# **Open ended computerized overview of controlled languages**

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#### Abstract

We have built up an open-ended computerized overview which can give instant access to information because controlled languages (CLs) are of undoubted interest (for safety and economic reasons, etc.) for industry and those willing to create a CL need to be aware of what has already been done. To achieve it, we had a close look at what has been written in the field of CLs and tried to get in touch with the persons involved in different projects (K. Barthe, E. Johnson, K. Godden, B. Arendse, E. Adolphson, T. Hartley, etc.)

## 1. What is a CL?

Controlled languages have been created in order to resolve problems of readability (reducing the complexity of syntactic structures of a text increases its readability), of comprehensibility (a lexical disambiguation increases the comprehensibility of a text) and of translatability (a syntactic and semantic control facilitates the shift between two languages) but not of grammaticality (a grammatical text written in a given CL will not necessarily be considered as grammatical in the corresponding natural language).

English is a very productive natural language for CLs' creation as it is the current international language used for trade and science. Nevertheless, other natural languages such as German, Chinese, Swedish, French, etc. have generated CLs. A CL is not "simple" or "baby" English, German, French, etc. but simplified English, German, French, etc.

# 2. Content

This navigator is running on Windows with Powerpoint. On the first page (figure 1) we put the concept of CL back in the general theory of language, providing definitions. Thus, we defined two different types of CLs depending on they are domain restricted (i.e. dealing with a more or less closed subject matter) or not. The second page (figure 2) presents an overall taxonomy of CLs showing the ascendants and descendants. We chose to divide them in accordance with their following objectives:

- writing guides (projects dedicated to paper recommendations given to the writers in order to produce standardized texts)
- computer oriented (projects dedicated to the creation of software for automatic translation)
- implemented writing guides (former writing guides which have been formalized for computer applications)

We inserted lots of information icons so that a user with queries about a particular CL can easily and quickly (in a click) get concise and succinct answers such as the rules applied, the company involved in the project, etc. by consulting the related ID card. Because our aim was not to provide extensive information, we added an appropriate bibliography on each ID card. In the future, the related articles could be scanned and included as hypertext links.

Checkers involved in CLs (i.e. Cap Gemini CLarity, LANT@MASTER, MAXit, SECC, etc.) do not appear in our diagram as they are not mere CLs, although they are mentioned in the ID card of the corresponding CL.

### **3.** Difficulties

The main difficulties we are facing to are that, contrary to academic circles, industries are often reluctant to provide complete and useful information about CL studies except for a few works such as the AECMA Simplified English writing guide and E. Johnson's Seaspeak. Moreover, documentation (articles, etc.) is not always reliable mainly because of the lack of bibliographical elements. Also, there is a great tendency to provide only a minimum of details about CLs produced and to conceal the sources consulted (former studies, existing CLs, etc.).

Our database is meant to be a help for work that can be added to. Consequently, the more accessible and reliable information will be, the more accurate our database will be. We think that, due to its visual aspect, this computerized overview could be easily used as data support by students and that industry could derive full benefit from that better knowledge of CLs.

#### 4. Study context

We attempted to produce a State of the Art of CLs as part of a much greater job which consists in the creation of a new CL (temporary named F.E.L.E. on board) for Airbus Aircraft for operational use. This controlled American English language will improve the quality of every texts displayed on board a future Airbus aircraft. The specificity of our CL lies in the fact that:

- it will be crew oriented. To make sure that it achieves its objectives, all the persons involved (from the designers to the pilots) will meet for workgroup sessions. These sessions will help to collect the comments of potential users.
- it will take into account the interference between languages.

• it will be used in its original American English version.

It will not be a translation tool and will be presented in the form of a writing guide (including recommended structures and vocabulary) plus a list of messages to be displayed on screens. These constructed sentences are not intended to evolve. In fact, once established, they will be frozen. Nevertheless, improvements by modification of messages or addition of new ones will be possible, if necessary.

Theoretical and practical (both semantic and syntactic) choices will be clearly justified at each step of the

establishment of this language. Its validation will consist of the checking of objectives and of evaluations done by different persons (domain acquainted or not). Theoretical choices will comply with bibliographical references, existing theories, etc. Practical choices will comply with pilot evaluations, workgroups, former studies, etc. These choices will be justified and written in order to ensure a good traceability of design rationale.

We wish to obtain only one possibility to express a given message (one structure per idea) with a restricted, homogenous and non ambiguous semantic.

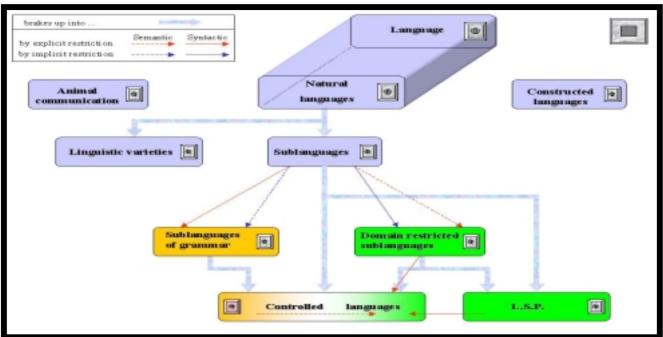


Figure 1. CLs in the theory of language

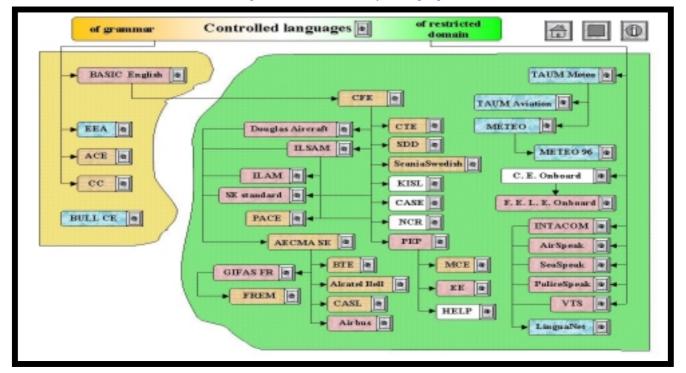


Figure 2. Overall taxonomy of CLs