

# What remains of Eugen Wüster?

## Terminology against (or with) Linguistics

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### RÉSUMÉ

Ce texte rend compte d'un certain nombre d'idées émises par l'auteur au cours de la table ronde « Wüster sous toutes ses facettes » (lors du colloque *Eugen Wüster et la terminologie de l'école de Vienne* évoqué précisément dans cet ouvrage). Il revient tout d'abord sur la réception de l'œuvre d'Eugen Wüster et sur la manière dont certains de ses textes ont été réduits à quelques idées-forces, à l'instar de ceux d'autres théoriciens. Après un retour sur les aspects doctrinaires, il évoque la tentation de l'autonomie théorique et le paradoxe de critiques, qui tout en se voulant parfois radicales, n'en contribuent pas moins souvent à véhiculer l'idée que la terminologie est une discipline distincte de la linguistique. L'absence de véritable mise en pratique des principes wüsteriens dans la terminographie contemporaine est également évoquée avant de finalement revenir à la question initiale. L'auteur propose de retenir d'Eugen Wüster le retour de la référence, l'autonomie du terme, l'importance de la définition et l'annonce de l'informatisation des dictionnaires.

### MOTS-CLÉS

Wüster (Eugen), terminologie, terminographie, approches critiques

### ABSTRACT

This publication reflects a number of ideas proposed by the author during the round table entitled “Wüster sous toutes ses facettes” (“Wüster in all his facets”) during the symposium *Eugen Wüster et la terminologie de l'école de Vienne*. It first looks back at how Eugen Wüster's works were received and how some of his texts were reduced to a few key ideas, similar to what was done to those of other theorists. After summarising the doctrine-

related aspects, it mentions the temptation of theoretical autonomy and the paradox of critiques that, while aspiring to be radical, nevertheless often contribute to promoting the idea that terminology is a discipline distinct from linguistics. The lack of true implementation of Wüster's principles in contemporary terminography is also mentioned, before the text returns to its initial question. The author proposes that from Wüster's work we should remember the return of reference, the term's autonomy, the importance of definition and the prediction of digital dictionaries.

#### KEYWORDS

Wüster (Eugen), terminology, terminography, critical view

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## 1. Preamble

The question in the title will seem deliberately iconoclastic to some, especially to those who think that terminology is a discipline distinct from linguistics. Still, should attempts to revisit Wüster's work and give them their rightful place within the language sciences and their history be perceived as so many desecrations of his spirit?

Our statements may seem terse, or even disjointed. The idea is to give a concise account of a number of ideas that were exchanged during a fascinating live debate.

## 2. On the Reception of Wüster's Work

The study of specialised languages and their vocabularies has been very popular since the early 1990s, and terminology—sometimes presented as a standalone discipline—was taught in more and more universities as they opened their doors to translation. At the same time, Eugen Wüster's ideas were quickly reduced to a few key ideas, as was the case with other theorists who gained a following. This kind of crystallisation invariably results in tensions, or even schisms with varying degrees of constructiveness. In Wüster's case, the language barrier and the hazards of translation have assuredly contributed to this situation, as have the inevitably reductive nature of certain older standards of ISO technical committee 37 (TC 37) and the summaries produced by his followers, including Helmut Felber's *Terminology Manual* (1984).

As we cannot present a full list of key ideas presented in terminology treatises, we will simply mention as examples the five basic principles that characterise the Vienna school as identified by Rita Temmerman (2000: 5-15), who—it should be noted—quotes Wüster in German.

1. Terminology studies concepts before terms (onomasiological perspective);
2. Concepts have clear boundaries and a fixed place in a conceptual system;
3. Concepts must be defined in a traditional way (intensional, extensional or part-whole definition);
4. The relationship between concept and term is biunivocal;
5. Terms and concepts are studied in synchrony.

