Terminology : new needs, new perspectives*

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Résumé : La terminologie a atteint un moment important de son histoire. En entreprise, de nouveaux besoins se font sentir, autres que ceux liés à la traduction manuelle. Grâce aux résultats de travaux sur le traitement automatique de la langue et sur l'acquisition et la représentation des connaissances en Intelligence Artificielle, des possibilités nouvelles d'utilisation des données terminologiques se sont fait jour. Pour faire face à ces nouveaux besoins, il convient d'avoir une approche méthodique, basée sur de solides bases théoriques. L'article propose d'ancrer résolument l'analyse terminologique dans la linguistique tout en tenant compte de la spécificité de la terminologie et de son lien privilégié avec la connaissance. Ce lien fort qui existe, dans des domaines cernés, entre signe linguistique et concept permet à l'étude linguistique d'avoir pour finalité de repérer les concepts à travers des réalisations terminologiques. Il est nécessaire de définir un programme de travail visant à une description linguistique du fonctionnement terminologique. A travers la notion de "déviance" (déviance du fonctionnement terminologique par rapport au fonctionnement attendu, en référence à la langue courante), l'article propose quelques pistes de travail dans cette direction.

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1- Introduction

Terminology, which is conventionally considered in industry as one of the activities of translation departments, seems to be emerging from this situation and is beginning to arouse interest in departments such as Research and Development (Artificial Intelligence), Advanced Methods and Quality Managment. All of these departments are concerned with the improvement of technical communication within or between the companies.

It is well known that applied needs create impetus for fundamental research; for example, needs for natural language processing have encouraged linguistics researchers in their work, particularly in formal syntax.

This new situation is highly significant for future directions in terminology. From an inventory of new needs in industry, it will be necessary to adapt practice and studies in terminology in order to meet these needs.

This paper describes the framework in which our reflexion takes place, then goes on to present some of the new needs concerning terminology (especially in Artificial Intelligence and Natural Language Processing) and tries to demonstrate that the main field of research to be developed is the inguistic analysis of terminology. We propose the following hypothesis: terms are words which function in a deviant way relative to the lexicon of the language of reference.

2- Preliminary remarks

In order to define our framework, this first part will propose a detailed commentary of the much quoted definition of "term" proposed by the OLF (Organisation de la Langue française) and repeated by B. de Bessé (de Bessé,90):

> "Le terme se définit comme unité signifiante constituée d'un mot (terme isolé) ou de plusieurs mots (termes complexes) qui désigne un concept, de façon univoque à l'intérieur d'un domaine".[1]

[1] "A term can be defined as a signifier made up of one word (isolated term) or several words (complex term) which designates without ambiguity a concept within a particular domain."

a- Terms as linguistic signs

Generally speaking, terms are really "signifiers made up of one word (isolated term) or of several words (complex terms)", that is to say : linguistic signs. As evidence, we can easily see that terms fit into discourse respecting the rules of the language of reference. Nevertheless, it should be noted that some kinds of term present problems in their behaviour as words of this language. French acronyms for instance rarely get the plural mark, never the feminine mark and only exceptionally give derivatives (in French, *BDphile*). Chemical symbols, which are considered as terms, are completely frozen. These peculiarities are the first signals of the deviant behaviour of terms as opposed to words. As stated in the definition, terms also have a designating function; more exactly, they simultaneously have a signifying function and a designating one.

b- Terms as representatives

Chemical symbols, which depart from many of the linguistic rules, constitute the ultimate manifestation of terms as linguistic signs. For instance, developed forms of molecules (which seem very similar to chemical symbols) do not work as linguistic signs but only as representative signs. This function of representation is also one of the characteristics of terms; it allows a link to be established between linguistic and extra-linguistic facts. So, we can say that a sign is both a linguistic sign and a knowledge marker:

