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This Week

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Research revolution

A network such as that described in "Highways for Information" (SN: 6/18/88, p.394), connected to a massive, low-access-cost database, could revolutionalize American society. It could have the same impact the creation of the public library system had in the 19th century.

It seems to me that the vision of a national highway network for information should conform to the following requirements as a minimum:

First, it should be available to any American with a computer and a telephone. Such a system could be of enormous benefit to high-school students and basement tinkerers. One of the reasons we no longer see Alexander Bells and Thomas Edisons coming up with brilliant insights is that it is now very inconvenient to get access to current research information if you are not a member of a university community.

Second, it should encompass a networking protocol that is thoroughly standardized; if hardware vendors want an extension of the protocol, they should be required to go to the lead agency to get the extension written. This would prevent "creeping incompatibility," which is common in the computer-hardware business today.

Third, the network should include a truly massive database. The logical lead agency here would be the Library of Congress, which already has access to practically all publications issued in the United States. While copyright holders will object to this, it should be pointed out that access to their properties already exists to some degree in the form of public libraries. All we propose to do is modernize the concept of the library.

Fourth, high-speed terminals should be installed in most major libraries, so basement tinkerers could have the benefit of access to the facilities they could provide.

Such a network, with all the traffic it would inevitably carry, would be very expensive to build and maintain. It is my firm conviction, though, that such a network could go a long way toward reviving that great resource of the American character we call "Yankee ingenuity." The interstate highway system paid for itself in short order with the improved economic productivity it made possible. There is no doubt in my mind that the same would be true for a system of highways for information.

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