Lists of similar key ideas, or others, are presented by many authors such as Maria Teresa Cabré (1998: 30–32 and especially 1999: 110) and Marie-Claude L’Homme (2004: 24 ff.), who has compiled a ‘catalogue’ of the various principles of the classical theory of terminology inherited from Wüster under the name *optique conceptuelle*. There is no doubt that these authors are looking to focus on points of tension related to the evolution of research, and not to diminish Wüster himself or his contributions to the field<sup>1</sup>.

This need to take sides contrasts with the much more pragmatic approach adopted by the contributors to the *Handbook of Terminology Management* (Budin & Wright 1997: 3), who choose right away not to mention questions related to the various schools of terminology. The entire first volume contains only four references to Wüster.

The lack of attention given to epistemological reflection will no doubt surprise French-speaking colleagues, as this is a collective work co-signed by academics, some of whom have close relationships with the Vienna school. The topic would merit closer scrutiny.

Only in the most insular groups are there still people who argue that the only correct approach to language is that of Saussure, or Jakobson, or Hjelmslev, or Martinet, or Chomsky. Similarly, it seems reasonable today to regard Wüster’s attempts at theoretical modelling

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1. Johan Myking (2001: 53) proposes a list of the eleven critiques that are most often brought up.

as belonging to the epistemology of the language sciences, rather than to a terminology class aimed at training bona fide practitioners.

### 3. Wüster—A Doctrinaire Idealist?

One cannot deny that Eugen Wüster wished to make a case for the soundness of his theoretical vision, and that despite all the stance markers highlighted by Danielle Candel (2004: 18), his texts clearly belong in the realm of doctrine, in the best sense of the word. More than one participant underlined that this doctrinal (or as some would unfairly call it, *doctrinaire*) aspect cannot be properly understood without knowing about the ideal that drove this fervent Esperantist. His efforts to solve comprehension issues at an international level must be understood in a specific historical context, marked by factors such as aspirations toward universality, or even unanimism, which in the middle of the 20th century resulted in the best as well as the worst<sup>2</sup>. Many do not realise that several authors of major multilingual terminographies from the first half of the century were striving toward progress and better understanding between peoples. This topic is frequently mentioned in the prefaces of each volume of Alfred Schlomann's *Illustrierte Technische Wörterbücher*<sup>3</sup> published after the First World War:

*Je remets donc cet ouvrage au monde technique de tous les pays espérant qu'il rendra service et qu'il sera considéré comme un signe et une mesure du désir de la technique et de la science allemandes de fournir sa [sic] part de collaboration internationale indispensable au progrès et infiniment favorable à la création d'une atmosphère de paix entre les peuples.* (Schlomann 1928: VI)

I therefore hand this work over the technical world of all countries in the hope that it will be of service and that it will be regarded as a sign and measure of the desire of German technology and science to provide their share of international collaboration, which is crucial to develop-

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2. It should be noted that we know nothing of Eugen Wüster's ideological choices and his attitude under the Third Reich.

3. Alfred Schlomann had to flee Nazi Germany and take refuge in the United States. He was a translator at the Nuremberg trials. We apologise for not being able to find these extracts in their original German version or in an English edition.

ment and highly conducive to the creation of an atmosphere of peace between peoples<sup>4</sup>.

*C'est ainsi que des ministères, des organisations ont résolument et d'un mouvement généreux trouvé le moyen d'obvier à la misère des temps. À l'avenir également, ce moyen pourrait servir à écarter les obstacles qui s'opposent au rapprochement intellectuel des peuples. Puissent les gouvernements des nations être persuadés qu'une collaboration internationale dans le domaine de l'investigation et de la documentation scientifiques offrira la seule possibilité à l'avenir d'assurer le progrès et, par la suite, le bien-être [...].* (Schlomann 1932: I)

In this way, ministries and official organizations have firmly and generously found a way to overcome the current path of misery. In the future, too, this means could be used to remove the obstacles to the intellectual rapprochement of peoples. May the nation governments be convinced that international collaboration in the field of scientific research and documentation will offer the only opportunity in the future of ensuring progress and, subsequently, welfare [...]<sup>5</sup>.