> " Terms are the linguistic representation of the concept" (Sager,90).
>
> "La terminologie ne s'intéresse aux signes (mots et unités plus grandes) qu'en tant qu'ils fonctionnent comme des noms, dénotant des objets, et comme des "indicateurs de notions" (Rey ,79)).[2]

c- Terms are associated with a domain

The notion of domain is somewhat imprecise. However, it is true that terms, or more exactly concepts, find all their relevance within a specific domain or kind of reasoning. As a consequence, terminology (as a science) could have similarities with sociolinguistics. As in sociolinguistics, the analysis of conditions of discourse production (in particular, locutor

[2] "Terminology looks at signs (words and larger units) only in so far as they function as names, denoting objects, and as "notion pointers""

status and competence) is essential (Gaudin, 93). The person who has the greatest competence in manipulating concepts and terms is the expert, this same expert whose knowledge is elicited in artificial intelligence (see below) (Skuce & Meyer, 91). On the other hand, the notion of domain supposes an artificial compartimentation of knowledge. How is it possible to find the boundaries between such compartments? On which arguments can we base it ? Perhaps it is this difficulty in identifying the limits of domains which causes the univocity mentioned in the definition to be more often an ideal than a reality.

d- Terms are associated with concepts

The notion of concept raises a number of questions which will be developed in the next section. Principally, it is necessary to situate this notion relative to referent and "signifié".

3- Referent, "signifié", concept

We do not want to discuss here the language-mind relation which underlies all studies on terminology, but only express some thought in the hope that they will throw new light on this relation.

3-1 Referent vs concept

Certain papers or books on terminology present the referent as one of the central elements in the field:

> "Par l'intermédiaire du sens, le terme est en rapport avec le référent qu'il représente et dont on parle surtout s'il s'agit d'objets matériels. Le rapport ente la forme et le référent peut être considéré sous l'étiquette de dénotation (référence, parfois même désignation) comme une partie de la sémantique terminologique" (Kocourek,82).[3]

[3] "Via meaning, the term is in relation with the referent it represents and which is being talked about, particularly in the case of material objects. The relationship between form and referent can be labelled denotation (reference or even designation) and seen as part of terminological semantics."

This claim is not totally convincing and call for some remarks:

- It moves terminology away from the filed of linguistics, at any rate from Saussure's definition of linguistics :

"Notre définition de la langue suppose que nous en écartons tout ce qui est étranger à son organisme, à son système" (Saussure,16).[4]

Referents are extra-linguistics entities. Thus separated from a science which has made considerable efforts to define its own aims and methodology, terminology could find it difficult to gain recognition as a scientific discipline.

- This point of view is probably due 19th century practice with its emphasis on natural sciences in which the objects described were only concrete objects (fruit, animals, etc). Terms were only labels for these objects,.and were only considered in their function of representation.

- One of the consequences of this point of view is that terminology focuses mainly on the study of nouns ("noms" in French); perhaps it would be more adequate to study names ("dénominations" in French) in the "sens logico-sémantique qui renvoie à un élément distinct de l'expérience humaine" (Rey,79)[5] which may have different syntactic forms.

Evidence for the necessity of considering different syntactic forms (not only nouns) is given by the study of technical texts; it is easy to see that experts take in official norms and, using language rules, derive terms for their discursive needs (for instance by creating verbs from nouns).

We claim that what has to be studied in terminology is not referents but concepts.

We establish two main differences between referent and concept :

- the referent is associated with perception, while the concept is associated with conceptualisation. Of course, there are relations between these two notions:

"What is memorizable can be distinguished in perceptual information and conceptual knowledge. What we perceive is of course influenced by the concepts we have and, the other way round, concepts are partially based on our perception" (Meijs&Vossen,91)

- the referent is not associated with a system nor a form of reasoning.

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[4] "Our definition of "langue" implies that we remove from it everything which does not belong to its organism, its system"

[5] "logico-semantic sense which refers to a distinct element of human experience"

Let's take the example of a specific tool . Laymen will perceive the shape, colour etc. of this tool but will not know how to use or name it. Experts, on the other hand, will know how this tool works both with other tools in the same domain and, very often, will share this knowledge with foreign colleagues; moreover, they will know how to name it in their language and perhaps in other languages [6].

