Scientific Writing for the Non-English Speaker is the distillation of Lövei’s lecture notes and experience gathered over two decades; it is the coursebook many have been waiting for. The book’s three main sections correspond with the three main stages of a paper’s journey from idea to print: planning, writing, and publishing. Within the book’s chapters, complex questions such as ‘How to write the introduction?’ or ‘How to submit a manuscript?’ are broken down into smaller, more manageable problems that are then discussed in a straightforward, conversational manner, providing an easy and enjoyable reading experience.

This volume stands out from its field by targeting scientists whose first language is not English. While also touching on matters of style and grammar, the book’s main goal is to advise on first principles of communication. Scientific Writing for the Non-English Speaker is an excellent resource for any student or scientist wishing to learn more about the scientific publishing process and scientific communication. It will be especially useful to those coming from outside the English-speaking world and looking for a comprehensive guide for publishing their work in English.

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9. How to Write the Introduction

The Introduction is also an important part, because when a reader decides — after reading the title and the summary — that the paper is worth reading, most of them will start reading an introduction. It has to provide the necessary context in order to make the new information understandable. If you fail to evoke the reader’s interest, she will not read on.

Firstly, you have to clearly formulate the problem, the central question of the paper. You also have to provide some information about this principal question. What is known about it, what are the uncertain points? What theories have been suggested so far, what attempts have been made to answer the central question, and what is the available evidence? You also have to explain why this problem is important and worthy of study.

What is known about the studied phenomenon or problem? When answering this, you have to give context, and review the literature. However, you should avoid the temptation to over-emphasise the extent of your knowledge. You demonstrate good scholarship by not citing too many references (an increasing number of journals limit the number of references cited). The key word here is selectivity: you should cite literature carefully and sparingly. Only major papers need be cited, and a good reason to cite is because the discovery itself is relevant; the mere existence of the study. The reader is not so much interested in knowing who studied a given problem but, rather, in its relevance and outcome? Providing context is important to enrich understanding. A local, specific theme should be weaved into the “universal tapestry” of knowledge. How does this situation relate to other, similar examples in other studies, or parts of the world? Are there differences or similarities worth mentioning?
An introduction has a funnel structure: one should start with the more general aspects, and gradually narrow it down to the actual question, which inevitably will be a partial one. For example, a paper about the effect of urbanisation on ground beetles may well start out by briefly mentioning global change as a phenomenon, moving on to state that urbanisation is an element in global change. Among the multitude of effects, the impact on biodiversity of urbanisation is a rightful concern, but all diversity is difficult to study, so the study of invertebrate biodiversity is the focus. To estimate the effects on invertebrates in general, beetles can be used as indicators of effects on invertebrate biodiversity. Then you can move onto the specific hypotheses you tried to test—in your location, with your group, using your method (if relevant). This way, you link the general problem with your own study.

It is a good idea to formulate hypotheses. Introductions often argue that the phenomenon to be studied is interesting, and we do not know much about it—and it stops there. The author believes that this is sufficient justification. It rarely is. The “suck it and see” approach is not a justifiable one. There are so many unknown things of potential interest on our planet—why study this one? Try to be more daring when formulating hypotheses. Based on the knowledge so far, what is your expectation? What do you think will be found? Formulating the research hypotheses here will help you to structure the whole paper, and it is worth thinking about. Be careful with the hypotheses: if there are too many (more than five), your paper will lose focus. Also, be careful to make the distinction between your scientific hypothesis, and its formulation as a null hypothesis. Popperian scientific logic dictates that you should formulate a “null hypothesis”, i.e. if the factor you suspect will be effective is, in fact, not applicable (nothing happens), because you can only disprove a hypothesis. Rejection is unequivocal; if you cannot disprove a hypothesis, it means that the theory does not clash with reality—so you can uphold your hypothesis. However, you can only invoke a new factor when the currently accepted factors no longer explain the phenomenon observed. Therefore, initially you must hypothesise that the factor suspected does not act on the phenomenon measured.

Writing about hypotheses, and making them explicit, may bring additional advantages. It may lead the study in new directions or make
you aware of a missed approach or method and, thus, help to further develop the research.

In this section, you also have to explain the choice of experimental methods. Often several methods are available — why did you choose the one you did? Did you exclude others? Why? However, the choice of statistical methods is not explained here, but in the Material and Methods section.

During this gradual construction of your specific research questions, keep the expected readership in mind. This governs the detail you have to include — certain concepts are clear to specialists, while not to a more general readership.

In the last paragraph, summarise your results and main conclusions. You do not have to repeat the summary, or any other part, word-by-word. Avoid this. Paraphrase, but mention the main conclusions. You can refer to the hypotheses: which one was upheld, and which one was refuted? Some journals, especially more conservative ones, do not follow this structure, but I think it is useful for the reader to know the “point of arrival” in advance. As Ratnoff (1981) observed: “Reading a scientific article isn’t the same as reading a detective story. We want to know from the start that the butler did it”.

**Style**

The Introduction mostly deals with previously existing knowledge; therefore, the simple present is the appropriate tense. Sentence structure sometimes necessitates the use of past tense. You also have briefly to refer to your own results (they will be presented in detail in the results section), and, here also, use the simple past tense. Previous publications are mentioned in the simple present.

Beware of jargon. Jargon is a useful shorthand, but not to the (marginal) outsider. Consider the job advertisement from a US journal (cited in Day, 2006): “NIH is an equal opportunity employer, M & F”. Day asks the rhetorical question: does M & F stand for muscular & fit, hermaphroditic, musical and flatulent, or “mature and in his fifties”? In fact, neither: it refers, in jargon, to the relevant piece of US legislation, the non-discrimination of applicants based on sex, age, religion, sexual
orientation, etc. Remember; jargon is for the “insiders” — but you have to inform the novice and the outsider as well as the expert.

When to Write?

The Introduction is usually one of the first sections to tackle. It is also good to formulate this section (even if not in its final form) while the investigation is still in progress. The whole team is still together, which makes the life of the corresponding author more painless. The co-authors are committed to the paper and will assist more willingly during the work, rather than 6 months after the completion of the project. It is also likely that you had to prepare a research application, or research plan, before you could start on the research. Thus, information about context, some literature, and other elements of introduction may be at hand — use these details at this stage.