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CONTRASTIVE CONCEPTUAL ANALYSIS OF NOUN COMPOUND TERMS IN ENGLISH, FRENCH AND SPANISH WITHIN A RESTRICTED, SPECIALIZED DOMAIN

Introduction

The research presented in this paper focuses on noun compound terms which are understood to be lexical items which

(1) function as nouns, regardless of the word class of their constituents;
(2) result from the combination of two or more otherwise lexically autonomous elements exhibiting semantic and grammatical cohesion; [1]
(3) have special reference, i.e. name a specialized concept which in turn is defined as a concept which forms part of a delimited, internally structured subset of knowledge and which is capable of precise definition in relation to it (cf. Johnson and Sager 1980).

Since it is concerned with terms, my research falls within the domain of 'special language'. Special languages may be contrasted with the complementary notion of 'general language' on the basis of three distinguishing characteristics, viz.

(a) systematization of concepts, i.e. the development and reinforcement of concept structures and interrelationships;
(b) clarity of expression;
(c) precision in communication.

These factors exert a powerful influence on term formation and are significant in explaining the recognized statistical preeminence of noun compounds as specialized naming devices (cf. Sager et al. 1980).

While the principles of this research are intended to apply to special language designation (terminology) as a whole, in practice the study described concentrates on one particular specialized domain or subset of specialized knowledge, namely data processing. Specifically it examines the terms contained in the English-French standardized VOCABULAIRE INTERNATIONAL DE L'INFORMATIQUE and its Spanish counterpart, INFORMATICA. This corpus presents several salient advantages for the examination of modes of term formation. Data processing is a modern field and as such its designations are relatively uninhibited by pre-existing term formation patterns. Furthermore, an international standardized vocabulary is the result of responsible, knowledgeable collective opinion and its authors are more likely to respect and enhance established terminological principles; it is homogeneous and systematically organized. Moreover in this particular case, since the Spanish terms were created after the English and French, there exists the opportunity to examine reactions to designatory needs when term formation is carried out under pressure.

The conceptual approach

The approach taken in this study is conceptual and thus in accordance with the terminological tradition of the 'onomasiological' approach, i.e. moving from concept to term. Emphasis is placed on the conceptual motivations for the formation of compound terms rather than their interpretation. This conceptual approach is supported by the choice of a systematically-organized corpus vocabulary.

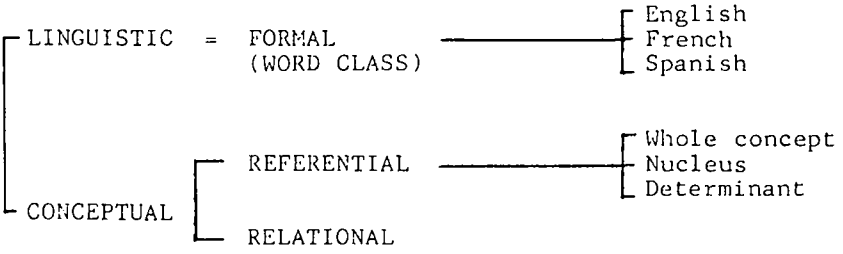
Finally this study is contrastive. The corpus is trilingual (English, French and Spanish), thereby facilitating intra- and interlingual comparisons.

The aims of this research may be broadly summarized thus: to discover why, when, how and to what extent compounds are coined as names of specialized concepts in English, French and Spanish. The specific means used to achieve this end was to set up a multidimensional classification scheme. This scheme is based on the general premise that naming as a conscious act is not based on syntactic models, but rather centres on concepts and concept classification. More specifically, it is founded on the assumption that within special languages naming processes such as compounding are more systematically implemented, resulting in the development of regularized (or regularizable) trends of conceptually-motivated term formation.

The fundamental premises just outlined lead to the hypothesis that special-language compounds, in contrast to general-language compounds, are distinguished by the existence of restricted subsets of concept classes, concept relationships and, probably, formal patterns.

The classification scheme

The scheme developed to classify the terms in the corpus is three-fold, comprising one linguistic and two conceptual subsystems which are mutually independent and operate in parallel. It is represented in the following diagram:



The Formal Sub-system comprises three sets of formal classes (one for each language) which classify compounds according to the original word class of their constituents. It is the least original of the three components, being probably the most common means used to classify compounds. Its inclusion is nevertheless valuable, particularly in a multilingual scheme, and is intended to correlate concept classes with their linguistic means of representation (with a view to contrasting these interlingually and systematizing them intralingually), and to try to ascertain the extent to which conceptual motivations are affected by available formal patterns, e.g. by linguistic analogy or by borrowed formations.

The two Conceptual Sub-systems are language-independent, in two senses:

(a) they are individual-language independent; thus the same set of classes applies to all three languages;
(b) they are based on pre-linguistic notions.

