



Herzberg Institute of Astrophysics

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TO  
A Dr. B.A. Wightman  
Chief, Computation Centre

I listened with interest yesterday to some of the discussion at the meeting of the Computation Centre Users Committee. I concur with your remark that there seems to be a lack of mutual appreciation of the problems faced by the Computation Centre and by the users. Most of the users, including myself, are minor users, and I am writing to you in such a capacity to state some of the problems as I see them (perhaps incorrectly), in the hope that such a discussion might lead to a clarification of certain matters and to a mutually beneficial dialogue.

It is my understanding that the NRC Computation Centre operates under firm Treasury Board guidelines and that these considerations are paramount in the operation of the centre. The basic formulae are (i) Money In = Money Out, and (ii) rates must remain competitive with those in the private sector. No consideration is given to the additional scientific benefits which could be obtained from using computer time which at present remains unused.

In the last month or so the modifications to the NRC computer have led to an increase of 6-8 in the speed of computation. The rates have been adjusted accordingly. I would have hoped that some of the benefits of the improvements would have been available to users but such is not the case. We still pay about the same amount of money (or slightly more) for the same amount of computation.

I listened with interest to the remark of Mr. A. Green that the cost of computation has decreased. Such is contrary to our experience. In the early 1970's we were carrying out runs on our ASYROT programme at a cost of \$10-\$15 a run. Similar runs at the present time would cost between \$50 and \$100. It is most unfortunate that the work which we were doing in the early 70's has had to be discontinued owing to the prohibitive computer costs. Our ASYROT and STROT programmes, developed so expertly by Dr. F.W. Birss, are now used infrequently and only for small problems (J up to 25) rather than the larger problems which we were studying (J up to 70). [N.B. Computer costs are roughly proportional to  $J^3$  in these programmes.]

I am disturbed when I hear that computer money is referred to by some members of the Computation Centre as "funny" money. As a Section Head with a small group, I am only too conscious that the money which we spend on computing is not available to us to buy lasers, gratings, optical components, etc. In our work we use large quantities of photographic plates which cost \$4.45 per plate. In attempts to stretch the dollar as far as we can, we frequently substitute photographic film for photographic plates though this sometimes necessitates repetition of work. It is therefore disturbing to find that economy is not a prime consideration in the operation of the Computation Centre. As computer users we might be able to save 10% by running jobs on DEFER, but otherwise there is no way in which we can achieve significant reduction of costs.