During the international symposium *Eugen Wüster et la terminologie de l'école de Vienne*, which gave rise to the present book, several speakers discussed at length the epistemological foundations— Influenced by universalism and neopositivist logicism—of Wüster's approach. Monique Slodzian (1994–1995) was probably one of the first to remind the French-speaking world of the links between Wüster's project and the emergence of other projects involving language and science and technology in the early 20th century, aiming in particular at the creation of an interlanguage dedicated to expressing science. Her demonstration hinted at a strong relationship between these projects, tinged with logicism and utopian universalism, and the key ideas that were drawn from Wüster's work.

Nevertheless, paradoxically, reading *The Machine Tool: An Interlingual Dictionary of Basic Concepts* and its introduction will reveal a pragmatic practitioner who is well aware of the limitations of 'doctrine'. We can sense, on the one hand, the terminologist striving for a somewhat utopian—if not dogmatic—ideal, and, on the other hand, the terminographer whose legacy is filled with descriptive finesse

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4. Editors' translation (from French to English).

5. Same as footnote 4.

and resolutely includes homonymy and synonymy. In fact, various quotations presented in John Humbley's contribution to this volume demonstrate that even in the context of international standards-setting, Wüster counted on significant efforts of consultation and field investigations in order to reach an agreement on concepts and their designations.

One can certainly criticise Wüster for neglecting corpora (Bourigault and Slodzian 1998–1999). While this is legitimate, it is also important to situate his work on a timeline. At the time, most linguists were not aware of the many insights that allow us, today, to read Wüster's work with a critical eye, whether they originate with sociolinguistics, which was born in the 1960s, or with corpus linguistics, which was then not acknowledged by a milieu presided over by those who deftly invented example sentences. Too quickly do we forget that these examples were long seen as the revealed truth, based on the idea of a linguist who is the ideal speaker of homogenous speech community. The language sciences are just as vulnerable as other sciences to the lure of *doxa*...

#### 4. The Temptation of Theoretical Autonomy

For a long time, certain theoreticians have insisted on presenting terminology as a separate discipline from linguistics, an idea that is undeniably conveyed by some of Wüster's writings. This school of thought may, of course, find its origins in the epistemological context described above; still, it currently finds an echo in various centrifugal trends. In the French-speaking world, the temptation of autonomy is also observed among language planners, whether they are driven by self-preservation in the face of English hegemony or by a form of parochialism tinged with Anglophobia. It is perhaps not a coincidence that Wüster's works that are best known in France include those that discuss the difference between terminology and linguistics. Beyond the study of how his work was received in French-speaking countries (Humbley 2004), tracing the history of these texts' translations and how they were distributed is an essential task that Danielle Candel (2007) has taken on. Is it also a coincidence that certain language planners have attempted to rehabilitate Wüster's notion of concept?

As terminography is practised in the language industry, it is necessarily interdisciplinary, given the varied needs it intends to meet. During our discussion at the colloquium, it appeared that many intercomprehension issues within our community were specifically related to the diversity of perspectives. One necessarily has a different approach to terms and ‘concepts’ depending on what one does: engage in language planning, standardise the vocabulary of a given field of study, describe the diversity of usages or enable interlinguistic communication.

John Humbley reminded the attendees of the symposium that in Northern European countries, terminologists endeavoured to differentiate themselves from lexicologists<sup>6</sup>, whereas we believe this trend to be much weaker in the French-speaking world, in which one often reaches terminology by way of lexicology and semantics. This observation very likely explains why French-speaking researchers are so keen on the descriptive approach. As suggested by Martin Stegu, militant claims that terminology is a separate discipline from lexicology—or even from the language sciences—may be less a matter of doctrine than one of standing within academia (see also Stegu 2013: 2). The parallels he draws with certain centrifugal trends in translation studies seem very interesting from this perspective.

