

- “... 3. Alternative plans of action for decision.
 4. Information necessary for decisions on alternative courses of action (in time for the decision).
 5. Information on the effects of decisions.”

There are two practical snags to this approach when situations become reasonably complicated (probably the only times when the course of action is liable to be other than obvious). These are man overload and computer overload.

If several possible courses of action are presented, each of which is liable to change rapidly and at irregular intervals, there is a very real danger of the man being swamped with information and in a permanent state of indecision. Again, the machine load required to cope with even a small number of different courses of action

simultaneously in real time could well become excessive.

Conclusion

The justification for team control lies in the harnessing of the experience and inductive power of the human being to the very high speed manipulative skill of the computer to control events occurring in real time. Such a concept enables executive power to be dynamically balanced between man and machine so as to make the best use of the special qualities of both members of the team at all times. A study of the problems of team control is important not only for future applications but also because it is likely to reveal information of fundamental importance about relationships between man and computer.

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Book Review

Technical Preconditions for Retrieval Center Operations, edited by B. F. CHEYDLEUR, 1966; 156 pages. (London: Macmillan, 54s.)

Toward a National Information System—Second annual national colloquium on information retrieval, edited by M. RUBINOFF, 1966; 242 pages. (London: Macmillan, 57s.)

The importance of the problem of information retrieval in the computer field continues to grow. These two American colloquia, sponsored by the Association for Computing Machinery and other bodies, are evidence of this.

Each book consists of a series of papers, some couched in rather general terms, but others giving more useful detailed accounts of operational retrieval systems. Of particular

interest are descriptions of computer-aided services at Chemical Abstracts, and work in one difficult and important field—information searching among chemical structures. Since 1964 the U.S. National Library of Medicine has used a computer both in the preparation of its printed *Index Medicus* and for retrospective searching, and a short progress report on the operation is presented. Three industrial systems are described in greater detail: the MERGE and ITIRC systems of IBM, and an information service developed at North American Aviation

Because of their piecemeal nature, these colloquia do not give a rounded view of the problems involved, but anyone interested in retrieval will find them useful to browse through.

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