

Editorial

English for Peptide Science

I have now had the privilege of serving as Editor-in-Chief of this Journal for long enough to have seen a wide variety of examples of the struggles which many contributors have, and the defeats which some suffer, when they set out to present their peptide science in English. It cannot be easy, and must be frustrating, when, with the scientific work done, the task of communicating it worldwide has to be tackled in a constantly evolving foreign language with a vast vocabulary and perverse usage, full of subtle pitfalls. I am very sympathetic, and, with the humility of one who is quite incapable of extended composition except in the language he learned at his mother's knee, this is to offer some suggestions.

That short introductory paragraph illustrates the problem. It is grammatically sound. But I expect that many readers had to study it carefully in order to appreciate its content. It has three long complex sentences. Each sentence contains several connected points. Some of the points are made circuitously. The same message could have been expressed as follows without loss of substance.

Many peptide scientists have difficulty describing their work in English. I am sympathetic because English is a complex language, and I would like to help.

The problem is far too complicated for automated solutions. Consider the words of Emil Fischer.

Trotzdem wird das chemische Rätsel des Lebens nicht gelöst werden, bevor nicht die organische Chemie ein anderes noch schwierigeres Kapitel, die Eiweißstoffe, in gleicher Art wie die Kohlenhydrate bewältigt hat. Es ist darum begreiflich, dass ihm sich das Interesse der organischen und der physiologischen Chemiker in immer steigendem Masse zuwendet, und auch ich selbst bin seit einigen Jahren damit beschäftigt.

A free and instant computerised service [1] translated this extract thus.

Nevertheless the chemical mystery of the life will not be solved, before organic chemistry did not master another still more difficult chapter, the protein materials, in same kind as coal hydrates. It is understandable

therefore that to it the interest of the organic and the physiological chemists in measure always rising turns, and also I am busy for some years with it.

The general drift of this is clear enough, but there are several absurdities, and the translation needs extensive further working.

The chemical mystery of life will not be solved, *however, until organic chemistry has mastered* another yet more difficult class, the proteins, *as it has the carbohydrates*. It is *therefore understandable* that the attention of organic and physiological chemists *is turning increasingly to the proteins*, a field I have been active in myself for several years.

I performed a similar exercise using a passage in French I found on the Internet.

Les protéines sont des polymères d'acides aminés reliés entre eux par une liaison peptidique, c'est à dire la formation d'une amide entre la fonction acide d'un premier acide aminé et la fonction amine d'un deuxième. Contrairement aux différents polymères rencontrés précédemment le motif n'est pas répété selon une courte période, mais on observe des suites variées d'acides différents. ...

The same instant service [1] gave the following result for this extract.

The proteins are polymers of amino acids connected to each other by a peptide connection, i.e. the formation of an amide between the acid function of a first amino acid and the function amine of a second. Contrary to various polymers met previously the reason is not repeated according to a short period, but one observes varied continuations of different acids. ...

Again, we get the gist, but we need to go over the ground again, and to depart considerably from literal translation in order to capture the intended sense without clumsiness.

The proteins are polymers of amino acids joined by peptide *bonds*, i.e. by amide *formation* between the acid function of *one* amino acid and the *amino function* of the

next. Contrary to the various polymers met previously, there is no short precisely repeating pattern, but varied sequences of different amino acids are observed. . . .

There are some minutiae here to comment on.

- liaison*. The electronic dictionary ought to have been programmed to understand that in a chemical context *liaison* in French will usually mean *chemical bond*.
- c'est à dire*. The electronic dictionary has rendered this as *i.e.*, which is fine, but the direct translation *that is to say* would have done equally well.
- d'un premier* *d'un deuxième*. I was a bit puzzled by this construction, but it must mean *of one* *and of the next* here.
- motif*. This word has two meanings in French [2]: 'motive, reason; design, pattern'. The wrong one has been chosen. There is no single word in English for the precise meaning required, which is why the word *motif* itself has been imported, especially into the vocabulary of art, meaning [3]: 'A constituent feature of a composition; an object or group of objects forming a distinct element of a design.'
- on*. This translates directly and correctly as *one*, but in English the use of *one* in this way is a stilted style often ridiculed as an affectation of the upper classes (or social climbers). It has no place in scientific writing.
- suites*. Again, the electronic dictionary has chosen the wrong word. In this context *sequences* is clearly what is needed.

It is not even possible to rely completely on professional translators and checkers, although they can be very helpful. Theirs is not an easy profession. They need to be very fluent in the language of their clients, to understand the science sufficiently, and must be native English speakers if their output is to be perfect. For example, the following is taken from a paper submitted to the Journal recently, after checking by a professional.

Procedure has been developed for the synthesis of oligopeptide amide using inverse substrates as acyl donor with amino acid amide instead of *p*-nitroanilide as acyl acceptor and trypsins from different origin (bovine, *Streptomyces griseus* and chum salmon trypsin) as a catalyst.

This requires quite bit of correction. The professional was not a native English speaker (the failure

to start with an indefinite article is a giveaway) and has not understood the singular/plural complications of this extract.

A procedure has been developed for the synthesis of oligopeptide amides using inverse substrates as acyl donors, with amino acid amides instead of *p*-nitroanilides as acyl acceptors, and trypsins from different sources (*cow*, *Streptomyces griseus* and chum salmon) as catalysts.

