Letters to the Editor

Computers and Privacy

Sir,

Below is a summary of a discussion held at the CERN computing and data processing school, Pertisau 1972.

One important concept underlying the discussion, and identified during it was that personal data in some sense belonged to the person concerned.

In general, participants tended to accept the inevitability of data banks and their continued growth. A number of basic problems concerning such data banks were discussed, for instance :

(a) Data were very often collected for some perfectly acceptable purpose, and then used for other, unknown, unacceptable purposes.
(b) Errors in the data were not detectable by the 'owner', and not correctable by him, and, further, he may have no knowledge of the existence of much of the data stored.
(c) That much of the data, perhaps also the most dangerous data, such as police data, medical data, job reference data, personal opinion data, etc., were the sort of data that was not accessible by the 'owner'.
(d) The general lack of awareness of the public, and also of computer scientists and users, that data banks may constitute a serious threat to society and to individual privacy. Further, a dangerously blind acceptance of computer-produced information.

Solutions to the problems were discussed and ranged from abolition of data banks to complete control of all data by the 'owners', but, naturally, no instantaneous solutions were found. One important idea was that while computers certainly contributed to the data explosion, the situation may have been far worse if only manual systems, which are less readily manipulated, corrected and updated, were still used. In particular, computers themselves were seen by some as an important part of the solution to the problem.

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Lasers and Spectroscopy

Sir,

The fourth annual meeting of the Quantum Electronics Division will be held at Stresa, Italy, 6-8 September, on the topic 'Lasers and Spectroscopy'. Stresa is a famous vacation place and resort city on Lake Maggiore. The conference will be of the Gordon type with a maximum of approximately 100 participants. There will be sessions introduced by invited speakers from USA, UK, Germany, Italy and USSR on tunable lasers (visible, I.R., U.V.) and on their applications to physics, chemistry and biology. The intention is to create a charming and relaxing atmosphere in which people from different disciplines will exchange their ideas and will be stimulated to further collaboration.

Two sessions are scheduled per day, starting with one or two invited papers. The rest of time is reserved for ample discussion. Participants are encouraged to bring their slides along for extended contributions to the discussion.

Those wishing to attend should contact me. Since the hotels in Stresa are usually full in September, people are urged to send an application as soon as possible. The cost of the full board at the hotel is 10,000 Italian Lire per day, per person.

A provisional programme for the meeting will be distributed shortly.

O. Svelto,
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Summer Session on Theoretical Astrophysics

1 July - 31 August 1973, Trieste, Italy

Sir,

This Summer Session at ICTP represents an attempt to bring together physicists and astronomers who have a common interest in a range of theoretical problems, from stellar evolution to relativistic astrophysics. There will be no formal lectures, but seminars and discussions will be led by distinguished experts. Applications are invited from scientists wishing to spend at least 2 weeks at this Session (research students should give the name of 2 referees) and should be sent with proposed dates to me by April 30th.

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The Impact of Computer on Physics

MacLeod, G. R. (ed.) (North-Holland, Amsterdam, 1973) Dfl. 80.00 (Reprinted from **3,** supplement September 1972)

This volume contains 14 invited review papers plus a panel discussion and two more philosophical papers given at the first European Conference on Computational Physics. They cover both pure and applied physics and go from algebraic manipulation of Dirac matrices in elementary particle physics to analysis of biological structure. Between these extremes, we find the hard core of numerical simulation in fluids, plasma and statistical physics and the data handling and pattern recognition problems. Calculation of band structures in solid state and meteorology represent the applied fields. From this (incomplete) list of topics it clearly appears that very few physicists (and certainly not the reviewer) can fully appreciate the different points raised by the authors. Nevertheless, all these papers have a certain 'air de famille' and this volume (as the conference) is certainly successful as an interdisciplinary venture.

The selection of topics could of course be discussed and some important questions have certainly been left out. For example, a review paper on numerical analysis for partial derivative equations — a central issue in many fields — would have been very valuable. But, altogether, the 14 papers cover quite a bit of physics and the contributed papers published in the next issues fill the gap. On the other hand, a more unified presentation would have been very helpful. Some papers are worthless because too short (the paper on biological structure has one page). Others give an exhaustive list of problems but fail to show on what question, why and how the use of the computer is crucial to a point such that we can speak of 'Computational Physics'. In respect to this last point the papers on fluid mechanics and geophysics were among the most successful and I like also an interesting attempt by J. R. Pasta to think of what can really be done with the computer.

What has been the real impact of computer on physics ? No clear answer has been given, but everybody agrees that, without the computer, physics nowadays would be quite different. And this volume (to which the contributed papers, often not very different in length and scope, should be joined) gives a good idea of what is going on.

M. R. Feix