Editorial: The silent business user

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When the late Eric Mutch drafted the first Editorial, 15½ years ago, there were few periodicals on computers. The punched-card accounting machine manufacturers had their bulletins, which gave interesting write-ups on applications. We append a table, in which we have attempted to analyse the contents of the first 15 volumes of this *Journal:* the classification is somewhat subjective; any other editor would probably have produced slightly different results. But in 15 years, during which there have in turn been increasing recruitment into business of programmers, then systems analysts and specialists, the proportion of papers of direct business interest has fallen, from about 18 per cent in 1958/61 to 3.7 per cent in 1970/72. Many businessmen knew what they wanted, or thought they knew. Some of the early papers looked forward and the pioneers commented on their mistakes. But nobody ever suggested that we would give ready-made solutions to individual business problems.

As Philip Giles said in the last issue, the aim was to bring together cooperating practitioners of computing. The subjects in the first nine lines of the table cover many papers of direct interest to the business user; some 1979 pages, or about 37 per cent of the total, over 15 years, contained useful experience and information, which, had it been properly digested by those making decisions to buy equipment, could have avoided complete reliance on what the manufacturer said. After we had begun publication, other periodicals appeared, aimed at writing up applications with the help of professional staff or the stimulus of payment, but these usually lack the detail that the programmer wishes to have.

At the end of Volume 10 (Feb 1968), we mentioned a Management Information discussion in Bristol and invited further experience in this area for our pages. We are naturally disappointed that there has been so little response in five years. There must have been some progress? A new machine, announced a few weeks ago, is claimed in the hand-outs to offer *immediate* answers to management inquiries; as my Irish friend said—'Fancy that now, and we who read your journal may wonder how the programmers foresee what the boss is going to ask next!' The bosses who get such literature see a computer being operated (apparently) in a fairly clear room staffed by male and female models, uncluttered with such sordid detail as thousands of punched cards for input or reams of output. We have had one or two papers on how on-line working has helped firms with fixed catalogues; may we now have more news from these techniques in other environments, for example the engineering industry? The companies which publish such advertisement literature could perhaps make a start; how can ordinary users be criticised, if some of these

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Subject Category	*Analysis of contents* vols 1/3 1958/61	4/6 1961/64	7/9 1964/67	10/12 1967/69	13/15 1970/72	Total— 15 volumes
	pages	*pages*	*pages*	*pages*	*pages*	*pages*
Advanced programming, compiling; assembly and operating systems; multi-access and time-sharing	69	38	105	226	255	693
New programming languages	59	246	106	111	37	559
Hardware and logical design	35	5	24	14	123	201
Sorting of data	20	7	13	10	8	58
Information retrieval & indexing	25	14	27	25	49	140
Operational problems & training; security and acceptance tests	16	30	13	12	24	95
Character & Pattern recognition	—	41	22	22	18	103
Man/Machine communication	—	—	32	8	11	51
Data transmission	—	79	—	—	—	79
Applications—						
Mathematical & logical	88	333	457	371	356	1605
Statistical methods						
—general	41	56	9	8	37	151
—OR, timetables, etc.	89	69	75	89	16	338
Engineering	56	36	44	77	110	323
Business data processing	123	55	71	40	47	336
Miscellaneous	4	5	15	17	13	54
Overseas surveys	25	9	—	—	—	34
Teaching and Research users	—	17	29	15	17	78
Analogue & Hybrid Computing	17	—	50	34	16	117
Algorithms Supplement	—	—	12	49	75	136
Book reviews, etc.	8	35	48	45	48	184
Editorials and Notices	7	15	4	9	14	49
Total pages	682	1090	1156	1182	1274	5384

manufacturers still have their invoicing on typewriters?

As we are now offered 'unrivalled hardware' for direct entry of business data, could those with experience give a paper on the economics of direct entry? Is it feasible in an environment where the catalogue is not constant? Does it give adequate audit trail for the issue of expensive materials for production with reasonable capital outlay on terminals for data capture on the factory floor? There should be no shortage of subject matter for argument and debate over the next 15 volumes.