3-2 "signifié" vs concept

Saussure used either term ("*signifié* "or *concept*) indifferently; A. Rey is violently opposed to this point of view :

> "Une illusion plus grave encore est le mentalisme, sous-jacent chez de Saussure, où le "concept" est identifié à la possibilité de former une image ou une idée des "choses" en leur absence" (Rey,79).[7]

Another French linguist G.Kleiber, argues for concepts which are extra-linguistic and independent of languages:

> "Nous pensons que les items lexicaux présupposent l'existence de concepts, c'est à dire d'entités générales plus connues sous le nom d'universaux lorsqu'elles se présentent sous forme nominale" (Kleiber,81).[8]

We agree with this position which is much easier to understand in terminology than in general language. P. Lerat, too, shares this point of view:

> "Le concept ne peut se confondre avec un signifié interlinguistique, à la fois parce que plusieurs signes linguistiques peuvent être synonymes (ou équivalents de langue à langue) et parce qu'un concept peut être propre à un groupe social ou universel et également lexicalisé dans une langue" (Lerat,88).[9]

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[6] Some concepts (e.g mathematical symbols) do not correspond with external referents, they are just items of knowledge

[7] "An even more serious illusion is the mentalism of the kind underlying Saussure's work, which identifies the "concept" with the possibility of forming an image or idea of "things" in their absence"

[8] "We see lexical items as presupposing the existence of concepts, i.e. general entities often referred to as universals when found in noun form."

[9] "The concept cannot be identified with a crosslinguistic "signifié", both because several linguistic signs can be synonyms (or equivalent from one language to another) and because a concept can be specific to a social group or universal and lexicalised in the same way in a language"

In a sublanguage , always associated with a domain, in which terms acquire their meaning, the notion of concept -a sort of mental object manipulated by experts- is easier to understand than in general language .

As A.Rey notes pertinently, in the two names "term" and "definition", there is the same feature of "boundary". The meaning of a term is easier to define within clear boundaries than the meaning of a noun because it is used within a finite domain.

It is obvious that just as between referent and concept, there is a strong relationship between "signifié" and concept. Because of this closeness, the hypothesis of reaching the concept from the name is possible:

> "Bien entendu, en règle générale, un concept donné a pour pendant, dans une langue donnée, un signifié qui en tient lieu dans les limites de cette langue, mais la pensée n'est pas la langue et réciproquement". (Lerat,88).[10]

3-3 Working hypothesis

For the three above mentioned entities (referent, "signifié" and concept), we propose the following definitions:
a **referent** is what is perceived
a **concept** is what is conceptualised
a **"signifié"** is the part of the linguistic sign bearing sense.

Up to this point, we have distinguished two systems: the linguistic system and the conceptual system. As a linguist working on terminology, we have to be interested in each of them since terms, with their two functions (a signifying function and a representing function), are concerned with these two systems. We saw that "signifiés" and concepts often echo each other; we formulate the hypothesis that the linguistic analysis of terms constitutes a key to reach the underlying conceptual system.

This does not mean that the linguistic system of terms is the reflection of the conceptual one. In particular, experts use implicit concepts which are not always named by terms or which, in the case of common concepts, are common usage names.

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[10] "Clearly, as a rule, a given concept has in a given language, a corresponding "signifié" which stands for it within the boundaries of that language; but language is not thought and vice versa."

Our study will consist in seeing how the linguistic analysis of terms will lead to an understanding of the underlying conceptual system. We hope to lay the foundations for a **differential** analysis of terms, i.e. analysis of terms in comparison with the names in the language of reference.

We will show the potential and the limitations of this approach in section 5. Beforehand, section 4 will present links between terminology, natural language processing (NLP) and artificial intelligence (AI).