And even after grammatical correction, the passage remains weak in places. Picking on one weakness, consider the word *different*. To begin with, it is obvious from the contents of the brackets that the trypsins employed were from different sources, so the writer might as well have said simply '.and *cow*, *Streptomyces griseus* and chum salmon trypsins as catalysts.', and done away with the brackets (where remarks in brackets can be avoided, that is an improvement, because they interrupt the flow, as this interpolation which I have just made deliberately demonstrates). But staying with the sentence as framed, we could have done better by recognising that *different* is a vague word, and qualifying it (*very different* or *completely different*) or replacing it with *diverse*.

Tools such as spell-check programs need to be used with care, as they are capable of creating comical nonsense out of special terms at the same time as correcting the rest of the text. Recent examples from papers submitted to the Journal include *mouse vase deference* (=mouse vas deferens), *MD stimulation* (=MD simulation), *gauge confirmation* (=gauche conformation) and *investigators* when *instigators* was meant.

Potential contributors whose mother tongues are not English, however, need not despair. The publisher's copy-editors will take care of minor grammatical and stylistic deficiencies. They will also take care of minor departures from the *Instructions to Authors*, but gross departures, such as lists of references in the wrong style, make unnecessary work and open the door to errors.

If you are preparing a paper for the Journal you can ease the process for yourself in a number of ways.

- Before you start, study the *Instructions for Authors*, which appear in every issue, and plan a structure for the paper.
- Where material can be presented in tables, equations, formulae and diagrams, use these universally understood devices, with carefully drafted

captions, and make corresponding reductions in the amount of text. It is not necessary or even desirable to recite in the text what is presented in the tables and diagrams.

- Avoid long and convoluted sentences, and punctuate with care.
- Analyse critically what you have written, sentence by sentence. Chapters 5 and 6 of Matthews, Bowen and Matthews [4] are good guides to what to look out for.
- Eliminate repetition, whether in sentences (such as *Finally* the reaction was *terminated*) or in sections of the text. If you say exactly the same thing twice in the same section, the second time it is superfluous; if you say it twice in slightly different ways, your attempts to emphasise your point may merely confuse the reader.
- Whether to use a definite or indefinite article, and the correct choice of prepositions, are completely instinctive to native English speakers, but which give difficulty to others, so pay particular attention to these details.
- Be careful that you do not slip into the use of a word order that derives too directly from your own language and thought processes.
- Take special trouble over the Discussion, in which you may wish to convey shades of meaning, or balance one point of view against another.
- Take special care also over the Title and Abstract, which will be more widely read than the rest, and may influence whether readers bother to pursue your work beyond the Abstract.
- Long technical terms and names are distracting, especially if they recur. Use familiar abbreviations such as DMF, DMSO etc as if they were words, but in moderation, avoiding long strings of acronyms. It is not necessary to define abbreviations which have been listed [5] as approved for the Journal.
- Every paper needs an Introduction to place it in context, but it is not appropriate to open with citations of material that can be taken for granted as familiar and obvious to all who will be reading the Journal. You can assume that the readership is a specialised one. For example, in a paper on some aspect of Merrifield SPPS it is not necessary to start by explaining the principle of the approach with citation of Merrifield's original papers — you can open with a specific indication of the particular point with which you are concerned.
- As the content of the paper will be the responsibility of all named authors, they should each examine the text critically as well as the science.

The more people who vet the English the better. Better still, if there is an accessible colleague whose English is known to be good (s)he should be asked to help.

- Use a professional English checker if one is available to you — but with the caveats I have mentioned in mind.
- I am always very willing to give informal advice on the language aspects of papers intended for the Journal before submission.

Every writer should have a good dictionary at hand when composing, whether in a mother tongue or a foreign language. Of traditional dictionaries, the *Concise Oxford* [7] is as good as any, better than most, and at about the right depth. The *New Shorter Oxford* [8] is a rich resource, but is only 'shorter' because the parent dictionary [3] it is distilled from is a monumental work bigger than a whole year's output of *Chemical Abstracts*. Perhaps the most useful for the present purpose, however, is the *Oxford Advanced Learner's* [9]. Its scope is wide, but its definitions are expressed in a carefully limited vocabulary, and are exemplified with phrases containing the words in question. Guidance is also given on grammatical aspects, and pitfalls such as words with double meanings. Furthermore, the current edition is accompanied with a CD which can be used for instant reference while writing at a computer.

A very wide range of books giving guidance on scientific writing in English is available; after trawling the bibliographic ocean I strongly recommend Matthews, Bowen and Matthews [4] and Rubens [6], and not only to those for whom English is a foreign language.

JOHN H. JONES

Editor-in-Chief

Balliol College

Oxford

[john.jones@balliol.ox.ac.uk]

REFERENCES

1. <http://babelfish.altavista.com/tr>, 14 April 2002.
2. Patterson AM. *A French-English Dictionary for Chemists*, 2nd edn. John Wiley and Sons: New York, 1954.
3. *Oxford English Dictionary*, 2nd edn. Oxford University Press: Oxford, 1989.
4. Matthews JR, Bowen JM, Matthews RW. *Successful Scientific Writing. A Step-by-Step Guide for the Biological*

- and Medical Sciences*, 2nd edn. Cambridge University Press: Cambridge, 2000.
5. Jones JH. A short guide to abbreviations and their use in peptide science. *J. Peptide Sci.* 1999; **5**: 465–471.
 6. Rubens P (ed.). *Science and Technical Writing. A Manual of Style*, 2nd edn. Routledge: New York and London, 2001.
 7. *Concise Oxford Dictionary*, 10th edn. Oxford University Press: Oxford, 1999.
 8. *New Shorter Oxford Dictionary*. Oxford University Press: Oxford, 1993.
 9. *Oxford Advanced Learner's Dictionary*, 6th edn. Oxford University Press: Oxford, 2000.