Diverging attitudes toward Wüster’s thought may be observed between the French-speaking—or, more broadly, Latin—and Germanic worlds, but they should be put into perspective<sup>7</sup>. Cultural differences related to how critiques are formulated may justify a different perception of their nature and tone. When Johan Myking (2001: 55–56) calls certain positions ‘loyal’ and others ‘subversive’<sup>8</sup> he is probably illustrating this perception challenge.

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6. This idea is also found in Bergenholtz & Kaufmann (1997); Humbley (1997) discusses it in the same issue of *HERMES*.

7. In fact, there have not been significant quarrels between schools of thought in an international context. At most, there has been some tension resulting from certain authors’ insistence on circumscribing Wüster’s legacy without taking constructive critiques into consideration. The issue of XML data exchange standards was one of the incarnations of this aspect of the question in the late 20th century.

8. Both terms in inverted comas in the original text.

Our feeling is that once they had practical experience with terminology, many researchers—regardless of their background—felt the need to push the discipline forward by taking into account the contributions made by the language sciences, cognitive psychology and artificial intelligence: prototype semantics, object classes, meronymy, formal concept analysis, etc.

The drive to put Wüster's key ideas into perspective and call them into question has, to be sure, often originated in the language sciences; still, it is interesting to note that many researchers who have left their mark in the field in recent years seem to have attempted to invent subdisciplines: we now have socioterminology, ontoterminology, sociocognitive terminology, textual terminology, pragmatic terminology, and so on. Paradoxically, these researchers have copied a trend that is well established in linguistics, and may have unintentionally contributed to solidifying the idea that terminology is indeed a separate discipline from the language sciences<sup>9</sup>. Sociolinguists, corpus linguists, lexicographers, lexicometry specialists and cognitivists thus find themselves, in a way, out of step, disqualified from a field of research restricted to terminologists—whether they follow a strictly wüsterian obedience or adopt a more critical position. Should we consider founding 'terminolinguistics' in order to counteract this trend? Recalling the 'critical eclecticism' that Alain Rey called for in the foreword to the excellent book by Rostislav Kocourek (1991: VII-VIII) on technical and scientific French (*La langue française de la technique et de la science*), we would instead promote the idea of a true dialogue between all the approaches required for an operational description of the various types of terminology.

## 5. Wüster, Always Cited but Never Followed?

Did Wüster truly create a following for himself in terms of terminographical production? Our feeling is, sadly, that the answer to this question is no. Still today, many authors of specialised dictionaries have little training in lexicology or terminology. Monolingual works

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9. In Latin academia, terminology courses and PhD theses collectively make up an epic narrative, largely inspired by mutual readings, that would have seen this succession of trends following Wüster's critique.

are generally encyclopaedic in nature and meet a need for more or less advanced knowledge; the best among them clearly belong to the realm of specialised lexicography. As for multilingual works, too often are they no more than lists of terms presented in columns—with varying degrees of accuracy—, compiled in a rush by translators. The near-systematic absence of definitions in many ‘terminographies’ flies in the face of the very foundations of Wüster’s approach. At this point, should we be surprised by how rare systematic classifications are in terminographical dictionaries? Apart from a few outliers, it would be vain to hope to find a dictionary that is comparable to that of machine tools (Wüster 1968), which we believe is the culmination of a succession of outstanding dictionaries from a bygone era<sup>10</sup> rather than a founding work.

