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SEMANTIC AND PRAGMATIC DIMENSIONS OF RENDERING RENEWABLE ENERGY TERMINOLOGY FROM ENGLISH AND ROMANIAN

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This paper aims at examining the semantic relations as a way of describing and decoding the meanings of the terms of renewable energy. The possibilities of forming the terms in this area include simple units, compound and complex ones that are carefully assessed in order to identify the techniques of translating the renewable energy terminology from English into Romanian, offering effective strategies for interpreting the conceptual elements and structural characteristics of this field in translation from a pragmatic perspective. In translating the specialized text the translator must not only meet the users's expectations in communication, but also the cognitive ones. Therefore, the translator must provide the users with the necessary terminology and provide knowledge that meet their requirements.
Keywords: *semantic relations, translation techniques, pragmatics, monosemy, polysemy, synonyms, equivalence, calque, transliteration, substitution.*

DIMENSIUNEA SEMANTICĂ ŞI PRAGMATICĂ A TRADUCERII TERMINOLOGIEI DIN DOMENIUL ENERGIEI REGENERABILE DIN LIMBA ENGLEZĂ ÎN LIMBA ROMÂNĂ
În această lucrare sunt examinate relaţiile semantice ca modalitate de descriere şi decodificare a sensului termenilor din domeniul energiei regenerabile. Posibilităţile de exprimare a termenilor din acest domeniu cuprind unităţi simple, compuse, complexe. Acestea sunt analizate minuţios în scopul de a identifica tehnicile de traducere a terminologiei din domeniul energiei regenerabile din limba engleză în limba română, oferind strategii eficiente pentru interpretarea elementelor conceptuale şi structurale ale acestui domeniu în procesul de traducere din perspectivă pragmatică. În traducerea unui text de specialitate traducătorul trebuie să satisfacă nu doar aşteptările de comunicare ale utilizatorilor, dar şi aşteptările lor cognitive. Prin urmare, traducătorul trebuie să ofere utilizatorilor unităţile terminologice necesare, precum şi cunoştinţe care corespund cerinţelor acestora.
Cuvinte-cheie: *relaţii semantice, tehnici de traducere, pragmatică, monosemie, polisemie, antonimie, echivalenţă, calc, transliterare, substituţie.*

"Energy conservation is the foundation of energy independence".
Thomas H. Allen

Renewable energy has a crucial role in reducing greenhouse gas emissions and other forms of pollution, diversifying and improving the security of our energy supply and maintaining our world-leading, clean energy technology industry. Renewable energy terminology has only recently become an important topic in environmental studies. Renewable energy or renewable power is by definition, renewable, such that this source of power can replenish itself over and over again.

We have chosen this topic because we are interested in this domain and we want to study it in detail, we believe that nowadays people are facing serious problems because the environment is affected considerably. Renewable energy or green energy terminology represents an interesting topic which is tightly related to this problem.

The specificity of terms in contrast to other units of the same structural level (words) and the same mode of meaning resides in the fact that they fulfill restricted conditions in each of their cognitive, grammatical and pragmatic constituent components.

According to some linguists an "ideal" term should be *monosemantic.* There are, in actual fact, numerous *polysemantic* terms. There is an abundance in *monosemantic words* in the renewable energy texts: En. *alternative fuel, biofuel, bioenergy, biowaste, biogas, chlorofluorocarbons, biohydrogen, carbon footprint, baghouse, bioconcentration, renewable energy;* Ro. *biocombustibil*, *energie fotovoltaică, tubină eoliană*, *colector solar parabolic, etc.*

Polysemantic terms may lead to misunderstanding and that is a serious shortcoming in professional communication. This requirement seems quite reasonable, but facts of the language do not meet it. The majority of scientists hold that the main cause of the polysemy is the discrepancy between the limited number of words in any vocabulary and the illimitable number of concepts to be expressed. The concepts spring up every day and they have to be denoted. Polysemy is an indispensable feature of the language, without polysemy the language could not cope with the diversity of the notions to be expressed.

C.Hagege states that if every single referent had a different name, the lexical code would impose an extraordinary burden on the memory of the language user [1, p.126]. An example of *external polysemy* could be the term ***degradation*** used in many different domains meaning the act or process of degrading: ***geology*** - general lowering of the earth's surface by erosion or weathering; ***physical geography*** - wearing down of the surface of rocks, cliffs, etc., by erosion, weathering; while in the renewable energy field it represents: "the process of decomposition of a compound by stages, exhibiting well-defined intermediate products" [2]. E.g. *A new study from Solarpraxis Engineering has brought to light how* ***degradation*** *in some module technologies can hold unseen dangers for investors and plant owners.*

