THE NEED FOR DIFFERENTIATED SCIENTIFIC AND TECHNICAL TERMINOLOGIES AIMED AT THE DIFFERENT LEVELS IN EDUCATION AND PRACTICAL HUMAN ACTIVITIES

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Abstract

The quickly growing number of new concepts and the diversity of the prospective users of scientific and technical vocabularies force us to look for other approaches for the formation of different grouped concepts systems (of the same subject field) and for the production of up-to-date vocabularies.

More and more it appears that it is not sufficient to develop concept systems -- each covering a certain subject field — with interrelated definitions and, where needed, equivalent terms in several languages (thus also vocabularies), however good they may be, if they do not reach the people who need them, or do not satisfy their particular need.
So our first task is not only the collection of relevant data on the concepts to be covered by that particular terminology, but — the more so — data on the prospective users!

And then we are faced by a community of users who differ so much with respect to their needs that we cannot but conclude, that one vocabulary or dictionary is practically worthless.

Who are the prospective users?
There are translators, interpreters, thesaurus builders and (other) linguistically trained specialists, but also teachers and students in dif-ferent levels of education, people working in different levels of trade, industry and other practical human activities, in research, etc.
Each of them looks for another set of information in the same field.
For the lower levels, the most scientifically justified vocabulary is worthless, because they cannot grasp the interrelations of the concepts given which should lead them to the one concept, definition and term which fall within their personal pattern of experience, education and trade.

 Each group of users do need another arrangement of the available con-cepts, other criteria to build another concept system, leading to other definitions and probably to other terms too!

 The following examples will show my point:
 In the Netherlands we have -- after primary and secondary schools — four levels of "technical" education.
 In the L.T.S. (Lagere Technische School) the students get a rather lim-ited theoretical education, but an extended practical programme prepa-ring them for a special trade (they will become skilled labourers, fore-men, etc.)
 In the next two levels, the M.T.S. (Middelbare Technische School) and

the H.T.S. (Hogere Technische School) there is an increasing number of theoretical classes with an increasing breadth and depth. (Graduates of these type of schools may generally become the middle and lower-upper echelons in trade and industry).
The Universities have the most extended theoretical programme, and include — of course — scientific research too.

For each type of school there is need for a separate concept system defining the intension and extension of the subjects to be taught in order to compile an unambiguous education plan and examination programmes. This may also help personal departments and managers to evaluate the suitability of a graduate applying for a certain job.

For the training of teachers for these school-types it is necessary to define exactly which theoretical and practical knowledge is required to be licenced to teach.

Textbooks must contain the terms and definitions necessary for the transfer of knowledge, but in such a way that concepts superfluous for a certain level are excluded.

Out of school these people must be able to communicate with as less ambiguity as possible, and if they are going working abroad they ought to know the equivalent terms of their trade in other languages.

However, there are many obstacles in our way:
- New discoveries, philosophies, applications, etc. but also feedback from users force us to review existing classifications, configurations and groupings of concepts, which may have considerable consequences for the definitions.
  Moreover, the number of these new concepts and the speed with which they are created is still increasing. On the other hand, the time given to consider a justified revision is growing ever shorter.
- Most (new) concepts originate at a rather high scientific level (universities, research institutes, etc.).
  From there they "flow down" to lower levels of education and practical application.

The lower the level, the greater the need for more generalized con-
cept systems (less differentiation), with definitions having less
intension and more extension.

- This does not mean that in these cases the material will be trea-
ted less conscientiously, on the contrary, only differently!
There is a time-lag between the "creation" of a new concept and
its application in e.g. industry or trade, and next in education
and "every-day-life". But the interval is growing increasingly
shorter.
These new concepts should be carefully viewed, classified, and in
particular, named, i.e. provided with a handle by which they can
be passed on. A heavy task for terminology centres.

- There is also a time-lag between the creation of a concept system
satisfying the education plan of a certain school-type, and the
graduation of students trained according to that plan. You cannot
change the plan and programme every year.
The interval between testing and acceptance of a new plan, its ap-
plication, and graduation day may sometimes count 10 years!

Another point to be covered is the availability.
Almost all vocabularies available to the public are marketed by publi-
shing houses, i.e. private enterprises. As the price of good vocabula-
ries is rather high, neither students nor average teachers can afford
a justified collection, in particular if concepts of to-day will ap-
pear in an edition printed two or more years later.
Moreover, it is very difficult to obtain the vocabularies developed by
industrial enterprises, scientific institutions, public organizations
(like E.C.), etc. So a relative small number of people profit from
a considerable amount of knowledge and effort.

Summarizing I like to urge terminology centers and publishing houses
to pool their efforts, and
to produce differentiated vocabularies, using techniques which allow
frequent and relative cheap revisions.