

## MISCELLANY

### *Kaufman on Controversy*

The purpose of the Miscellany Department is to foster discussion about important issues in business data processing—preferably controversial as well. Some thoughts from the Miscellany Editor may be relevant to this kickoff issue.

From a long list of significant matters in business data processing, a few attract my fancy. They can stand substantial attention.

Why do we continue to have so much difficulty in adapting business applications to computerized environments? The evidence that this is so is not well documented, but generally known to the practitioners. Certain surveys, albeit superficial, support this view and efforts to find good examples of the so-called integrated management information system are frustrating. Additionally, we are aware of the many mishaps experienced in the EDP business.

Perhaps the principal factors contributing to difficulties are:

1. A poor understanding of the issues involved in man-machine interfacing and of the related factors pertaining to the handling of significant change in information processing environments.
2. Problems in defining system boundaries, particularly when the only certainty is that the boundaries will not hold.
3. Problems in defining the interaction between systems which ought to be harmonized or integrated in a computer environment.

If these are relevant conditions, one might ask whether much of our difficulty arises because we try to state such measurements as system size and interaction in a static instead of dynamic context. Efforts to define the parameters of a system in terms of *how much of what* needs to be done testify to the implication of a static assumption.

A further investigation of these issues reveals, I believe, that we are designing systems in the context of an ever

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He entered the EDP field in 1953 joining RCA's BIZMAC project and moved on to Lybrand as Director of EDP in 1957.

His publication activities include an early paper on EDP problems, "EDP and the Disenchanted," in the *California Management Review* (Summer 1959), and a look into the future called, "Data Systems that Cross Company Boundaries," (*Harvard Business Review*—January 1966).

During his RCA days, Mr. Kaufman was asked to "worry" about the control problems that might be experienced in an EDP environment. Those researches led to the writing of the book "EDP and Auditing" which was published in 1960.

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widening concept of the area to be embraced by automated information processing. That condition also suggests some new horizons.

In the January 1966 *Harvard Business Review*, this writer had an article called, "Data Systems that Cross Company Boundaries." It was the outcome of a project whose objective was to consider some of the implications of computer-to-computer communication. In short order, however, the project's emphasis shifted to the broad systems implications of interconnected systems. Actual situations since then provide abundant evidence of such development on an inter-company and inter-industry basis.

Perhaps in a sense this is the systems dimension that comes next—after MIS. (I say MIS with some trepidation because of the ambiguities associated with discussion of that concept.) If we are entering a world which emphasizes entities larger than intra-company information systems, there must be requirements about which we have thought, and said, little.

For example, will interconnection foster new levels of standardization in hardware and software, or in design activity? Can we generally adopt certain criteria to guide data organization and data management? Can a high degree of autonomy as to all these matters prevail—with compatibility by using "black boxes?" Shouldn't we be interested in a continuing investigation of these matters?

In a completely different vein is a consideration of the potential of models and the simulation thereof in business decision-making. This field has been explored so far primarily in terms of the customized design of representations of various aspects of business activity. Little or nothing has been said about the potential for simulation inhering in most applications designed to meet an on going, day to day operational activity. There is evidence, however, that most applications accepting real events as inputs and designed for the usual purposes of producing reports and facilitating documents are also unexploited models. This proposition rests on the assumption that no radical modification of these applications is required to effect simulation or to operate said systems concurrently in the context of actual and/or fictitious events. If this is a valid channel to explore, much more needs to be done.

Finally, although I don't discern any serious problems arising out of never-ending semantic difficulties, it might be possible if some hard heads got together to make some sense in the area of "total systems," "management information systems," "integrated systems," and the rest.

In a sense this would be an effort similar to those of the X3 Committees. As to the latter, we are accustomed to thinking affirmatively about criteria in any area that submits to quantitative measurement. Subjective areas, of course, are not nearly as receptive but perhaps the effort should be made. It would be worth trying.