

'Sleeping Beauties' and the importance of storytelling in science

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I'm a regular biomedical scientist, although in one sense I'm perhaps a bit different, in that I really like the process of writing.

From speaking with colleagues and teaching postgraduate students about the process of scientific writing for more than ten years, I estimate that eight or nine of every ten biomedical researchers would say they don't like writing.

Now, while I do like writing, that's not to say I find it easy. When I'm in the thick of getting my thoughts onto the page, terms such as "bloodbath" and "fight to the death" flood my mind.

I have images of fighting a slippery dragon, trying to break its back. I feel as if I'm fighting my own ideas or whatever I'm trying to write, and there's only one possible outcome: breaking these ideas down, whatever the cost.

And remember, I like writing, so imagine what it's like for the majority of scientists who don't.

To illustrate what can go wrong with the writing process, I'm going to refer to an old fairy tale: Sleeping Beauty.

A fairy tale

This is the story of a princess who was cursed to fall into a deep sleep, along with her family and everyone else living in the castle. They sleep for 100 years, and during this time a thick thorny forest grows up around the castle, shielding it from view.

One day, a prince who has heard about the sleeping beauty arrives on horseback, with a sword. With great difficulty, he cuts his way through the forest to eventually reach the castle. He finds the princess, wakes her up, and they presumably live happily ever after.

So what has this got to do with scientific writing? Well, scientific results and ideas can be viewed as something valuable, and yet they can be wrapped up in forests of words that lack structure and overuse complex language.

Sometimes this just reflects a lack of training, but there can also be an

assumption that scientific ideas deserve to be discovered by those who are clever enough.

This means readers are expected to hack their way through the word forest, if they're really committed to understanding the results.

The only problem with this approach is that it doesn't consider the sheer number of papers that scientists need to read. Most researchers and academics can't keep up with their fields, so if a paper is hard to understand, or unclear, researchers may simply put it down and pick up the next one in the pile.

Expecting too much of the reader can lead to a paper sinking within the literature and effectively falling asleep.

The 'sleeping beauties' of science

In fact, a "sleeping beauty" is now a [recognised type of academic paper](#). A sleeping beauty experiences what is also termed "delayed recognition", sleeping within the literature for up to 100 years until another paper known as the "prince" recognises its value.

The sleeping beauty goes on to be highly cited and influential, sometimes in a different field. Researchers [now study sleeping beauties](#) and their princes, as a kind of extreme example of how science works – or doesn't, depending on your perspective.

It's generally assumed that sleeping beauties describe ideas that were ahead of their time. But I wonder whether some of these papers might have also been asleep in their forests of words.

After all, we only know about these scientific sleeping beauties through their awakening, in the same way that without the prince's determination,

the story of Sleeping Beauty may never have been told. It is very difficult to know how many other ideas may be lying dormant in the literature, wrapped in their forests of words.

What can we do about this? We need to recognise that to avoid the word forest, the research team needs to hack through their ideas and lay these out as clearly as possible.

This is really difficult, and [learning](#) how to do this takes years of [practice and effort](#). As researchers and academics, we need to talk about this process and embrace it.

We expect that professional sportspeople will push themselves to the limit, and be supported to do this. Scientists are essentially intellectual athletes, so we need to talk about the virtue of pushing ourselves to the limit when writing, how to do this, and what kind of support we need.

Many features of scientific life, such as crowded work environments, and generally measuring quantity over quality, do not favour the truly difficult process of hacking through our ideas so others can understand them.

It's important to remember that in the story of Sleeping Beauty, many people fell asleep in the castle. Also, scientific papers are not just about their authors, but also about the public funds and the many supporting resources that make them possible.

We can't afford the risk that our results and ideas fall asleep. Humanity doesn't have the next 100 years to wait.

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