphere*: what it’s a type of, what it contains, what it’s made of, everything and if you’re in luck, we included graphical information, images that will show you things about “lithosphere” and here are all the words and different languages that are equal to “lithosphere” (Imagen 1).

*EcoLexicon* is available in French, German, English, Spanish, Russian and we got five or six languages; but most of the terms are for English and Spanish. We have about fifteen or twenty thousand terms and three or four thousand concepts that’s a lot because we have been working on it for a long time and also you can access corpus information which are contexts for the word “lithosphere”.

Imagen 1. “Lithosphere” in *EcoLexicon*,

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Frame Based Terminology is based on three microtheories, then you might wonder: what’s a micro theory? Well we have to think about how we are going to represent semantic information, and as a semantic microtheory we can’t do it any old way. Then we have to think about how we are going to represent linguistic information, what type of linguistic information does a translator need to know. And then there's pragmatic microtheory and that's really cool, because nobody worries about culture and terminology.

One example of culture in terminology is classifying types of “wind” and you’d be surprised analyzing names for “wind”, how culture bound this is, how metaphorical, people, since wind is an agent, conceive wind as a person, the type of malevolent entities that people call it and very negative names associated with wind, there are very few positives connotations, everybody hates wind, and so, there’s the devil wind from all of these North African cultures for example, that’s the cultural aspect of terminology.

Another example is that not all languages have the same geographical features like “mountain”, “river” or “valley” one New Guinea language does not have a word for “mountain”, so when people are asked “how do you call that?” Their response is that they are not interested in that, so there’s no name for it. People have different ways of referring to “these bumps in the land but they’re not really mountains”.

Imagen 2. Concordance of “lithosphere” in EcoLexicon.
For our purposes of our database, we emphasize on the semantic microtheory because our representation depends on it. We apply that same criteria to everything because practically all semantic information depends on the definitions, and we can't just look in a dictionary for definitions, no. Technical dictionaries and specialized dictionaries are made by experts and experts think they know everything, and they do to a certain extent of their discipline. But they have no idea about how to talk about what they know or how to describe what they know, so those definitions are horrible. Sometimes when you look up a definition we may need to search for additional information from internet. Some definitions do not contain all the necessary information and we have to make up our own by analyzing texts of various sorts and sources.

EcoLexicon is a database that can be updated in real time, the terminology team will research a certain term, for example 'weathering'; we link all the terms that have to do with this concept, to other languages, to synonyms or to grammatical categories (see Imagen 3).

Imagen 3. Results of “weathering” in EcoLexicon.

The database does not include concordances, because at some point we decided, and were a little bit too difficult to do so and it was a lot of work. So, we decided to upload the
whole corpus on internet and then people can use the corpus and obtain the concordances themselves and that works out better.

In terminology classes the most difficult thing for students to understand is that there is a concept and there are terms that refer to this concept. So, that’s why when we are referring to a concept we always put it in capital letters; we also include graphical information in order to obtain a better explanation of the term. These actions are very helpful for people because there are some things that you can’t really represent with language, you have to use pictures. And so here we have pictures for our web page, for “weathering”, the images also appear in real time.

Our information includes the following definition:

**Weathering**: process involving the decomposition of rocks, minerals, and soils at or below the Earth’s surface, by the action of atmospheric agents (wind, water, solar radiation, temperature changes), chemical reactions, and living organisms. Weathering can be mechanical or chemical.

Just by looking at tells me that “weathering” is a type of process; the composition process. It tells me what this process affects, which is the mineral, soil and rocks; It tells me who or what does this process, and it and it can be atmospheric agents’ chemicals or organisms, and it also tells me some types of weathering. All of this information has to be in order; that’s the secret, so, these are reconceptualizations when we make a definition in EcoLexicon, the ones we want to represent, and it’s a list of what we put in hard definitions. The most important in our definition are [Type_of] and [Part_of] (see Imagen 4), because they are the most basic conceptualizations; in other words, they create hierarchical structures. And the others are very interesting, but they are the ones that people don’t represent often.
To get these definitions we obtain information from different sources and upload it to our database. Based on the analysis, we determine whether if it's an agent, a process, a result, something very general, or within a general frame, if it’s present in the environment, etc. The interesting thing about “weathering” is that it is a process, and all processes in the environment are going to have the same pattern, the same template, an agent and something that’s affected. Weathering is a type of process, it’s sometimes a physical, mechanical, or biological; it affects rocks and minerals, it causes all those things there. Of course, people look at this scene in a table; that's not very interesting. That's why you're going to see the conceptual representation, but since this definition is not perfect we had to complement it with textual information. I looked in the corpus information on weathering and found that it also affects soil, not just rocks and minerals. So, that was added to the definition and so, this is what weathering looks like in EcoLexicon.

The website offers a wide array of features like the ability to switch from one language to another, the new version is compatible with modern internet browsers, you can save and
access externals URLs that were used in the definitions, some terms include phraseology, you can adjust the level of representations that any given term may contain, and it can also be customized to obtain certain depth layers of meaning for any term.

This is what we have been doing for the last ten years, I would probably do it eternally because I’m too old now to start something new. Fortunately, I have a lot of people, I’ve managed to get interested in terminology, and we are working with a new project that involves, with the help of MRIs, experiments with subjects to find out the difference in brain wave patterns between experts and non-experts of terminology about geology. We found out that men who are experts, their minds do function differently from men who are not experts while processing the same type of information. We used specialized and not specialized information in words and pictures and we would like to do more because it was so great, and maybe we can make, later on, another study that involves women. Thank you for listening.

This lecture captured the interest of students and teachers alike and promoted further research in the field of terminology, translation, interpretation, corpus linguistics and neurolinguistics. The contributions of Dr. Faber to this event were greatly appreciated and we hope to be able to listen to new development in the upcoming CITI event in 2018.

REFERENCES


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ii Agradecemos a la Mtra. Olimpia Buenrostro por habernos facilitado la fotografía de la Dra. Faber.
iii CITI 7, Congreso Internacional de Traducción e Interpretación. 7 al 9 de abril de 2016, Facultad de Idiomas, Universidad Autónoma de Baja California. Ensenada, B.C. http://idiomas. ens.uabc.mx/citi7/?page_id=86