When we addressed Volume 1 to readers of many different interests, the chairman had recently pointed out to the London Computer Group that we could not be expected to have ready-made answers to users problems. The interchange of know-how has undoubtedly helped all users, but there seems to be a paradox. At that time, without exception, the experts advised that on-line working was too slow and inefficient for the computers of that day. Multiprogramming altered the balance; but are the universities on the right course, making on-line facilities available to students before they have digested fully-worked examples of the problems encountered? Economic statisticians who studied under the late Sir Arthur Bowley and the early numerical analysts learned the importance of well classified data or well conditioned and logical equations, before they began to compute. In my own field, the literature on forecasting techniques has mushroomed with many pretty formulae, but scarcely a hint of why any batch of data should be expected to conform to a mathematical pattern other than some conventional time-series analysis. Some of these come into industry and expect us to be working miracles with our computers and have to be retrained in the disciplines of patient plodding to get the data more or less right first. Could the users of computers in teaching and research environments do a little feedback of their former students?

The provision of on-line, multi-access facilities has undoubtedly helped the qualified scientific user to obtain solutions to his problems promptly. But the cost of the overhead operating system has yet to be fully assessed. For example, the Orion 1 computer, reviewed by A. J. Leonard and Marion Tribe in Volume 14, page 344, handled a bigger load of batch processing than its much faster successor, whose operating system permits multi-access as well as multiprogramming. Could the universities therefore have managed with less outlay on computers if the students had been encouraged to be patient, get their programs right at the desk, and use batch processing methods? Could someone put us straight on the economics of multi-access for the masses? Is it right to encourage any but the most experienced users to handle problems with so much data that there is not enough time to validate by human eye? Automatic validation is all right in well-defined circumstances, but in a recent population census, the ingenuity of the programmers caused too much data to be rejected, because of lack of experience with permitted combinations of attributes.

Previous Editorials have invited survey and other papers aimed at the students for our professional examinations. The classification of the contents page will help to focus attention on papers of related experience for individual users. The 15 volumes occupy about 68 cm on a shelf and contain pioneering papers on advanced programming, operating systems, data sorting, handling of priorities and other major contributions to the advancement of computer science, without which the business world would not have the equipment of today, which incidentally we are apparently still struggling to use economically. The future of the *Journal* lies in the hands of those who may be persuaded to write papers and contribute their experience. The Editor restated in February 1970 (Volume 13, No. 1) the requirements for a paper to be acceptable for publication. It must either

(*a*) describe original research or a new application,

or (*b*) review the current position in some branch of computer technology

or (*c*) be of general interest to readers, for example, describe the difficulties encountered in introducing new working methods in an old situation,

or (*d*) provide a course of instruction for the student members . . .

In that issue, there followed one of the most stimulating talks ever given at a Datafair, by Mr F. J. Murray Laver, covering computers and people, computers and systems, and professional responsibility. The quotation from Lady Lovelace on tending to overrate what we find interesting, and the subsequent reaction, is as true today in many businesses as it was with punched-card systems 30 odd years ago. The brave pioneers, who at that time tried to offer an on-line service to business in the UK, found this a few months later.

The *Journal* has never been a charge on the Society. It was started by voluntary effort and much of the present work is done by those who do it for the interest in the subject. It is set up for printing by the world-wide subscribers and the free copies given to members who are prepared to read it come at a run-on cost. It is a very readable and permanent method of exchanging information that matters, particularly for members who cannot get to conferences or meetings. Its future will be what the contributors care to give it, and anything of lasting importance is surely worth a little care in its presentation in a proper readable manner.

As a founder member of the Editorial Board, despite the occasional expressions of disappointment from my business colleagues, I submit that *The Computer Journal* has fulfilled the ambitions of those who helped to launch it. May the next 15 volumes introduce every new technique and experience as promptly as the past.