Digital technologies have not improved the situation by much: the professional translation industry often makes do with mere glossary tables that haphazardly assemble one-to-one equivalences, without regard for the homonymy-polysemy dyad, and many terminological databases are embarrassingly poor, with a handful of fortunate exceptions. We have also observed that the structure of their data model is too often incompatible with Wüster’s conceptual approach, which they sometimes claim to follow. Only with the adoption of the ISO 16642 standard, *Terminological Markup Framework* (2003), largely inspired by the lessons of our project *Dhydro* (see below), did it become possible to improve a major software application such as *Multiterm*<sup>11</sup>. As for terminological knowledge base projects, long in the planning stage (Meyer *et al.* 1992, Blampain *et al.* 1992) and that Wüster had anticipated, they have long remained in limbo due to lack of active funding, with *Wordnet* shoehorned—as mentioned by François Rastier<sup>12</sup>—into a role that seems to have been sufficient to satisfy research funds.

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10. Most stop at Schlomann’s dictionaries and disregard the wonderful history of sailing dictionaries, which have long been open to the issue of translation due to the imperatives of travel (Villain-Gandossi 1999 and Van Campenhoudt 2003).

11. *Multiterm* owes its initial success to a data structure that did absolutely not comply with the conceptual approach, since definitions were linked to terms and not concepts.

12. See Rastier (2004) on this subject.

Our critique is certainly harsh, and it may seem unfair. And yet, even looking only at translations of Eugen Wüster's work into English, one could identify a few evaluation criteria that would invariably result in the same observations. Thus, Wüster (1968: 2.14) lists in the introduction to *The Machine Tool. An Interlingual Dictionary of Basic Concepts* six means by which he ensured high terminological accuracy:

- (1) The provision of definitions;
- (2) Classified arrangement;
- (3) "Affiliation" by cross-references;
- (4) Comparison of differing national conceptual systems;
- (5) The addition of a system of illustrations;
- (6) The semantic structure of the indexes.

How many contemporary terminographies meet at least four of these criteria?

Terminology originally was, and often still remains, a discipline taught in academic translation curricula. In the end, the terminographies that are closest to Wüster's ideal are unquestionably glossaries produced by students in translation as part of their dissertations. It is true that their authors are required to follow the 'ideal' terminology record designed by their supervisor. These works, which are sometimes of high quality, are proof that Wüster's terminographical model is both viable and of practical interest in a multilingual context. Their high human cost—several hundred hours for a glossary of a few dozen records—and the resulting lack of economic viability could explain why this kind of methodology has not been successful on the multilingual dictionary market.

## 6. Equivalence: Concept or Monosemy?

Wüster was concerned with translation problems, and it is clear that his approach—debatable though it may be—can tackle equivalence issues. Indeed, placing definitions and typological classifications at the forefront ensures that the terms do refer to the same things.

Georges Mounin (1963: 127–138) is probably one of the first French-speaking linguists who showed an interest in the work of Eugen Wüster and terminologists as it relates to the issue of translating

the lexicon. While he perceived their epistemological lineage, with roots in old speculation by Descartes, Delgarno, Wilkins and Leibniz about universal philosophical languages (1963: 131), Mounin also underlined their contribution to the theoretical study of the issue of defining terms (1963: 127–128). He supported the idea that structural semantics led to the establishment of a new bridge between logic and language (1963: 137), and had perceived a link—an especially insightful one, on our opinion—with Wüster’s approach of definition (Mounin 1963: 138).

A few years ago, at the conclusion of European project *Dhydro*, we attempted to demonstrate in the *International Journal of Lexicography* that a semic approach of the term helped implement a practice of multilingual terminography that is very similar to Wüster’s but that is also free from any mentalist perspective and takes into account the contributions of lexical semantics and corpus linguistics (Van Campenhoudt 2001).

By proposing our ‘principle of equivalence’, based on monosemy and calculating equivalence, our goal was to defend the idea that in order for a term to be translated, its denotations in both languages had to match. Whether we look at semes (on the sign side of the issue) or characters (on the concept side), the similarities between the two approaches are evident; at least, as long as we free ourselves from the boundaries of words and do not attempt to impose a universal conception of the world. Indeed, as far as terms are concerned, establishing a translation equivalence is largely a matter of reference semantics. The latter is also close to the semantic networks of artificial intelligence, and largely compatible with Wüster’s intuitions in the area of conceptual networks, intuitions that were inherited from, among other sources, the domain theory that was studied in depth by the Soviet school (Slodzian 1994–1995: 132).

