



# Thoughts on the Information Age

By Charles E. McCallum

THE "INFORMATION AGE," which is currently unfolding, will lead to:

*Lowered expectations of privacy.* Current governmental privacy initiatives will in time fade away for lack of public interest. Legislators and bureaucrats, usually the most retrograde elements in our society, are pushing these efforts in the belief that there is public support. The advantages of open information and transparency will, however, shoulder privacy concerns aside.

*Heightened expectations of velocity.* This is the "faster" part of "better, faster, cheaper." "Immediately if not sooner" used to be a joke; now it is a reality. Information is expected to flow at the limiting speed (presumably, except for quantum mechanical effects, the speed of light).

*Heightened expectations of reliability and simplicity.* Hardware and software are increasingly expected to become flawlessly dependable, like the telephone (the "dial tone"

standard). At the same time the devices are increasingly expected to be natural and easy to use with little or no training. Speech recognition coupled with an improved, artificial intelligence-assisted "help" facility will play a role.

*Ever-expanding connectivity.* People will expect to be able to be connected quickly to everyone else, anywhere, any time. Connectivity will be expected to be wireless but without degradation in quality.

*Ever-greater bandwidth.* People expect an ever-increasing quantity of information (complex graphics, sound, video, etc.) to be transmitted in a given unit of time. To serve that expectation available bandwidth is also increasing steadily.

*Users pulling information rather than media pushing it.* Media will be transformed from reporters of information (with all the selectivity that implies) to accessible warehouses. This will transform the ways in which public opinion and attitudes are molded.

*Less emphasis on ownership of ideas.* Traditional intellectual property protection, involving a slow process and a protracted period of secrecy before publication, as well as

limitations on publication and use, is in conflict with the trends toward velocity and accessibility of information. Over time less will be protected.

*Diminished regard for quantity of information.* Information overload will lower the perceived value of pure information. Useful information will be buried in the useless.

*Emergence of trusted finders/interpreters of information.* In order to deal with information overload, people will seek help in selecting, interpreting, and evaluating information. There will emerge a class of consultants who establish a reputation as trusted finders/evaluators of information and who consistently bring good judgment to the use, meaning, and implications of information.

*Premium on wise judgment and creative, original thinking.* Those who bring wise judgment and creative, original thinking to their consulting role will command a premium in the market.

*Shift from sequential, straight-line thinking to gestalt thinking (pattern recognition).* Computer-assisted pattern recognition will fuel a shift from purely sequential, straight-line thinking to a more gestalt approach to the use of information. In part this will be the result of information overload; only through a more gestalt approach can the complexity and volume of such information be mastered and used.

*Devaluation of rote, repetitive tasks.* People continue to be replaced by machines. There will be a higher status accorded to those whose jobs cannot be replaced by machines.

*Heightened emphasis on education, especially self-education.* This is a natural result of an information society in which most activity revolves around the transmission and processing of information.

*Emergence of autonomous collaboration.* The ease of connectivity will facilitate acting alone and in isolation from, but (via electronic connection) interactively with, others. Increasing bandwidth will facilitate this through improved video images and the ability to have multiple party real-time collaboration.

*The personification/anthropomorphism of human/processor interface.* Speech recognition and bandwidth improvement, together with pressure for ease of use, will tend to HAL-like design of the interface.

*Diminished personal contact.* Electronic connectivity will be so inexpensive, ubiquitous, and easy, and travel so expensive and difficult by comparison, that there will be a tendency for most contact to be electronic rather than personal.

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