The term **to recycle** belongs to *internal polysemy* – to put or pass through a cycle again, as for further treatment; to start a different cycle in; to extract and reuse (useful substances found in waste) [3]. E.g. 1. *Waste materials are recycled so as to make suitable for generating energy.* 2. *Biogas –* ***recycling*** *sewage into energy.*

Analysing the Romanian terms we can state that most of them belong to external polysemy: *panou*, *celulă, modul,* for instance the term *collector* has five meanings "1. Tuburi, bazine în care se adună, se colectează gaze sau lichide. 2. Încăpere, recipient sau conductă pentru adunarea şi conducerea lichidelor sau a gazelor în diferite sisteme tehnice. 3. Organ al rotorului unor maşini electrice, care schimbă legăturile dintre înfăşurarea rotorului şi circuitul exterior. 4. Persoană care strânge sau achiziţionează de la producători mărfuri, produse. 5. O parte a sistemului care absoarbe energia solară şi o converteşte în căldură" [4].

In terminology, synonyms may arise because of the conceptual evolution, from the need of new concepts and the removal of the old ones. Another cause may be the efforts to introduce native terms into terminology that as a process can be assessed in two directions. The first direction implies an excess of terminology, which provokes uncertainty in communication and the second direction presumes the use of authentic terms as being more convenient than the foreign ones, this approach is called terminology perfection.

There are various opinions related to synonymy in terminology. The presence of this phenomenon within terminological field is categorically denied by some linguists and is viewed as a harmful occurrence in the terminology. Other linguists accept the synonymic peculiarity of the terms. Regarding the phenomenon of synonymy in the general literary language, other researchers deny the presence of doublets in terminology. The classification of synonymic relations seems to offer difficulties. It is rare to find perfect and complete synonyms. In English there are a lot of synonyms, because there are many borrowings, after a word is borrowed it undergoes desynonymization, because absolute synonyms are unnecessary for a language. In cases of desynonymization one of the absolute synonyms can specialize in its meaning and we get semantic synonyms, e.g. "*wind energy*"/borrowed/, "*eolian energy*".

"Multiformity of synonymic forms of expression is closely connected with the stylistic differentiation of a national language. The existence of numerous groups of synonyms is one of the characteristic features of the vocabulary. Synonymy testifies to the originality and specifity of a given language" [5, p.178].

Stylistic synonyms can also appear by means of abbreviation, among them we can point out a special group of words which are called *euphemisms*. These are words used to substitute some unpleasant or offensive words, e.g "*municipal solid waste = means in a word, garbage*", "*deforestation = represents the destruction of forests by industrial loggers and/or farmers.*", "*biosolids = this is the waste disposal industry's term of art for treated*".

In terms of semantic correlation we can distinguish synonyms into *absolute* and *ideographic synonyms.* In this view, let us try to exemplify:

1. *absolute synonyms* are rare. Their meaning is so fully identical that one can always be substituted for the other, e.g. *geothermal - geothermal electricity; renewable energy-renewable power; solar collector - solar panel, etc.*

The synonymic pair *grid - solar panel* "*is an electrical device that converts the energy of light directly into electricity by the photovoltaic effect*" [3], proving that a single meaning may often be expressed by more than one word.

2. *ideographic synonyms* denote different shades of meaning or different degrees of a given quality, for example: *pollution – defilement; biomass- organic matter; biogas- gas fuel, etc.*

Let us analyze the following term ***green*** - according to *Oxford Advanced Learner's Dictionary,* it *"represents the energy that can be produced in a way that protects the natural environment, for example by using wind, water, or the sun*" [3]. The synonyms of this term are *ecologically clean, environmentally friendly,*

environment-friendly, eco-friendly, nature-friendly that have the same meaning, e.g.: "*products that are environmentally friendly do not harm the environment when they are made or when you use them*" [3]. Thus, the term ***green*** has five synonyms in the given field, each of them is used in the same context for the same purpose.

Considering the Romanian corpus of examples, we have come across some ideographic synonyms: *celulă fotovoltaică = celulă solară = panou fotovoltaic; energie solară = energie fotovoltaică,* etc. The definition of the second set of the mentioned terms proves their synonymic relation, e.g.: "***Energia solară*** reprezintă energia electromagnetică transmisă de soare generată prin fuziune nucleară. Producerea de energie electrică din energie solară se bazează pe instalaţii termice şi pe panourile fotovoltaice". "***Energia fotovoltaică*** este energia produsă prin celule fotovoltaice solare, care convertesc lumina soarelui direct în energie electrică".

By looking more closely at these two definitions we notice the similarity of the meanings of these terms, but there is a little difference between them, the first term *energie solară* can be found in non-specialized texts, while the second term *energie fotovoltaică* belongs to the renewable energy field. The Romanian renewable energy synonyms are mostly ideographic synonyms to replace other terms; their frequency is not high as it is motivated by the tendency of the specialized texts to be precise and concise. Ideographic synonyms are the most frequently used both in the Romanian and English renewable energy terminology and are put into service to replace another term or diversify the style of the text.

