filled with audio CDs and video DVDs, what is now needed is a fast connection to Napster or some equivalent.

The effect on workplaces will be even more dramatic. Traditionally, workplaces have been located in close proximity to necessary raw materials, machinery, files, and so on, and work has been carried out during well-defined working hours. Today, though, information work—which is an increasingly dominant occupation in advanced economies—can be conducted almost anywhere there is a network connection. Files can be accessed remotely, software tools can be downloaded as necessary, and much (though not all) interaction with customers and co-workers can be accomplished through electronic mail, chat systems, specialized transaction software, telephone, and videoconferencing. This does not mean that everyone will become a full-time telecommuter, but it does provide much greater flexibility in work times and places. In a world of network connections and intelligent interiors there is no clear distinction between work and non-work places; almost any place—an office cubicle, a library desk, a home study, a cafe, an airport lounge, an airline seat—may serve as a workplace when necessary.

Similarly, almost any intelligent interior can function as a study, library, or classroom. Distance-learning technology can deliver educational resources wherever and whenever they are needed. In some contexts this means that online resources substitute for older modes of face-to-face instruction—particularly where the goal is to serve large numbers of students at low cost. In other contexts online resources complement and enhance face-to-face instruction, as when students bring their wireless laptops to a seminar and surf the Web to find material that is relevant to the ongoing discussion, or when the images discussed in an architectural history class are available online for later review.

More surprisingly, perhaps, intelligent interiors have the potential to deliver medical services in radical new ways. Once, before medical treatment depended on highly specialized resources, doctors made house calls. In the industrial era the prevailing pattern was to transport patients to specialized clinics, surgeries, hospitals, and nursing homes, where specialized knowledge and equipment were concentrated. Intelligent interiors now open up the possibility of continuous, unobtrusive, remote medical monitoring, of remote medical examination, and of controlled delivery of medication through smart implants, intelligent pill dispensers and medicine cabinets, and the like. These

sorts of capabilities are likely to be increasingly important as aging baby-boomers create unprecedented demand for medical services.

CONCLUSIONS

Today's buildings serve their purposes through complex combinations of the passive capabilities of structure and skin, the dynamic capabilities of mechanical and electrical systems and appliances, and the sensing, processing, and control capabilities of computational devices and networks. The addition of electronic intelligence generally enhances the versatility of interiors, allows them to adapt more effectively to changes in occupant requirements and exterior conditions, and makes them into more efficient consumers of resources. As the necessary technologies continue to develop, and as designers learn to make effective use of them, intelligent systems will become an increasingly crucial concern of interior design, a more and more dominant cost element in construction and fit-out, and a fundamental determinant of client and user satisfaction.

Note

1
Le Corbusier, Charles E. J., *Towards a New Architecture* [trans. Frederick Etchells], The Architectural Press, London, 1927.

Bibliography

Banham, Reyner. *The Architecture of the Well-Tempered Environment*. Chicago: University of Chicago Press, 1969.

Mitchell, William J. *City of Bits: Space, Place, and the Infobahn,* Cambridge MA: MIT Press, 1995.

Mitchell, William J. *E-topia: Urban Life, Jim—But Not as We Know It*. Cambridge MA: MIT Press, 1999.