It seems to us that terminography has for a long time been more developed than lexicography in terms of digital management. And this is not the least of the legacies of Wüster’s work that benefited the ISO. As early as the late 20th century, the partners of European project *Dhydro* completed the XML tagging of the three monolingual volumes of the *International Hydrographic Dictionary* (French, English, Spanish) using the data categories and exchange

format defined by ISO's TC37. The architecture of the data model chosen enabled a strictly monosemic approach, along with highly granular descriptive categories. Using XSL stylesheets, the partners were able to provide material proof that well-designed tags, free from the limitations of the graphical microstructure, enabled the database thus created to be presented following either the original canon of specialised lexicography—monolingual and polysemic—or that of terminography—monolingual and monosemic (or conceptual) or even multilingual and monosemic (see figures 1, 2 and 3). This knowledge, gained some twenty years ago, seems largely ignored (read Descotte *et al.* 2001a, b and Van Campenhoudt 2002).

Monosemy, of course, has a cost: homonymy. Wüster would have liked to banish homonymy from his ideal world of intercomprehension, but he was not always able to avoid it in his own model dictionary<sup>13</sup>. This is also the cost of a descriptive approach that respects the reality of languages and usages. It does not matter that the dictionary's author feels like their approach is more onomasiological, or semasiological: only pure theoreticians could believe that one or the other could be enough.

## 7. To Summarise

At this stage of our work—much of which, unfortunately, was not written in English—, we are inclined to think that the language sciences owe a debt to Eugen Wüster for getting linguists interested in terminology. Through his search for a distinct model, he allowed them to consider terminological units that could be free from the traditional boundaries of words; he heralded the emergence of reference semantics, and contributed to better defining the problem of terminological equivalence. Wüster also prefigured the fundamental contributions that linguistic engineering and artificial intelligence have made to the description of specialised vocabulary.

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13. The method implemented in *Dhydro* follows the one used in the exemplary multilingual dictionary *From Keel to Truck* (Paasch 1894), which, as far as we know, Wüster has never cited, and which was published half a century before his time. We have written a thesis about the incredible compatibility of this work with Wüster's approach (Van Campenhoudt 1994).

Let us remember his legacy as much as possible in an epistemological or historical context, but let us also not claim that one cannot do terminology without fully and loyally adhering to his school of thought.

- Atterrir** - *vi* -  
En venant du large, arriver en vue de terre, la reconnaître et s'en approcher.
- Atterrissage** - *nm* -  
Pour un navigateur venant du large, première prise de contact visuel avec la **TERRE**. Par extension, première prise de contact avec la **TERRE** par un moyen quelconque, par exemple, le **RADAR**.
- Attribut** - *nm* -  
Dans le langage des SIGs, code alphanumérique affecté à un objet ponctuel, linéaire ou zonal pour en décrire une caractéristique particulière.
- Au large** - *adv/prép* -  
a) Dans la direction de la **MER LIBRE** opposée à celle du **RIVAGE** ; s'oppose à **À TERRE**.  
b) En mer à une certaine distance de la côte. On dit aussi *offshore*.
- Au milieu du navire** - *adv* -  
De position plus ou moins centrale dans un navire.
- Au vent** - *adv/prép* -  
a) Dans la direction d'où souffle le **VENT**; par opposition à **SOUS LE VENT**.  
b) Exposé au **VENT**; par opposition à **SOUS LE VENT**. Voir **CÔTÉ SOUS LE VENT**.
- Aurore australe** - *nf* -  
**AURORE POLAIRE** de l'hémisphère Sud.
- Aurore boréale** - *nf* -  
**AURORE POLAIRE** de l'hémisphère Nord.
- Aurore polaire** - *nf* -  
**PHÉNOMÈNE** lumineux de la haute **ATMOSPHÈRE** qui apparaît principalement aux **LATITUDES** élevées sous forme de **RAYONS**, d'arcs, de bandes, de draperies ou de **COURONNE**.
- Austral** - *adj* -  
Relatif à la zone terrestre sud. S'oppose à **BOREAL**.
- Autocollimateur** - *nm* -  
**COLLIMATEUR** muni d'un système d'éclairage du **RETICULE** qui permet, en plaçant un miroir plan normalement au **FAISCEAU** émergent, d'obtenir une **IMAGE** réfléchie de ce **RETICULE** coïncidant avec le **RETICULE** lui-même. Un tel dispositif est utilisé pour la vérification de certains instruments d'optique ou de mécanique.
- Autopositif** - *adj* -  
Film donnant une Épreuve positive (en partant d'un positif) ou négative (en partant d'un négatif) par un procédé direct.
- Autorités portuaires** - *nf/pl* -  
Ensemble des responsables du fonctionnement et de la gestion des installations portuaires.
- Aval** - *nm* -  
En un point d'un cours d'eau, direction dans laquelle celui-ci s'écoule. S'oppose à **AMONT**. S'emploie en particulier dans les expressions *en aval* et *vers l'aval*.

