P. Poulain

ELEMENTS FONDAMENTAUX DE L'INFORMATIQUE

Tome II Ordinateurs

(*Fundamental Elements of Informatics. Vol. II Computers*)

Paris, Dunod, 1968.

In the very dynamic action which is being carried out in various countries, including Romania, in view of introducing the cybernetic mode of thinking and analyzing into investigation, economic administration and other activities, and also as an indispensible condition for electronic computation, the necessity, universally felt, and the concern of the large publishing houses to print textbooks and treatises as adequate as possible, meant to the training of the staff and also as current working tools is quite natural. We may assert that professor P. Poulain's present work corresponds to this requirement both by its scope and structure. The author states, "We do not address ourselves to the specialists, but to those who must be informed, quickly and in a general manner". The work is entirely based on accurate and clear definitions and on a very rich iconographic material (119 figures). In the Appendix various useful directions are to be found, as well as numerous exercises. We should add, as an important element for its practical use, the application of an electronic computer in solving an administration problem, which is the object of an entire chapter (IX).

We mention the fact that the present volume (II) completes the first of *Fundamental Elements of Informatics*, having the sub-title *Mechanographic Equipment. Punched Cards Machines*, which came out in its second edition, also in 1968 at the same publishing house, and in which the first notions of information processing were given in an experimental form. Passing now on to a new type of computers, electronic aggregates, hence to the automatized processing of information, the problem arises of reconsidering some categories of volume I and of completing, respectively of presenting in another form, the definition of "information" and its processing, taking into account the variety of information carriers used in electronic equipment. Likewise, the necessity arises of insisting in a special chapter on the mathematical and scientific principles resorted to in the practical use of these computing aggregates. Keeping the pedagogic character of presentation, the author endeavours to keep in touch with reality. Thus, when defining the functional aim of the equipment, he immediately associates to this a description of the constituent elements and a presentation of the principles of utilization, both from the technical and the organizational standpoint. He does this by means of intuitive schemes, omitting tiresome details of electronic technique. The objective guiding the author is clear: to point out the possibilities and performances of these machines, this being also expressed in the functional flow chart of the central processor of a computer. Prof. Poulain does not write the history of its development, he only points to literature on this subject matter, for readers interested in this respect; he deals with the building and capacity of the so-called

"3rd generation" machines. The first part of the volume we are presenting concludes with a revision of certain notions related to program and language, as well as to the scheme of a "logical study" of what the central processor of a computer can be.

Looking through this volume, it can be seen, like in the preceding one, that the author did not intend to write a complete treatise of computing mechanization by electronic equipment as he modestly confesses, to compile "two studies meant to show the elements of a methodology in using modern means of information processing". This is also the sense he gives to the example in the second part of the volume, i.e. the application to the administration of an enterprise, i.e. an example of administrative mechanization in which, however, the importance of the services that may be offered by a computer in a modern enterprise appears in all its clearness. It is a matter of a single input of the data in the machine by a systematic use of the ancillary memories (magnetic tape, magnetic discs), the mechanographic method adopted providing daily, weekly and monthly operations.

Although the presentation does not deal in detail with the installation of such a machine or with its way of operation, a few hints are nevertheless to be found in the work, as regards the technical installation and the training of the operating staff. Likewise, the problem of the profitableness of a mechanographic section and of the various materials used is not overseen.

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