

Editorial

In connection with a commitment to chair a panel on 'downloading' and other, associated issues at the 1984 National Federation of Abstracting and Information Services Annual Conference, we had to prepare something to provide a focus for modern information handling. This forced us to look at information products as I/O (input/output) phenomena, and provided (at least for me) some startling ideas.

I say "startling" because, for the last ten years, I have adopted the focus of a marketing executive—that is, I have looked mostly at the output (products) of our systems. When all the major components are presented in an evolutionary sequence as shown in figure 1, products and processes are seen in a very different context.

In phases I-IV the input is assumed to be a paper record, manuscript, journal article, data tabulation etc. Phase I therefore is a primitive system and can be said to have existed throughout the Gutenberg era and beyond.

Phase II introduces machine processes, but implies that the technology involves the capability for the process to produce a machine-readable record. (Obviously,

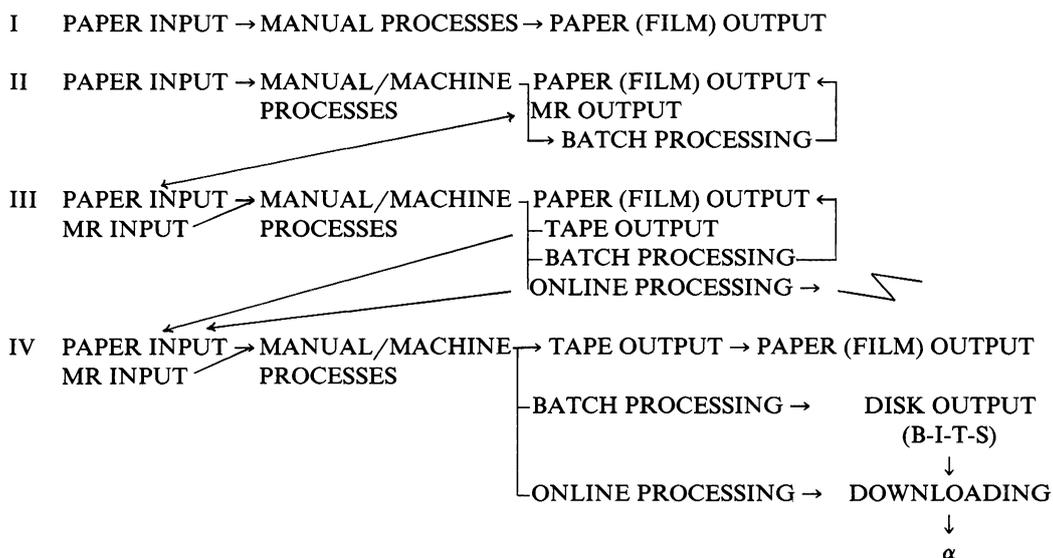


Fig. 1. Information products as I/O developments (MR = machine-readable).

presses are machines, but without this “readable” characteristic.) With *this* type of output, a ‘new’ product is created, and in Phase II it is utilized through ‘batch’ processing, where the secondary output is again paper.

In phase III, we see the first instance of output becoming input. Again, the machine-readable output can be an independent input source. Here we introduce another ‘new’ output based on telecommunications, allowing online processing of input(s). A duality of new inputs is now present in phase IV, where both the physical (tape) output *and* the new telecommunication ‘product’ can be independent inputs for further processing. In fact (as shown in phase IV), both online *and* batch processing can now be applied, with disks or tapes derived from the main machine-readable material as subsets of the original—in place of the accepted paper output for SDIs, as currently offered in the BIOSIS B-I-T-S™ product. Similarly, with the new ESA-IRS downloading format, outputs can be selected on a demand basis for reprocessing. Further permutations and combinations are infinite.

These models offer a different view of information processing and avoid the identification of outputs and inputs with administrative or operating functions (i.e. primary publishing, data-base production, system vendors, intermediaries and even end-users). They are offered to *ISU* readers as a framework for interpretation and speculation.

A.W. Elias