

“Tell Me Lies, ...

... tell me sweet little lies.” This famous 1987 song by Fleetwood Mac was persistently buzzing around in the back of our Chief Ed’s mind whilst preparing this editorial. He was writing about scientific papers. “Errm, hang on a minute,” you might be thinking, “Lies and scientific papers? How do they go together?”

Well, let’s take a look at the typical scientific paper. Regardless of research details and precise wording, they usually read something like this:



Scientists often also have to be good storytellers...

Since Miller *et al.* had observed phenomenon X, we finally suggested that factor Y played a key role in inducing the effect [...] This assumption was tested in the experiments shown in figures 4 and 5 [...] In order to unequivocally ensure the involvement of factor Y and to elucidate its presumed mechanism of action, we designed the experiment shown in figure 6 [...] Taken together, the results presented confirm our initial hypothesis that [...] Therefore, we conclude [...]”

Sounds like a really good story, doesn’t it? And in the vast majority of cases that’s exactly what it is: a story! A story, in which each aspect coherently leads to the next. A story, so elegant, so logical and convincing... A story, however, that invariably never really happened the way it was portrayed.

If anybody were to write the plain truth it would probably sound very much like this:

“When we were studying *this*, we often obtained the following strange result [...] We had no explanation for it until one day Miller suggested to us that perhaps there could be a connection to *that* observation [...] Thus, we conducted the following two experiments [...] And indeed, the results provided further evi-

“We wanted to know which factors are involved in [...] The following relevant observations had already been described [...] Therefore, we hypothesised that [...] To test our hypothesis, we initially performed the experiment shown in figure 1 [...] These results prompted us to further assume that [...] The experiments presented in figures 2 and 3 confirmed this suspicion [...]

dence for *that* [...] Taking into account the results of Razor *et al.* and Sharp *et al.* the following scenario emerged [...] This scenario was finally proven to be real by the next series of experiments [...] Unfortunately, however, those results couldn’t explain the problem that had arisen from the earlier experiments X and Y [...] After pursuing a couple of wrong paths, this problem was finally solved by the following couple of tests [...] The last issue remaining was now to achieve appropriate histological data in order to make the original research question convincingly clear [...] Thus, we went back to our tissue preparations and [...]” ...

In short, the all too well-known experimental waffle.

As mentioned, *this* usually comes very close to the truth behind the vast majority of papers. At the same time, however, it’s a ghastly read: hard to follow and even more difficult to understand.

And that’s exactly why those “sweet little lies” are forgivable when writing up “your story” for publication. In almost all cases, you are even *obliged* to put your messy chaotic string of experiments into a clear *logical* order, which is usually far from being the *true* order. This is not only in an effort to make your results as easy to understand as possible but, more importantly, to ensure that their significance as well as your conclusions are convincingly clear to your colleagues (and the reviewers, of course).

Nobody, therefore, would ever complain about the “sweet little lies” in scientific papers. And that’s why scientists, whilst always seeking the truth, also have to be good storytellers.



... and present their papers as tidily wrapped stories.