Antonyms are words belonging to the same part of speech, identical in style, expressing contrary or contradictory notions. Antonyms are often helpful and exceedingly valuable in defining the exact meaning of the given word and its synonyms. V.N. Komissarov [6, p.58] made the classification of antonyms: absolute or root antonyms e.g.: En. *heat – cool, to conserve – to endanger; Ro. sectorul încalzirii şi a răcirii, energie eoliană pe uscat şi în larg* and derivational antonyms: En. *to cover – to uncover; renewable – nonrenewable; offshore wind energy – onshore wind energy; Ro. regenerabil – non-regenerabil.* Absolute antonyms have different roots and derivational antonyms have the same roots but different affixes. In most cases the negative prefixes form antonyms: *un- (unsustainable, unused, unmanaged, uncoordonated, unmounted), dis- (dispatchable, disagreggation, discharge, disrupt), non- (non-renewable, non-metalic, non-electrical, non-thermal).* Sometimes they are formed by means of suffixes *-ful (grateful, harmful)* etc.

Most antonyms are adjectives and this fact is natural because the qualitative characteristics are easily compared and contrasted: *heat – cool, global – national, renewable – inexhaustible.* The verbs take the second place in this category, so far as antonymy is concerned. Yet, verbal pairs of antonyms are fewer in number. Here are some of them: *to renew – to revitalize, to conserve – to endanger, to convert - to adapt* etc. Nouns are not rich in antonyms, let us provide some examples: *biomass – organic matter, biofuel – combustible, pollution- environmental degradation etc.* Antonyms are useful in enabling us to express briefly the opposite of a particular thought, often for the sake of contrast. The use of antonyms for stylistic purposes makes itself evident in the so- called antithesis or opposition. This is a frequent occurrence in English, and may easily be paralleled in the other languages.

The vital need to access specialized knowledge as well as the necessity that such knowledge be in a form that can be easily understood by the target language receivers demand a switch in the translator's work towards a more pragmatic approach in rendering the specialized language.

The translating process reveals the translator's pragmatic orientation towards the content to be interpreted. On the one hand, it is performed within inner lingual communication and thus being oriented to the original. On the other hand, the translation is a concrete speech act which is pragmatically oriented to a certain recipient. The pragmatic task of the translation aims at ensuring maximal equivalency with the original. As B. Hatim and I. Mason state that "pragmatics is the study of the purposes for which sentences are used, of the real world conditions under which a sentence may be appropriately used as an utterance. Through pragmatics, contextual meaning is exploited and analyzed to discover the "real" meaning. It is important in pragmatics to talk about implied and intended meaning, assumptions, purposes and goals of people in communication and various types of actions [7, p.59].

A translator must know the exact meaning of the term in this or that field, as well as its combinability, for the nearby attribute or another word may specify the term and affect its translation. To do an accurate translation, it is necessary not only to know the meaning of the terms but also to link them with other words in speech. Moreover, W. Loescher defines translation strategy as "a potentially conscious procedure for solving a problem faced in translating a text, or any segment of it" [8, p.45].

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Considering the ways of rendering the terms from the ST into the TT, we have identified the most frequently met translation techniques in this regard. There are cases of equivalence, for instance: *"Transport's share of energy consumption and* ***greenhouse gas emissions*** *has increased over time, making it vital to improve fuel efficiency and reduce transport* ***emissions***." / *„Sectorul transporturilor şi-a mărit nivelul de consum energetic şi de* ***emisii de gaze cu efect de seră****, devenind astfel vitală creşterea eficienţei carburanţilor şi reducerea* ***emisiilor*** *din domeniul transporturilor"*; some more examples are *a water-powered turbine – turbină hidraulică, renewable energy – energie regenerabilă; sustainability – durabilitate, power supply – alimentare electrică,* etc.

There are many international terms of Greek or Latin origin that are transliterated. This facilitates mutual understanding among specialists: *biomass-biomasă, biogas- biogaz, biohydrogen- biohidrogen, bioethanol-bioetanol. "Under favorable conditions,* ***hydro, biomass and solar-thermal sources of energy*** *are economically viable."/ „În condiţii favorabile,* ***hidroenergia, biomasa şi energia solară-termală*** *reprezintă alternative viabile din punct de vedere economic."*

Calque is also applied to translating compound terms or term phrases: *green cerificate* – "a system of checking buildings to see that they are built and operate in a way that protects the natural environment, and the official documents that show this*"* [2] – *certificat verde; intelligent energy – energie inteligentă; e.g.* ***Green certificates*** *represent the environmental value of renewable energy generated.* ***Certificatele verzi*** *reprezintă valoarea ecologică a energiei regenerabile generate.*