Figure 1: The Dhydro XML database presented using a monolingual and polysemic lexicographical display (XSL transformation). Author's personal digital archive/MLIS-Dhydro

- austral.** *adj*  
 Relatif à la zone terrestre sud.  
 Antonyme(s) :  
*boréal*
- autocollimateur.** *nm*  
 Collimateur muni d'un système d'éclairage du réticule qui permet, en plaçant un miroir plan normalement au faisceau émergent, d'obtenir une image réfléchie de ce réticule coïncidant avec le réticule lui-même. Un tel dispositif est utilisé pour la vérification de certains instruments d'optique ou de mécanique.
- autopositif.** *adj*  
 Film donnant une épreuve positive (en partant d'un positif) ou négative (en partant d'un négatif) par un procédé direct.
- autorités portuaires.** *nf*  
 Ensemble des responsables du fonctionnement et de la gestion des installations portuaires.
- au vent.** *adv/prép*  
 Dans la direction d'où souffle le vent.  
 Antonyme(s) :
- au vent.** *adv/prép*  
 Exposé au vent.  
 Antonyme(s) :
- Voir aussi :  
*côté sous le vent*
- aval.** *nm*  
 En un point d'un cours d'eau, direction dans laquelle celui-ci s'écoule.  
 Antonyme(s) :  
*amont*  
*usage*: S'emploie en particulier dans les expressions en aval et vers l'aval.
- avance de la marée.** *nf*  
 Avance dans les heures auxquelles se produisent la pleine mer et la basse mer, causée par les changements de position relative de la lune et du soleil.

Figure 2: The same XML database presented using a monolingual and monosemic terminographical display (XSL transformation). Author's personal digital archive/MLIS-Dhydro

