Save your notes, drafts and printouts: today's work is tomorrow's history

SIR — Science is one of the greatest cultural achievements of humankind. And yet — although we assiduously preserve the preparatory sketches of artists, the drafts of novelists and the manuscript scores of composers — there is little systematic preservation of the workings of scientists. This is certainly regrettable for historical studies of modern experimental biology. Since the discovery of the double helix in 1953, biological research has flourished at an ever-increasing pace and many basic insights continue to emerge. Our knowledge of the workings of organisms from all branches of life is increasing at an unprecedented rate, making it imperative that we document the history of these discoveries.

Most recently, the computational analysis of the completely sequenced genomes of many organisms are driving research and guiding experiments. A new generation of tools such as microarrays, advanced imaging systems and single-molecule techniques are fundamentally changing experimental protocols. Where are the original notes, and the patent and manuscript drafts that accompanied these stupendous advances? Nowadays, these are recorded in ephemeral electronic media that are far too easily lost with the push of a button or the failure of a hard drive. Yet historians need all forms of data about the workings of scientists so that they can document the development of today's innovations and inspire future generations to pursue similar lofty goals in science.

Along with these advances in academic science, the new industry of biotechnology came into being. Many of the scientists who led advances in the laboratory were instrumental in establishing biotechnology as a central discipline. Entrepreneurs and venture capitalists also played an important role, recognizing how research in academia could be applied for the benefit of society. Their records, too, will throw an important light on scientific history.

Fortunately, there is increasing interest among historians of science and institutional archives in preserving this history. Top-notch institutions across the United States are establishing archival collections related to the history of molecular biology and chemistry. Taking a lead in this endeavour is Cold Spring Harbor Laboratory, which has recently expanded its library and archives by establishing the Genentech Center for the History of Molecular Biology and Biotechnology (see http://library.cshl.edu/GCHMBB/index.html). This is funded through the generosity of the pioneer biotechnology company, Genentech. Several important collections, including Jim Watson's and S. B.'s personal papers, are already in the archives or pledged for the future.

We encourage all who have played a part in the developments of molecular biology and biotechnology over the past 50 years, and who are continuing this remarkable journey into the future, to preserve their papers and donate them to institutions that are committed to making them freely accessible to scholars. Let's not wait until memories have faded and papers been discarded at the end of a career before deciding to save our heritage. Future historians of science and social science should not have to look back and wonder how it was possible that we discarded the records of our lives in science.

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Reliance on bibliometric databases can let you down

SIR — Publications not indexed in listings such as the ISI Web of Science are, these days, considered of questionable merit. In more collegial times, research performance not adequately represented by application of such standardized metrics could be evaluated fairly — for example, with allowances for lack of coverage of some disciplines, for citation behaviour in different disciplines, and for the existence of prestigious alternative forums. Your News Feature "The counting house" (*Nature* **415,** 726–729; 2002) drew attention to some problems with bibliometric databases and their uses, and many of the 64 citations of this News Feature listed since then in the Web of Science provide further analyses of problems.

ISI has recently delisted a number of publications from the Web of Science without informing the affected publishers or editors, or publishing a full list of the excisions. The motivation seems to have been to focus the Web of Science on journals and to move conference proceedings to another, little-known product, ISI Proceedings — notwithstanding the fact that many journals have special issues containing conference proceedings.

Proceedings of the Combustion Institute, an important archive in the multidisciplinary field of combustion dating back to 1928, is one of the affected publications. Because its peer-reviewed papers are presented at the biennial International Symposium on Combustion, they will no longer be listed in the Web of Science. According to ISI, the decision to exclude this publication "was not based on an evaluation of its importance to the community of scholars it serves".

This experience adds a new dimension to problems with excessive reliance on citation analyses. The Web of Science database itself is subject to unaccountable adjustments without scientific justification or regard to scientific importance.

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Increasing prose quality by decreasing word repetition

SIR — 'Increase' and 'decrease' are serviceable English words, so why is it my mission to winnow them from the prose that I edit daily? As a technical editor in a university department, I do not demand poetry from my writers; scientific accuracy and logical flow are paramount. Nevertheless, I long for an occasional fresh alternative to 'increasing' and 'decreasing' quantities, measurements and all manner of other too-familiar turns of phrase.

Must mice always have 'a decreased tail length'? I admire the professionalism that refrains from a description of 'adorable, stumpy little mouse tails', but what is wrong with 'shorter tails'? It saves two words for writers tearing their hair out over journals' word counts, and is no less precise. 'Fluoresce' is a lovely word, so why ruin its inherent lyricism with a dull 'increase'? Try 'brighter' fluorescence occasionally, or even 'more intense'.

I challenge all scientific authors: search your documents and count how often you use these two simple words, not forgetting permutations such as 'increasing' and 'increased'. You may be surprised at how frequently they rear their heads.

If so, I urge you to seek a remedy. There are times when only an increase or a decrease will do. Make those times count, and use the full expanse of the English language to broaden your prose elsewhere. Sheer repetition is anaesthetizing, and the aim (one hopes) is to keep the reader awake as well as informed. Strive for accuracy, logic and truth; but in matters of style, simple variety is a welcome spice.

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