attended to by SAD practically immediately as they appear. We have already discussed two major subjects of the operator's decisions; below we list several others:

(1) It may happen that the execution of a current job is not terminated within the allotted compute-time interval (this is discovered automatically by SAD). The operator uses his discretion whether to dump this job (into the SEKS dump area of the backing store) and proceed with a next SEKS job or give this job an additional 'grace period'.

(2) Temporary changes in I/O equipment allocation to SODA subsystems.

(3) Changes of the priorities of jobs waiting for execution.

(4) Overruling the priority scheme and indicating by name the next job for SEKS.

(5) Overruling certain parts of the selected job Executive, e.g. initialisation of a job from an auxiliary entry point.

(6) Bringing jobs for execution from the SEKS dump area and restarting them.

(7) Deleting jobs from the waiting for the execution list and from the SEKS dump area.

(8) Changing the mode of execution of a job (e.g. instead of the requested run producing a binary coded version of the job on a tape, ready for the later input through a standard binary input Preparator).

(9) Requesting an alarm output of the binary coded 'image' of the core memory and/or backing store.

(10) Direct input to arbitrary hardware locations (i.e. setting the memory, operator's switches, programmable switches, accumulators, etc.).

SAD contains a set of relatively simple routines, one for each operator's command. These are activated on the decoding of the operator message. The messages may be either control commands which perform the tasks listed above or information requests which ask SAD to produce records of the system utilisation past and/or present, hardware distribution, jobs states, etc.

Periodically, SAD produces full listing of all statistical tables it keeps. This may not be suppressed by the operators, and, when suitably bound, forms the log-book of the computing system.

Acknowledgements

Book Review

Machine Intelligence 2, edited by E. Dale and D. Michie, 1967; 252 pp. (Edinburgh: *Oliver and Boyd*, 70s.)

This book contains the collected papers of the Second Machine Intelligence Workshop held at Edinburgh University in the summer of 1966. Compared with the First Workshop, held a year earlier, there are fewer papers, 14 as compared with 17; also there is a slight, yet noticeable shift in fields of interest. This Workshop shows more emphasis on programming languages, and their basic properties. Four authors (besides the Edinburgh group) appear for the second time; these are Cooper, Murray and Elcock, and Foster. It is quite interesting to note the 12 months progress. The Edinburgh group also shows progress in its heuristic programming methods, and gives a reference manual for the on-line programming language it has developed—POP-2.

Undoubtedly the best way to give the flavour of the Workshop is to quote the titles of the papers, these are: 'Semantics of Assignment', by R. M. Burstall; 'Some Transformations and Standard Forms of Graphs with Application to Computer Programs', by D. C. Cooper; 'Data Representation—the Key to Conceptualisation', by D. B. Vigor; 'An Approach to Analytic Integration using Ordered Algebraic Expressions',

by L. I. Hodgson; 'Some Theorem Proving Strategies Based on the Resolution Principle', by J. L. Darlington; 'Automatic Description and Recognition of Board Patterns in Go-Moku', by A. M. Murray and E. W. Elcock; 'A Five Year Plan for Automatic Chess', by I. J. Good; 'BOXES: an Experiment in Adaptive Control', by D. Michie and R. A. Chambers; 'A Regression Analysis Program Incorporating Heuristic Term Selection', by J. S. Collins; 'A Limited Dictionary for Syntactic Analysis', by P. Bratley and D. J. Dakin; 'POP-1: an On-line Language', by R. J. Popplestone; 'Self-improvement in Query Languages', by J. M. Foster; 'POP-2 Reference Manual', by R. M. Burstall and R. J. Popplestone.

In other subjects the value of an annual conference held in the same pleasant surroundings is well established, and a worthwhile tradition soon grows up. It seems that the Edinburgh Workshops will take this role for Machine Intelligence.

One complaint—in these days of the information-explosion the appearance of papers which are not headed by an abstract is wrong, and surely doubly wrong in the Information Sciences themselves.

J. J. FLORENTIN (London)