4- Terminology, NLP an AI: new relations to consider

The links between studies in terminology, NLP and AI have in recent years started to arouse great interest in the research community. This involvment of so called hard sciences could give a new orientation to theoretical or applied terminology work and would constitute a very stimulating domain of collaboration for all interested participants.[11]

4-1 Terminology and NLP

In NLP, many researchers know that their aims are attainable only if their projects are focused on specific domains. As we saw in 2-, this idea of domain is one of the elements characterizing terminological approach. As a consequence, the majority of names or compound names treated in these NLP systems correspond to terms. Moreover, in order to work, these systems need the two kinds of data found in terminological databases: linguistic data and world knowledge data. Nevertheless, in order to integrate data from these "classical" databases, we need answers to a number of questions with real consequences on the approach to terminology processing:

[11] The author has constituted with the help of Didier Bourigault a working group on the theme "Terminology and AI" in which terminologists, linguists and computer scientists take part. This group is supported by the French Ministry of Research.

- While the focus is on processing discourse, all kinds of linguistic manifestations have to be considered, noun forms of course, but also all the other forms (adjectives, verbs, etc) including those for which the notion of concept seems very abstract. For instance in a company like Matra Marconi Space[12], specialized in space activities, we encounter within their terminology, adverbials such as *au fil de l'eau* or *en léger temps différé*.

- Still because of the discourse framework, it is necessary to examine links between the general lexicon and terminology. This question becomes particularly acute with terms which also belong to the general lexicon. On acquiring the status of terms, these words take on a different meaning and/or function differently. From a theoretical point of view, the most important question probably concerns the notion of concept, easy enough to apprehend in a specific domain but becoming much more complex in applications in which general and specific knowledge, general and specific concepts, general and specific languages cohabit.

- Finally there is another crucial question: it is necessary to study relations between terms or, more exactly, between concepts denominated by terms. In the best (and rare) cases, in terminology databases, the only relations considered are paradigmatic ones such as "is-a" or "is-part-of". However these relations are insufficient for NLP. Let's consider some examples involving resolution of anaphora:

(1) *A cat came in chased by a child; the animal seemed exhausted*

(2) *Paul saw a beautiful flower, the gardener told him it was an amaryllis.*

In order to resolve the definite determiner anaphora, the system needs linguistic data and world knowledge data. For (1), it needs to know that there is a relation "is-a" relation between *cat* and *animal.* For (2), it is much more difficult to generalise the necessary knowledge: the system has to know that there is a relation between *gardener* and *flower* and that this relation is *cultivate.* In a general domain, listing all these kinds of relation is almost impossible; in a specific domain, it does not seem impossible, at least if what is considered is not only a domain but also a kind of application.

4-2 Terminology and AI

[12] The author is a member of ARAMIIHS, an Industry-Research laboratory Matra Marconi Space-CNRS

For some time now, a small number of terminologists have been claiming that AI researchers should take better account terminology studies (Otman,92). More rarely, AI researchers have encouraged their colleagues to pay attention to terminology results (Ahmad,93). More often, a mutual indifference prevails. The involvment of rigorous terminology processing in AI could profitably take place at two key moments: knowledge acquisition and knowledge representation.

4-2-1 Knowledge representation: from terminological databases to terminological knowledge bases

An important part of representation systems (conceptual graphs, KLone graphs, etc) are situated in the approach initialised by Quillian with his semantic networks[13]. These networks are composed of nodes, but relations could equally be considered in the constitution of a terminological database. Following I.Meyer (Meyer,92) , we prefer to call this form of generation of Terminological Databases (TDB), Terminological Knowledge Bases (TKB) (Condamines&Amsili,93). So the question is: are there universal relations? Except "is-a" and "part-of" (and it is well known that variations around these relations may exist), are there useful relations for all domains and for all applications? We think that these questions will become crucial in the coming years.

We consider it unfortunate that in network systems, it is not apparent that terms are also linguistic signs. There are at least two arguments forthis claim:

- for the validation of these networks, it is necessary for the expert to recognize in the labels terms he knows in order to focus his attention entirely on the evaluation of the reasoning process,

- in many cases (if not all), these networks constitute knowledge bases which should be linked to NLP systems such as the ones mentioned in section 4-1. It would then be necessary to integrate terms in the lexical base of such NLP systems and to associate both linguistic and cognitive data.

