

CONCLUDING REMARKS

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When listening to the papers which have been presented I was struck by the feeling that much more effort is being devoted to the problems of the acquisition and handling of vast quantities of data than to the evaluation and presentation of the data, a situation which has in the past applied to spectroscopic data as well. The list of Data Centers which Dr. Jaschek presented attests to the efforts now underway to collect data. I would therefore urge strenuous attempts to critically evaluate collections of data whenever such evaluation is meaningful and feasible. I believe that many of our colleagues expect us to tell them a 'best' value for any particular datum, with, if possible, an indication of whether it is considered trustworthy (by a probable error or a quality index). I believe that this principle of giving the best representative values underlies much of the success of C. W. Allen's book Astrophysical Quantities as well as of compilations such as the National Bureau of Standards spectroscopic publications. I would also emphasize the continuing value of bibliographies, at least in cases when the original data are published in widely scattered articles and until the publication of a comprehensive compilation. I believe that good bibliographies on topics of special interest could go far to meeting the casual needs of many users of our data.

Many speakers emphasized the importance of accurate and clear descriptions of tapes and programs, and I would add all published papers. The readership for many of our papers has expanded to include physicists and geophysicists who are not, and cannot be expected to be, familiar with our astronomical traditions. The problem is acute in matters of notation and

units. We had some discussion as to the desirability of using SI units, which are unfamiliar to many astronomers but which appear to be taught with increasing frequency to our students. I doubt that we need to make a decision now as to whether we should all adopt SI units. But I do think that we should take great pains to state very clearly the units we use, and whenever we use units unfamiliar to the wider scientific community we should state their equivalents near the beginnings of our papers and as footnotes to tables of data. I think that that alone would help to improve communication with colleagues in related fields. I also think that care with the references at the ends of our papers is worthwhile. One should not over-abbreviate the titles of publications. It is helpful to quote the last page as well as the first page in a journal reference if the Editor will allow it -- this tells people who do not have the journal what it is they have to order. Catalogues and privately published documents should if possible have authors names on the title page, not just the name of their institution: it has been my experience that in large libraries the author index is far easier to use than the subject indexes. Finally one should give as complete a reference as possible for older publications: there are many newer astronomy departments and research institutions which possess hardly any of the older literature, and a complete reference facilitates obtaining a copy from elsewhere.

Finally I would urge continuing efforts to make as much as possible of our data available in forms accessible to non-specialists. Clearly many large compilations cannot be printed in book form. But I believe that there will still be a need, for at least the foreseeable future, for publication in book form in selected cases. An outstanding case is the Bright Star Catalogue: this has been of great utility, not least because of its ready accessibility. Indeed it is quite impossible for Miss Hoffleit to know all the users of her splendid compilation. My personal experience with spectroscopic data has been salutary: when I looked up citations to my own papers in Science Citation Index, I found quite a number of citations by authors unknown to me, working on problems unfamiliar to me, and publishing their papers in journals I would not normally read. I could not possibly have known what use would be made of my data. I have also spent much of my time over the years trying to help colleagues and students with spectroscopic problems, and I have discovered just how few industrial laboratories and small academic institutions have the astronomical journals, government documents, and other sources of spectroscopic data. In short, I would emphasize the importance of making our data available in as accessible a form as possible, and so doing what we can to ease the lot of our fellow scientists.