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I am always gratified to learn that one of my works has been read and appreciated. Far more thrilling is to discover that one of my ideas has stimulated others to push beyond my conclusions. Such was apparently the case in Meyer and Harper's article "User Friendliness" in an "Issues and Opinions" feature (*MIS Quarterly*—March 1984), which was based, in part, on an article I published in *Datamation* ("Friendliness," February 1982).

Unfortunately, Meyer and Harper's kindness in citing my influence on their work, combined with my disagreement with many of their comments and recommendations, compel me to state publicly that many of my thoughts on this subject differ considerably from theirs.

Instead of discussing my objections point by point, however, I would like to note that my article in *Datamation* was a very brief (600 words) attempt to rescue the phrase "user friendly" from imminent intellectual bankruptcy as a result of popular abuse. I suggested that rather than bandying vacuous buzz words around we concentrate instead on eight tangible attributes of friendly systems. I further advised users that if they should be fortunate enough to be introduced to a system that possessed most of these characteristics, they should take a few minutes to get better acquainted. As William Shakespeare counseled:

"Those friends thou hast, and their adoption tried,
Grapple them to thy soul with hoops of steel."

— HAMLET, Act I, Scene iii

In a comprehensive article in the *Communications of the ACM* I elaborated on these points under the title, "Human Factors Guidelines for Terminal Interface Design" (July 1983, pp. 484-494). My purpose with that article was similar to Meyer and Harper's desire "to provide guidance for system builders."

Since that article addresses most of the points on which I disagree with Messrs. Meyer and Harper, it would be redundant for me to discuss them in detail here. Suffice it to say that while we agree on many basic points, I feel uncomfortable with many of their conclusions.

For example, in my *Datamation* article under "task completeness" I said that "the system should be subdivided into reasonable units of work or tasks as *viewed by* the end-user." Meyer and Harper subtly but importantly changed this into a recommendation that "the system . . . be subdivided into reasonable tasks *defined by* the end-user." They go on to say that "the system should be able to handle . . . any combination of tasks which have been defined." This, however, suggests that the system tasks must be, in some sense, non-procedural and that any, hence all, combinations of tasks are logically consistent. I can envision sets of individually well defined tasks which, in some combinations, make no sense at all and with which it would be unreasonable to expect systems to cope.

Similar questions come to mind when I read their advice that systems "should be designed and constructed with the bias that the user is correct," and then compare that with their subsequent admonition that systems "must allow for relapses and ill health of the user." Here it seems that they are postulating a level of diagnostic skill not yet dreamed of outside of a few, highly focused artificial intelligence laboratories.

I also suggested that friendly systems should *minimize* the adverse affects of user mistakes. Meyer and Harper go one step further, stating that systems "should *not allow* damage to be caused by a user error."

On the subject of documentation I noted that while user friendly systems should be well documented, a clumsy system cannot be improved simply by documenting all of its idiosyncrasies. Meyer and Harper nearly trivialize this point.

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I am truly excited by the value others find in my work as a starting point for their investigations and I do not wish to seem pedantic in my criticism. Ken Meyer and Mike Harper obviously have thought a lot about the design and implementation of friendly systems, and on that basis alone we are kindred spirits. Many of their ideas may be easy targets for criticism due to the extremely compact form in which they are expressed. I encourage them to expand on their ideas, particularly those concerning "scrutiny," "incompleteness," and "isolation," and I encourage other readers of *Mis Quarterly* to think about and to comment on these interesting notions.

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