There are close relations between a Terminological Knowledge Base and the ontology of the domain in that each considers the consensual knowledge, shared by all the domain

[13] Quillians's psycholinguistic training certainly had an influence in this work.

experts. The most important difference is that the TKB approach considers not only objects and relations but also the way terms function linguistically.

4-2-2 Knowledge Acquisition

In its current version, knowledge acquisition has given up any idea of passing directly from the expert cognitive model to the internal representation system (Aussenac&al,92). At the moment, what is looked for is to constitute a knowledge model organised as a data model (static) and a reasoning model (dynamic). If the reasoning has to be specific to the expert, the data model has to be unconnected with just one expert and thus be consensuel (or quasi-consensuel) between experts of the domain concerned. Now, isn't this consensus precisely what terminological studies are looking for? In their activity of concept definition, aren't these studies looking for definitions acceptable to all the experts ? Finally, the Terminological Knowledge Base does contain stable conceptual elements. From them, individual reasonings understandable by each member of the community may be elaborated because they are expressed with recognised terms of the domain: terms constitute the linguistic and cognitive bricks of a domain. It is not certain that AI researchers are confident in this claim. Perhaps, this hesitation concerning the usefulness of terminology in knowledge acquisition comes from the fact that it would be necessary to considerably modify current methodologies in knowledge acquisition. Only two solutions seem possible in order to take terminology into account in knowledge acquisition:
- either, an experienced terminologist should establish the domain terminology before the knowledge engineer intervenes,
- or, the knowledge engineer should receive thorough training permitting him/her to constitute the terminology of the domain.
At the moment, for economic reasons, only the second solution seems conceivable.

Terminology research concerning the linguistic characteristics of terms is not sufficiently advanced. We do not know precisely how terminologists spot terms when reading texts. This work is mostly done intuitively and it is only fruitful because terminologists have extensive experience in it. But what about knowledge engineers? They cannot become terminologists; so it is necessary to give them a methodical procedure for spotting terms and this implies that linguistic studies concerning terminology need improving.

This "applied" interest gives a supplementary argument to the scientific interest.

5- Towards the determination of a research programme

In order to adapt research results to new needs concerning terminology, it is necessary to begin new kinds of studies. Here, we present the study we have started in this perspective.

5-1 Linguistic characterisation of terminology: notion of deviancy

In a previous paper (Condamines,93), we retained the idea of **deviancy** characterising terms on a linguistic level. This idea was again used in some linguistic studies, for example on metaphor (incidentally metaphoric use can be seen as a form of term creation). The idea of deviancy can be widened in order to characterize all linguistic deviancy, as the sign of a terminological manifestation. The objectives of such a study are, threefold:
- to gain better knowledge of terminological functioning
- to begin the constitution of a method of term extraction from textual Databases by a knowledge engineer
- to try to formalise all the characteristics of terminological functioning in order to improve tools for term extraction.

Section 5-2 will give some examples of terminological functioning in comparison with the lexicon of the language of reference. Part 5-3 will present comparative examples from the lexical and the conceptual systems. It will also discuss limitations in the analogy between them.

5-2 Terminology and lexicon of the language of reference

If we keep to the notion of deviancy in order to characterize terms as opposed to general lexemes, we can see that there are several kinds of manifestations.

It has to be noticed that the examples we will refer to, are extracted from technical documents (specifications...) from Matra Marconi Space (MMS), a firm specialising in space activities.

5-2-1 The term as a simple word

a) The term is unknown in the general lexicon (and consequently, the concept is unknown in general knowledge).
For us, "unknown "means "not listed" in the French dictionary Le Petit Robert,
e.g. : *actionneur, étagiste*

b) The term is a known word (listed in the dictionary) occurring under thematic rubrics.
In "Le Petit Robert", some terms are listed under thematic rubrics (under 12 rubrics to be precise). But these rubrics are very heterogeneous (there is even a rather surprising "didactic" rubric) ; other terms, characterising the space domain do not appear under a specific rubric (such as *albedo* or *apogée*). This means that it would not be possible to use a general dictionary to spot terms.

