

## Editorial

### Paper, Disks and Ethereal Vehicles

The modern scientific research paper is immediately recognizable in the form of standard A4 printed sheets, using carefully designed typefaces for ease of reading and presentation, and laid out according to accepted conventions for introduction, materials, methods, results and discussion for ease of navigation by the interested reader. Another property of a modern research paper is that it is probably in English.

This is all a far cry from the published notebooks of Leonardo da Vinci. Taking the above desirable properties in reverse order, Leonardo did not publish in English, his folios are certainly not planned on the lines now so conventional, mostly consisting of detailed drawings with notes added (and sometimes the notes would relate to one of his many other projects), and the papers themselves were all hand-written. To cap it all, there was no easily-read lettering as Leonardo, with his taste for a little mystery in everything he did, preferred to put all his notes down in mirror writing.

The rapid and widespread use of the printing press certainly made scientific writing more easily accessible, although presumably the scientists themselves delivered their findings to the publisher as handwritten manuscripts, if you will forgive the tautology. The introduction of the typewriter made life easier for the printer, who no longer needed special skills in deciphering the products of idiosyncratic handwriting combined with the use of unreliable instruments—this task now fell on the author's typist.

Thus, it is now unthinkable that an editorial office would receive a research paper for consideration that had not been type-written. With the development of personal computers it is now rare to receive a submission which has not been produced on a wordprocessor. While the resulting typescript is set from the hard copy, it matters not whether the hard copy was

produced from a word-processor or by a single pass through an old-fashioned typewriter, and up until recently the existence of wordprocessors had little effect on the form in which the editor expected to receive the work. However, the generation of an original report which can then pass electronically through many hands (referees, editors, typesetters, printers) without recourse to recreating an original is now so commonplace as to be the norm for many journals. The principal advantages of such electronic transfers are speed and economy, both very important to any journal. The benefits of electronic processing now outweigh the previously perceived disadvantages, so that the time has come when the Journal can no longer accept texts for consideration without an electronic version; the Notices to Contributors inside the back cover of this issue contain brief details on the preparation of papers in electronic form and authors should study these before submission.

You will note I have carefully avoided using the words disc, disk or diskette; this is because I am well aware of the rapid pace of change in this field and that just as this Editorial marks the imminent passing of paper-based submissions, it may not be long before diskless submissions start to take over. We already receive revised texts by E-mail, but until we can be sure that most referees will be amenable to reviewing texts through this route, we shall need to receive suitable hard copy with the original submission. Finally, what would Leonardo make of all this? I would be inclined to think that, after 500 years, we had finally found something that not even Leonardo had not already suggested.

If it wasn't for that enigmatic smile.

JOSEPH CHAMBERLAIN