The Referential Sub-system (CONREF) is a classification of concept referents and comprises nine classes, which are:

1. Material Entity (M-E)
2. Representational Entity (R-E)
3. Software Entity (S-E)
4. Activity (ACT)
5. Quantity (QN)
6. Quality (QL)
7. Relation (REL)
8. Neutral Entity (N-E)
9. 'Ragbag' (0)

These CONREF classes are applied to the referents of

(a) compound and non-compound terms considered as wholes (CONREFWHOLE);
(b) the nuclei of compound terms (CONREFNUC);
(c) the determinants of compound terms (CONREFDET);[2]

The main features of these CONREF classes are:

- they are universal i.e. to classify <u>all</u> concepts (cf. e.g. Dahlberg 1978, Svenonius 1978)
- they are specific to data processing;
- they are easily extendable to other specialized fields.

The Relational Sub-system consists of a typology of naming relations, i.e. the relationships between the concepts which are combined to form a compound. After considering other work in this field (e.g. Downing 1977), eighteen relational classes were established, which are as follows:

1. DESTINATION
2. MODE OF OPERATION
3. AFFECTED OBJECT
4. PARTITIVE
5. ATOMIC COMPOSITION

6. PARTIAL COMPOSITION
7. ORIGIN
8. FUNCTIONAL ROLE
9. REPRESENTATION
10. PRODUCT
11. EPONYMIC
12. INTEGRATION
13. CONJUNCTION
14. LOCATIVE
15. TEMPORAL SITUATION
16. SIMILARITY
17. NATURE
18. RELATED CONCEPT

The relational classes are applied to all compounds and are intended to discover how concept classes are named (and thus classified) and to determine the extent to which the choice of naming relation is influenced by the concept class of the compound as a whole or of one or both of its constituents.

Some initial findings

With the aid of a microcomputer, a data-base was set up of 878 term records (each comprising one English, one French and one Spanish term) containing formal and conceptual classifications. sort programs facilitated their contrastive analysis [3] and the initial findings were found to be in accordance with the original hypotheses.

(1) In all three languages, compounds represented 75% of all noun terms.
(2) There was a very high coincidence between the three languages (over 95%) of when compounds rather than simple terms were chosen to designate concepts.
(3) The relational classes and the referential classes fell into a clear ranking order which corresponded quite closely across the three languages. More interestingly, there emerged a strong correlation between CONREFWHOLE classes and relational classes. Thus certain types of concepts were found to be named according to certain preferred relationships and many potential combinations of CONREFWHOLE class and naming relation never occurred. What is particularly striking is that these trends held across the three languages, indicating that they may point to individual language-independent naming principles, though such a claim would require corroboration by other studies.
(4) There also emerged preferred referential combinations, i.e. of nucleus and determinant, which again shared a large degree of correspondence across the three languages.
(5) Whilst the formal linguistic findings have not yet been correlated with the conceptual results, several interesting points regarding the linguistic classes have already come to light. Among these are certain intralingual peculiarities, one of the most striking of which is the total absence in French and Spanish of one very popular general language mode of compounding. This consists of the third person indicative of a transitive verb and its object and is normally used to denote instruments (e.g. porte-manteau, sacacorchos). It could be inferred from this that this pattern of compound formation has been - perhaps subconsciously - rejected as

old-fashioned or as being somehow reserved for general designation.

Generally, the analysis appears to confirm that naming in special language is indeed less arbitrary and more systematic than general language designation and is strongly influenced by the need to reflect and reinforce the systematized conceptual structure of a particular subject field.

Specifically, and given our fundamental premise that naming is based on concepts and concept relationships, the following conclusions may be reached:

(1) The concept relationships (naming relations) in special language compounds tend to be not merely 'classificatorily relevant' (cf. Zimmer 1971), but moreover are of particular types depending on the nature of the concepts involved.
(2) The relationships found in the compounds of specialized domains are a 'shifting set' whose essence remains the same but whose internal relative proportions vary from field to field. This conclusion stems from the fact that all specialized knowledge shares a core of concepts, but at the same time certain classes of concepts tend to predominate in certain fields.
(3) It is therefore essential to combine the analysis and classification of naming relations with a corresponding classification of the concepts involved, since the former can be only artificially studied in isolation from the latter (hence the shortcomings of many previous studies of compounding).
(4) Since it is impossible to arrive at individual language and/or culture-specific naming or classificatory 'universals' by general reflection and random exemplification, many more descriptive studies such as this are required to make valid general statements.
(5) The methodology and findings of this research could have important implications for future terminological work and may prove useful in formulating improved principles of special designation.

Notes

1 It would perhaps be more accurate to speak of 'complex' (or 'extended', cf. Sager 1979) rather than compound lexical units since several of the items included in this study, e.g. certain adjective plus noun combinations in English and phrasal/syntagmatic groups in French and Spanish may not strictly speaking conform to generally accepted definitions of 'compound'.

2 All compounds are reduced to a basic binary structure consisting of a nucleus (N), which is usually the first element in French and Spanish and the second in English, and a determinant (D).

3 I am indebted to John McNaught of CCL, UMIST for the design of data-base software.

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