c) The term is a known word with unusual frequency
Some terms are general words which are used with unusual frequency. For example *simulation* in the Matra Marconi Space corpus is used 771 times (while *de,* the most used string, occurs 10849 times).

d) The term is a known word but it occurs in contexts presenting some semantic recurrences.
e.g.: the word *détection* occuring only with a complement such as *panne*, *défaillance*, *erreur* while the definition of *détection* in dictionary is : "spotting a hidden thing".

e) The term is a known word but its use in corpora does not correspond with that of the dictionary and the term admits unknown constructions

e.g.: *lancement* is listed in the dictionary only with a concrete object with the sense "throwing" but in examples as:
Ce calcul est utilisé à chaque lancement des simulations PE, [14]
it is used in the sense "starting" and the object is a process.

5-2-2 The term as a compound word

Most terms are compound words. In this case the analysis of deviancy is much more difficult than in the case of single words because we do not have a dictionary of all admitted compouners.

a) A compound noun appears frequently
e.g. : Out of 15 occurrences of the noun *préparation* , 9 admit *test* as complement (*préparation de test*).
High frequency is a means of term identification.

b) The syntax in the compound word is elliptic.
One of the main means of creating terms is the deletion of determiners and/or prepositions. For example, in French, many terms are sequences of two words without preposition or determiner:
e.g *:contrôle commande*, *banc simulation*

c) The construction in the compound word is deviant
e.g. : *geler un test*
which admits a direct complement and an impersonal subject. The only construction,which is non metaphorical, accepted in French is *il gèle.*

d) The compound word is well known but it occurs in deviant contexts.
e.g. : *chien de garde* in the sentence:
Il n'y a pas pour ces équipements d'état actif ou passif car il n'y a pas de chien de garde ou de logique de reconfiguration.

[14] This calculus is used for each PE simulation launching.

The coordination (with *ou*) would entail a semantic similarity between the two coordinated elements. Now, clearly, it is not the case in the example.

In the two previous paragraphs, we have shown how to spot terms by comparison with the general lexicon. This presentation was only concerned with the main axis of a necessarily larger study.

5-3 Lexical system vs terminological system.

Sometimes, a term is deviant as part of a lexical system, and not only in the way it functions in context. As a first approach of this kind of deviance, we will examine the case in which a morphosemantic relationship does not correspond to a conceptual relationship. Then, we will evoke the problem of nouns derived from verbs.

5-3-1 Morphosemantic relationships vs conceptual relationships

Here, the problem concerns terms apparently derived from one another from a morphologic point of view but which, from a terminological point of view, refer to unrelated concepts. Let's take as examples *capteur* and *capture* and their definition in MMS terminology.
capteur: dispositif sensible à un phénomène physique et représentant une ou plusieurs grandeurs caractéristiques de ce phénomène sous la forme d'un signal généralement électrique[15]

capture: phénomène par lequel un objet céleste est retenu dans la sphère d'influence d'un astre au voisinage duquel il passe[16]

These two terms are related from the morphological point of view and there is also a relationship between the two designated concepts.

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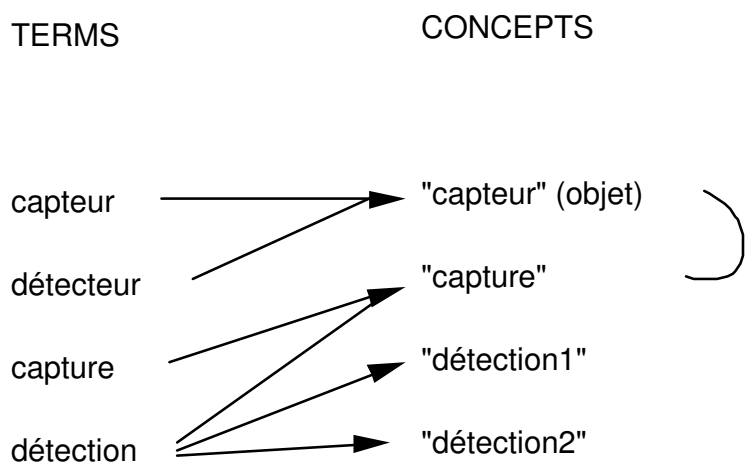
[15] a device which is sensitive to a physical phenomenon and which indicates one or more values of the phenomenon in the form of a signal (usually electrical).
[16] a phenomenon whereby a celestial body is held in the volume of gravitational influence of another celestial body which it passes close to