A more explicit character of the Romanian language can necessitate the descriptive technique, i.e. expansion, in the English into Romanian translation: *boosting the recycling process – impulsionarea dezvoltării procesului de reciclare; renewables – energii regenerabile.* E.g."*Other sources of energy like* ***photovoltaics*** *(which uses silicon panels to generate electricity from sunlight) require increased demand to improve economies of scale*."/ *„Alte tipuri, precum* ***sistemul solar fotovoltaic*** *(producerea de electricitate pe baza luminii solare cu ajutorul panourilor de silicon), au nevoie de o creştere a cererii pentru a-şi îmbunătăţi economiile de scară*". The term *photovoltaics* was translated into Romanian as *sistem solar fotovoltaic*, but in some other translations we found out the variant of *energie fotovoltaică.* By analyzing these examples we understood that the amount of information that is added remains to be decided by the translator, but it tends to be extremely concise.

The translator may sometimes reduce the number of elements of the terminological phrase from the SL text. Let us provide some examples of reduction: ***anaerobic fermentation*** *– fermentation,* ***head*** *– înălţimea coloanei de lichid. E.g. Hydro schemes convert the potential energy of the water, flowing with a certain fall (or "****head****", into usable energy*."/ *„Sistemele hidroenergetice obţin energie utilă din energia potenţială a apei, al cărei curs se caracterizează printr-o anumită diferenţă de nivel (denumită şi* ***„înălţimea coloanei de lichid"****)*".

Analogue substitution is used for a receptor's convenience when the corresponding similar standard terms exist in the target language: *carbon sinks – bazine de sechestrare a carbonului*. E.g. ***Carbon sinks*** *are very important for our environment, because they act like sponges to soak up the carbon compounds that are playing such an enormous role in global climate change.* / ***Bazinele de sechestrare a carbonului*** *sunt foarte importante pentru mediul nostru, deoarece acestea acţionează ca nişte bureţi pentru a absorbi compuşii de carbon, care joacă un rol enorm în schimbările climatice globale.*

Concretization is also used when the SL term has a larger usage than out of the TL and requires a specification. In this view, it is our commitment to say that renewable energy texts really need this translation technique to be applied as the abundance of highly specialized terms make the translation process a bit confusing. Let us analyze the example of the following term *green,* e.g.: "***Green*** *refers to renewable and clean energy sources. By choosing renewable energy sources such consumers can support the development of clean energy that will reduce the environmental impacts associated with conventional energy generation and increase energy independence."/* „***Energia verde*** *se referă la surse de energie regenerabilă şi nepoluantă. Prin alegerea unor astfel de surse de energie regenerabilă consumatorii pot susţine dezvoltarea unor energii curate care vor reduce impactul asupra mediului asociat generării energiei convenţionale şi vor creşte independenţa energetică"*. It is worth mentioning that the term *green* was translated *energie verde* but not simply *verde*, this trick is used to specify and make the translated equivalent clear and appropriate in the Romanian language.

The English renewable energy texts are full of complex structures with complicated internal semantic relationships. It is a great challenge to translate complex terms (5- or 6 -member terms), for instance the *fossil fuel steam-electric power plant – centrală electrică cu aburi de combustibili fosili; pure pumped-storage*

hydroelectric plant – centrale hidroelectrice cu acumulare prin pompaj pur. The English and Romanian attributive groups differ in their vectors. The English phrase is regressive, it develops to the left with the headword being the final element on the right, while the Romanian attributive phrase is progressive, it develops mostly to the right, with the attributes used in postposition. Despite the great difficulty in translating such phrases, the principle of translation is the same: first the basic word is identified, second the sense groups respectively and the translation is performed beginning with the headword i.e. from the right to the left literally.

Our contrastive analysis of the terms from a translation perspective proves that each term should be analysed individually understanding their meaning, the relation between language and concepts, as well as the translator must take account of the participants in the act of communication, the communicative circumstances, and the purposes or intentions associated with the communication. A specialised language represents a system for transmitting and exchanging information that employs various codes at the same time. In special languages many terms are valid internationally. Terms have equivalents in translation. Equivalence is, or at least should be, the principle underlying any bi- or multilingual terminology. Rendering terms also requires certain techniques in order to be rendered properly and convey the intended and implied meaning. It is the task of the terminology intermediaries who carry out their profession of facilitating communication among foreign specialists to render properly the specialized texts from one language into another.

Thus, in rendering a specialised text the translator should meet not only the communicative expectations of the users, but also their cognitive expectations. Consequently, they should offer users the terminological units that they need as well as provide them with knowledge that corresponds to their needs. The context is crucial and should be knowledge –rich, i.e. it should make explicit the relations between the terms in the context as well as the context and the term entry. It should also contain information beyond that contained in the core definition of the concept since duplicating information in the data field is redundant and not helpful.

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