Basic rules of writing

 Winston Churchill was sitting at his desk, working on his epic about World War II, when his private secretary entered the room. Churchill had reached the Blitz – the German air strikes against London. His staff of researchers had earlier produced a 150-page brief on the raids. The secretary had been asked to cut it down to about two and a half pages and, after having “worked like stink,” he could now proudly hand over the condensed version. Churchill took out his red pen and started to edit. “All my sloppy sentences were tightened up and all my useless adjectives obliterated,” the secretary tells us in a documentary made about 50 years later (Bennet 1992). In the midst of it all, Churchill said gently, “I hope you don’t mind me doing this?” The secretary answered, “Thank you, Sir – you are giving me a free lesson in writing plain English.” Churchill, Winston Brevity We should emulate Churchill by excluding every nonessential word. Professional writers do it that way. Brevity is an elementary rule of all writing, not only to save valuable publication space, butalso because verbose writing obscures meaning and wastes the reader’s time and patience. And that is also the essence of the next basic rule

Logic and clarity

 To convey information is above all a matter of logic and clarity. What you want to say should be so arranged that the reader can follow your argumentation step by step. Moreover, your sentences should be so clear and easily understood “that the reader forgets that he is reading and knows only that he is absorbing ideas” (Baker 1955). Now to the importance of making the manuscript physically attractive. Here is an illustrative example.

Clean typing

Paul Fogelberg, editor of a Finnish scientific journal, was one of the teachers at a course on scientific writing. Late one evening, he told us, he was perusing a manuscript in which only half of the letter “a” was legible. Page after page, that half-letter pursued him until eventually he began to feel vaguely that this must be something directed at him personally. I didn’t see Fogelberg again until 12 years later at a meeting of editors. I mentioned the damaged typeface, without really expecting that he would remember it. But he replied instantly, “It wasn’t damaged. Much worse – it wasn’t cleaned.” Does a dirty typeface of a mechanical typewriter, or an error related to electronic word processing, really matter? Yes, because editors know from experience that there is a close relationship between a poorly prepared manuscript and poor science. So make sure your manuscript looks carefully prepared; it may influence editors and referees in your favor.

**Comments on scientific language**

A MEDLINE search showed that no fewer than 90 percent of papers listed in Index Medicus in 1999 were written in English, compared with 53 percent in 1966 (the year MEDLINE started). The saying “Publish in English or perish” must therefore be taken seriously. Regrettably, this means that many authors are obliged to write in a language other than their native tongue – with all that this can entail. Here I will share with you an episode from my own experience as a non-native writer of English.

**English as a foreign language**

My first paper published in English was initially written in Swedish and then translated into English by a professional translator. “Brilliant,” I thought when I saw the translated version. But when my supervisor read it, he shook his head and said, “Try to write directly in English!” “Gosh,” I said to myself, thinking of my poor grades in English at school, “I’ll never, ever be able to do that.” But I decided to try and consulted the textbooks, which advised me to read writers of fine English, such as Gibbon and his Decline and Fall of the Roman Empire. I bought the book (running to 4 How to Write and Illustrate a Scientific Paper 3616 pages in three volumes!) but could find neither the time nor the interest to read it. Instead, I subscribed to the American weekly magazines Newsweek and Time. As they often cover the same topics, the reader is given the opportunity to learn twice, in different words, about the same issues. I have found this very instructive. Time (weekly) I have also found another method that has served me well. When I have to tackle a new topic, I read leading English-language publications, underline useful phrases and words, and then create a list of the terms for each section (Introduction, Methods, etc.). I noticed, however, that I seldom had to consult my list. During the process of making the list, the brain seemed to have retained what I had read and written. I have hardly ever submitted a manuscript in English without asking a linguist to look at it. Ideally, those correcting English ought to be persons who: (1) not only are native speakers of English but also live in your country and speak its language; (2) return to their native country at least once a year to refresh their English; and (3) have a knowledge of scientific writing. Correctors fulfilling these criteria are a rare species. Many authors therefore have to rely on English-speaking persons who, for instance, happen to be working in their department or laboratory. That may not be so bad, after all, because these persons are no doubt acquainted with your field of research. But you must be aware that native-Englishspeaking researchers do not necessarily write good English – just as not all Swedish researchers are good at Swedish. I return to my early paper, translated from Swedish into English. On rereading it 30 years later, I found to my embarrassment that it didn’t express exactly what I meant to say, though I found the style elegant. However, even clumsy writing would have been better than this, had it conveyed the information accurately. Why are papers in biomedicine often almost unintelligible? Maybe an editorial in The Lancet (1995) had the answer when it claimed that authors of scientific papers often write more to please Comments on scientific language 5 the editor than to inform the reader. They dare not depart from the traditional style for fear of having their work rejected. Another mistake commonly committed by beginners is the compulsion to be “complete.” Charlie Chaplin had something to say about that.

**Follow the “leitmotif”**

 The video film Unknown Chaplin (Brownlow and Gill 1983) shows unused sequences from Chaplin’s productions. Some of them are far funnier than those actually included in the final versions of his films. Why were they excluded? Chaplin gives the answer in his autobiography (Chaplin 1973). “If a gag interfered with the logic of events, no matter how funny it was, I would not use it.” You are thus recommended to do as Chaplin did and resist the urge to include every item of evidence obtained. In other words, do not include observations that depart from the main theme – no matter how interesting these may seem to be (you will probably find space for them elsewhere, or they could give rise to hypotheses to be tested in future studies). However, if such information cries out to be mentioned, you can insert it parenthetically – as I did in the previous sentence. Researchers are often short of time. I once heard of a scientist who only had time to read papers while driving to work! That is one reason for keeping a paper short; another is that superfluous words obscure the meaning

**Verbosity**

In the following paragraph, adapted from Kesling (1958), 36 of the 53 words can be omitted: .