Things are more complicated if we examine the pair *détecteur/détection*. *Détecteur* admits the same definition as *capteur*, the only difference concerns use conditions. As for *détection*, it may occur with its usual sense "action de détecter: déceler l'existence d'un phénomène caché"[17], Petit Robert; as in the example:
Toutes les UT et les PO effectuent automatiquement un autotest en phase d'initialisation, permettant la détection de pannes affectant l'unité.

Sometimes, though more rarely, *détection* can refer to a concept which has a relationship with the concept denominated by *détecteur* as in the exmple:
...déterminera les positions de la terre et du soleil dans le champ de vue du capteur afin d'évaluer la valeur des registres correspondant aux implusions de détection solaire et terrestre.
However no context shows *détection* as referring to the concept denoted by *capture.*
The table below summarizes the situation



5-3-2 Opposite words vs opposite concepts

Some terms (particularly adjectives) appear to be opposite from a linguistic (morphological) point of view, but, in some contexts, this same pair does not work for

[17] spot a physical phenomenon thanks to a sensor

denominating a pair of opposite concepts. More precisely, one of the members of the pair works, but not the other.

In MMS terminology, the opposite concept of *acquisition synchrone* is *acquisition asynchrone* ; *synchrone* and *asynchrone* are opposite words, the *a* prefix referring to the inverse notion. Unfortunately, we do not find this logic with all terms. For example, the opposite concept of the one denominated by *simulation synchrone* is not denominated by *simulation asynchrone* but by *simulation cyclique*. The term *simulation asynchrone* would not be without sense but the concept is not relevant in the conceptual system while the only kind of *simulation asynchrone* is *simulation cyclique*. Thus the denomination of a specific concept is used in order to designate a more generic concept.

5-3-3 Nouns derived from verbs

It is well known that, in French, the meaning of noun forms derived from verbs is richer and refers to more than just the action or state denoted by the verb. For example the noun *achat* refers not only to the action of buying but also to the object acquired, the result of the action (as in the example: *montre-moi ton dernier achat*). Now, it seems that this phenomenon leading to the multiplication of concepts refered to by a noun-from-verb-term is very frequent in terminology. For instance in the MMS corpora, a term such as *surveillance*, corresponding to a word with just one meaning refers to two concepts as shown by the following examples:

Ce programme simule l'évolution du compteur de bande en fonction de l'état de défilement de l'EMS et effectue les différentes surveillances liées à ce compteur de bande

La surveillance effectue ces contrôles uniquement après la désignation par un outil de mise en surveillance des valeurs nécessaires.

In the second sentence, *surveillance* cannot refer to an action because it is the subject of an action predicate. In thiscase, in accordance with the expert, we have decided to retain two concepts, one for the action and one for what we have called function.

6- Conclusion

Because of the development of needs concerning the management of communication in firms and because of the development of interdisciplinarity in research, terminology studies are of special interest at the moment. For terminology, this evolution may entail a complex rethinking about its aims and methods. We claim that terminology has to situate itself as a linguistic discipline with its own particularities (such as its links with the ontology of the domain). It is necessary to study terms in their linguistic functioning and, in this perspective, we propose the notion of deviancy as the main characteristic of this functioning.

In order to facilitate this study, it will be necessary to integrate tools in the processus of spotting and studying terms and linguists will require computer scientists to adapt tools for these tasks. These tools could be used for extracting terms, storing and managing corpora, finding usage contexts, storing and managing terms etc.

It is extremely important to understand what is done more or less intuitively by terminologists when they look for terms. Thus, perhaps, in some years, it will be possible to propose a reliable preliminary linguistic method for novices in terminology.

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