A SOFTWARE TO WRITE BILINGUAL VERSIONS OF SCIENTIFIC ARTICLES?

It is very important to continue to think, write (and publish if possible) in languages other than English, but it becomes more and more difficult to publish in such languages (except for mathematical articles in French). A solution would be to write bilingual versions of the scientific articles.

A software would help very much to do this, provided it has the two following characteristics.

1) The software produces an automatic translation of any tex file without modifying the commands or the parts between $ $, and it uses a dictionnary adapted to scientific terms (we could also imagine that the author may indicate his own preferences to translate some words). Then the author corrects this automatic translation, directly on the tex file.

2) A crucial point in practice is that the software is able to transport modifications of the version in author's prefered language to the version in English : the software should be able to take as input

    a) the old version in author's prefered language,
    b) the new version in author's prefered language,
    c) the translation in English of the old version, corrected by the author,

and then it would detect the modifed parts between a) and b) (just looking at the places where the tex files are different), and it would translate them automatically and incorporate them in c) and emphasize them (with a different colour, or special characters in the tex file) so that the author has only to correct the automatic translations of these modifed parts, and not to read everything again.

Comments.
The longuest task when we typeset an article is to type the formulas. Thus we can estimate that with such a software the additional work for a bilingual version would be less than 20% of the typesetting time. It is likely that for many authors the benefit of thinking and writing in their own language is much more important.

In practice we could imagine for instance that such a software could be incorporated in arXiv or other preprint repositories: each time an author submits an article in his prefered language, he could ask for an automatic translation in English, then correct it, and, as explained in 2) above, each time he submits a new version in his prefered language he could ask the software to detect the modifications, translate them and incorporate them in the corrected translation of the previous version, emphasizing them in such a way that the author has only to correct them and not to read again the whole article.

I am not competent about softwares but I am interested in any comment.

Vincent Lafforgue