Short is sweet

Scientific publishing seems to be moving in several contradictory directions. Against these conflicting trends, *EMBO reports* seeks to re-assert the importance of the short-format article, carrying a single key message of ground-breaking significance.

Fears that open access and online publishing would turn science into a vast, unmoderated blog have, so far, proven unfounded. However, an obvious development is the accumulating mountain of supplementary data, driven by the ease with which information can be compiled and deposited electronically, combined with the increasing fastidiousness of peer-reviewers. 'Data not shown' is no longer an acceptable fig leaf for unrepeatable experiments or error bars that project into the stratosphere. While supplementary data expands, published articles are tending to get shorter, often becoming little more than a shell in which the main conclusions are summarized, tabulated and illustrated. The real experimental story is often buried in a huge and indigestible pile of online information. This also raises expectations of how much ground can or should be covered by one article, as editors increasingly insist that authors provide a definitive elucidation of mechanism, which benefits the standing of any journal in the citations war.

EMBO reports seeks to buck these trends. Alongside our trademark reviews and incisive comments on societal issues, our short-format scientific reports are what make the journal special. Our philosophy is that science proceeds in steps. Each major conceptual advance towards a complete understanding—whether of a macromolecule, an organelle, the cell or the organism—should be documented properly, judged on its merits and made rapidly available for the community. In a fast-moving field such as molecular biology, erroneous findings inevitably make their way into print; however, any resulting damage is minimized if knowledge is parcelled into manageable chunks. When too many different findings are bundled

together, valid results can be 'contaminated' by their association with those that prove to be flawed, and significant errors might be overlooked. More importantly, crucial discoveries should not require sophisticated data-mining tools to be accessible.

What defines a short-format research paper? The ability to encapsulate its key message in a single sentence is a good starting test. Even if the published abstract will be somewhat longer in order to give some contextual information, it should nevertheless be possible to summarize the main message without pausing for breath.

The next test must clearly be that of novelty: is the main finding of ground-breaking significance for the field? Although this is a more subjective criterion, there are some obvious 'red flags'. Has a similar finding already been reported in another organism or cell-type, or using different techniques? Has it already been documented for a similar protein, or a member of the same gene family or super-family? Has a similar protein-fold been seen previously, and so on. Authors might reasonably be expected to have a natural blind spot over this issue, so one way of judging it is to ask the opinion of a colleague as to whether the work provides a genuinely novel functional insight into a physiological process.

A common source of difficulty in understanding what defines a short-format article is the fact that, by definition, it cannot explore all the ins and outs of a novel phenomenon, test all the mechanistic predictions of an unprecedented structure, or document every conceivable aspect of the phenotype of the newly engineered mutant. However, by virtue of its novelty, a ground-breaking finding cannot be considered to be demonstrated convincingly unless through several independent experimental tests. The more unexpected the finding, the more onus is placed on the experimenter to present robustly controlled data of unimpeachable quality, each arrived at using different approaches.

Finally, an important test of whether a manuscript is suitable for *EMBO reports* is whether it is of truly broad interest to the molecular biology community. Obviously there is an element of subjectivity here too. Some articles that would never be considered as being of sufficiently wide interest for a general science periodical such as *Science* or *Nature*, will nevertheless be embraced as landmark papers by molecular biologists. Conversely, this is unlikely to include the identification of a novel function for tyrosine193 of a protein that has already been flogged to death, unless it would have some unexpected medical, biotechnological or evolutionary relevance.

One test of this 'general interest criterion' is whether it is possible to summarize the paper in a paragraph that would be intelligible to first-year biology undergraduates and who would be thereby convinced that the work was truly important. Does it stand a chance of at least a fleeting mention in a future advanced textbook of biochemistry, cell biology or genetics, or one of the applied areas that are increasingly central to molecular biology: neuroscience, developmental biology, molecular medicine or environmental sciences?

A single gastronomic delight served with a few undercooked garnishes, is not a meal. A nine-course extravaganza that leaves you feeling bloated and nauseous, and unable even to remember the delicious appetizer, is something best experienced only once or twice a year, especially if it is accompanied by all the supplementary files of a typical Sicilian wedding. What *EMBO reports* aims at is scientific lean cuisine at its finest: an entrée that is at once appetizing, intriguing and easily digested, accompanied by a glass of fine wine and an exquisite sweetmeat. Please send us your delicacies.

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