<p><b>autorités portuaires</b> [HR:271] - <i>n</i></p> <p><b>Définition :</b> Ensemble des responsables du fonctionnement et de la gestion des installations portuaires.</p>	<p><b>port authority</b> [HR:271] - <i>n</i></p> <p><b>Définition :</b> The entity responsible for administration and maintenance of harbour facilities.</p>	<p><b>autoridad portuaria</b> [HR:271] - <i>n</i></p> <p><b>autoridad de puerto</b> - <i>n</i></p> <p><b>Définition :</b> La entidad responsable de la administración y el mantenimiento de los servicios portuarios.</p>
<p><b>au vent</b> [HR:264] - <i>adv/prép</i></p> <p><b>Définition :</b> Dans la direction d'où souffle le vent.</p> <p><b>Antonyme(s) :</b></p> <ul style="list-style-type: none"> <li>• sous le vent [HR:4098]</li> <li>• sous le vent [HR:4092]</li> <li>• sous le vent [HR:4092]</li> </ul>	<p><b>upwind</b> [HR:264] - <i>adv</i></p> <p><b>Définition :</b> In the direction from which the wind is blowing.</p> <p><b>Antonym(s) :</b></p> <ul style="list-style-type: none"> <li>• downwind [HR:4098]</li> <li>• leeward [HR:4092]</li> <li>• downwind [HR:4092]</li> </ul>	<p><b>contra el viento</b> [HR:264] - <i>n</i></p> <p><b>a barlovento</b> - <i>n</i></p> <p><b>Définition :</b> En la dirección desde la cual sopla el viento.</p> <p><b>Antónimo(s) :</b></p> <ul style="list-style-type: none"> <li>• de sotavento [HR:4098]</li> <li>• a sotavento [HR:4092]</li> <li>• de sotavento [HR:4098]</li> </ul>
<p><b>au vent</b> [HR:265] - <i>adv/prép</i></p> <p><b>Définition :</b> Exposé au vent.</p> <p><b>Voir aussi :</b></p> <ul style="list-style-type: none"> <li>• côté sous le vent [HR:1036]</li> </ul> <p><b>Antonyme(s) :</b></p> <ul style="list-style-type: none"> <li>• sous le vent [HR:4100]</li> <li>• sous le vent [HR:4092]</li> </ul>	<p><b>windward</b> [HR:265] - <i>adv</i></p> <p><b>Définition :</b> In the general direction from which the wind blows; in the wind; on the weather side.</p> <p><b>See also :</b></p> <ul style="list-style-type: none"> <li>• lee [HR:1036]</li> </ul> <p><b>Antonym(s) :</b></p> <ul style="list-style-type: none"> <li>• lee [HR:4100]</li> <li>• leeward [HR:4092]</li> </ul>	<p><b>barlovento</b> [HR:265] - <i>n</i></p> <p><b>Définition :</b> En la dirección general desde la cual sopla el viento; en el viento; en la banda de barlovento.</p> <p><b>Ver también :</b></p> <ul style="list-style-type: none"> <li>• sotavento [HR:1036]</li> </ul> <p><b>Antónimo(s) :</b></p> <ul style="list-style-type: none"> <li>• sotavento [HR:4100]</li> <li>• a sotavento [HR:4092]</li> </ul>
<p><b>aval</b> [HR:272] - <i>n</i></p> <p><i>note d'usage :</i> S'emploie en particulier dans les expressions en aval et vers l'aval.</p> <p><b>Définition :</b> En un point d'un cours d'eau, direction dans laquelle celui-ci s'écoule.</p> <p><b>Antonyme(s) :</b></p> <ul style="list-style-type: none"> <li>• amont [HR:388]</li> <li>• amont [HR:388]</li> </ul>	<p><b>downstream</b> [HR:272] - <i>adv</i></p> <p><b>Définition :</b> In the direction of flow of a current or stream.</p> <p><b>Antonym(s) :</b></p> <ul style="list-style-type: none"> <li>• upstream [HR:388]</li> <li>• upstream [HR:388]</li> </ul>	<p><b>corriente abajo</b> [HR:272] - <i>adv</i></p> <p><b>Définitions :</b> En la dirección del flujo de una corriente o curso de agua.</p> <p><b>Antónimo(s) :</b></p> <ul style="list-style-type: none"> <li>• aguas arriba [HR:388]</li> <li>• aguas arriba [HR:388]</li> </ul>
<p><b>avance de la marée</b> [HR:273] - <i>n</i></p>	<p><b>priming of the tide(s)</b> [HR:273] - <i>n</i></p>	<p><b>adelanto de las mareas</b> [HR:273] - <i>n</i></p>

Figure 3: The same XML database presented using a multilingual and monosemic terminographical display (XSL transformation). Author's personal digital archive/MLIS-Dhydro

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