

use of desktop publication than the bulk of their scientific colleagues, with the noticeable exception of mathematicians who currently use T_EX to prepare papers camera-ready or on diskette. Also, astronomers are more advanced than most other scientist in the use of electronic mail for communication between them or even for sending drafts or finished papers in ASCII or T_EX. Astronomers form a well-united, relatively small community. For all these reasons, they will probably be amongst the first to turn to pure electronic publication (not really the first! I recently heard about a purely electronic journal launched by the American Association for the Advancement of Science).

Astronomy Journals on Paper?

It is clear to everyone that journals on paper have considerable inconveniences:

- They are expensive.
- They take room on our shelves; rather than money, this seems to be the reason for the continuous decrease in the number of individual subscriptions to all the major astronomy journals.
- Only a relatively small part of the information is usefull to an individual astronomer. This drawback could be avoided by multiplying the journals which would then be more specialized, or by distributing to individuals only extracts (sections) of the present journals. Multiplication of journals is certainly not the way to go. As to distribution of sections of journals only, it would certainly limit the room taken by scientific literature, but would induce a regrettable further specialization of scientists.
- Information retrieval is difficult. At present, the only practical way to retrieve information is through the indexes, which are quite limited. It is possible to retrieve the bibliography on an individual object by interrogating the SIMBAD data base, but this information has had to be introduced manually into SIMBAD through painful systematic eye searches in all the published papers!

However, paper journals have also definite advantages:

- For the moment, I consider them as the only possible support for long-term archiving. Constant (and unavoidable) changes in computer standards are such that there is nothing like an acknowledged *permanent* digital support of information for archiving. Think for example of what would have happened if we had archived the journals twenty years ago on punched cards, or ten years ago on 1600 bpi magnetic tapes that no one is able to read at present! It is certainly possible to update the digital supports in order to maintain the jour-

nals data base, but this requires strong organization and money.

- Authors like to see themselves in print! This is obviously linked to the magic of writing, but also to the previous point: authors fear that their work may not survive if on other supports.

- Paper journals provide immediate access to good-quality information: the eye is a fantastic two-dimensional scanning device.

- Browsing through paper journals allows to discover things outside our immediate field of research (the next paper is often more interesting): this is capital to avoid excessive specialization and to fertilize your own research with serendipitous, unexpected material.

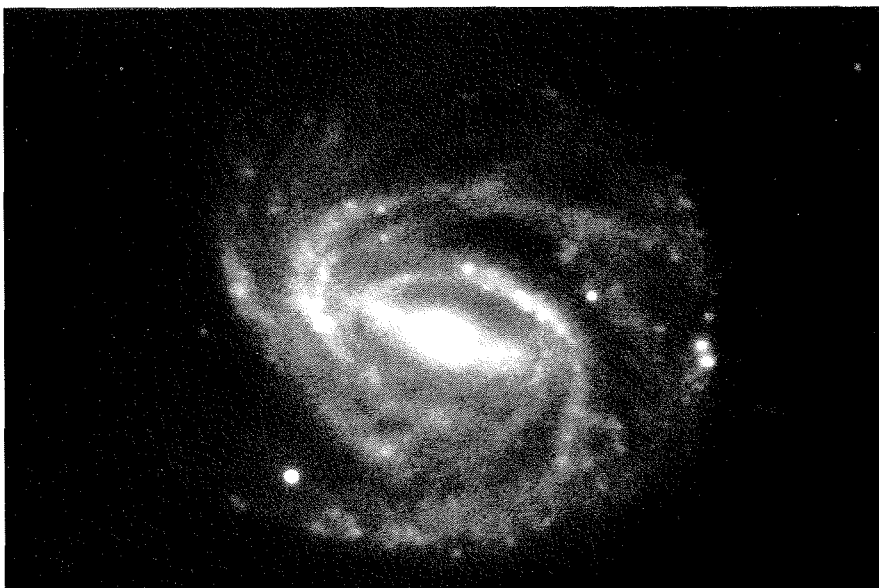
However, it is clear that in spite of

these advantages paper publication is not the way of the future: we have to face seriously electronic publication. Before going into some detail about the possibilities, it is interesting to give general guidelines.

- The main purpose of scientific journals is to archive the results of research in the best possible way, and to give the easiest possible access to this information. The refereeing system is the best we have found to insure quality and it should be kept whatever the way the journals are produced. Unrefereed preprints are circulating and will always circulate, yet they are very unevenly distributed, their quality is not guaranteed and they are unsuitable for archiving.

- I strongly believe that a printed ver-

Supernova Discovered at ESO



This photo shows the newly discovered Supernova 1992C in the barred spiral galaxy NGC 3367. The supernova is the bright, star-like object in the lower left area (southeast of the centre of the galaxy), at the tip of a spiral arm. Most of the other point-like objects are interstellar nebulae in this galaxy, whose distance is estimated at about 60 Mpc (200 million light-years).

The 16.5-magnitude supernova was discovered by ESO astronomer Hans van Winckel on January 28, 1992. He found it on a photographic plate obtained by Guido Pizarro during a search programme carried out with the ESO 1-metre Schmidt telescope at La Silla. The present photo was reproduced from a 1-minute CCD exposure in visual light obtained by Massimo Della Valle and van Winckel on January 30, 1992, with the ESO/MPI 2.2-metre telescope at La Silla.

Spectra of the supernova, obtained by Della Valle and Christopher Waelkens (Astronomical Institute of Leuven, Belgium), also with the 2.2-metre telescope, show it to be of type II and that the explosion must have happened between 10 and 20 days earlier. This means that it probably was a relatively young, heavy star that exploded. The expansion velocity was measured at about 7000 km/sec.

SN 1992C is the third supernova to be discovered in 1992. Another supernova (1986A) was found on February 4, 1986 in this galaxy, near the condensations in the spiral arms immediately above (north of) the present supernova and to the left (east) of the centre of the galaxy.

The photo covers a sky area of 156 × 106 arcseconds; north is up and east to the left.