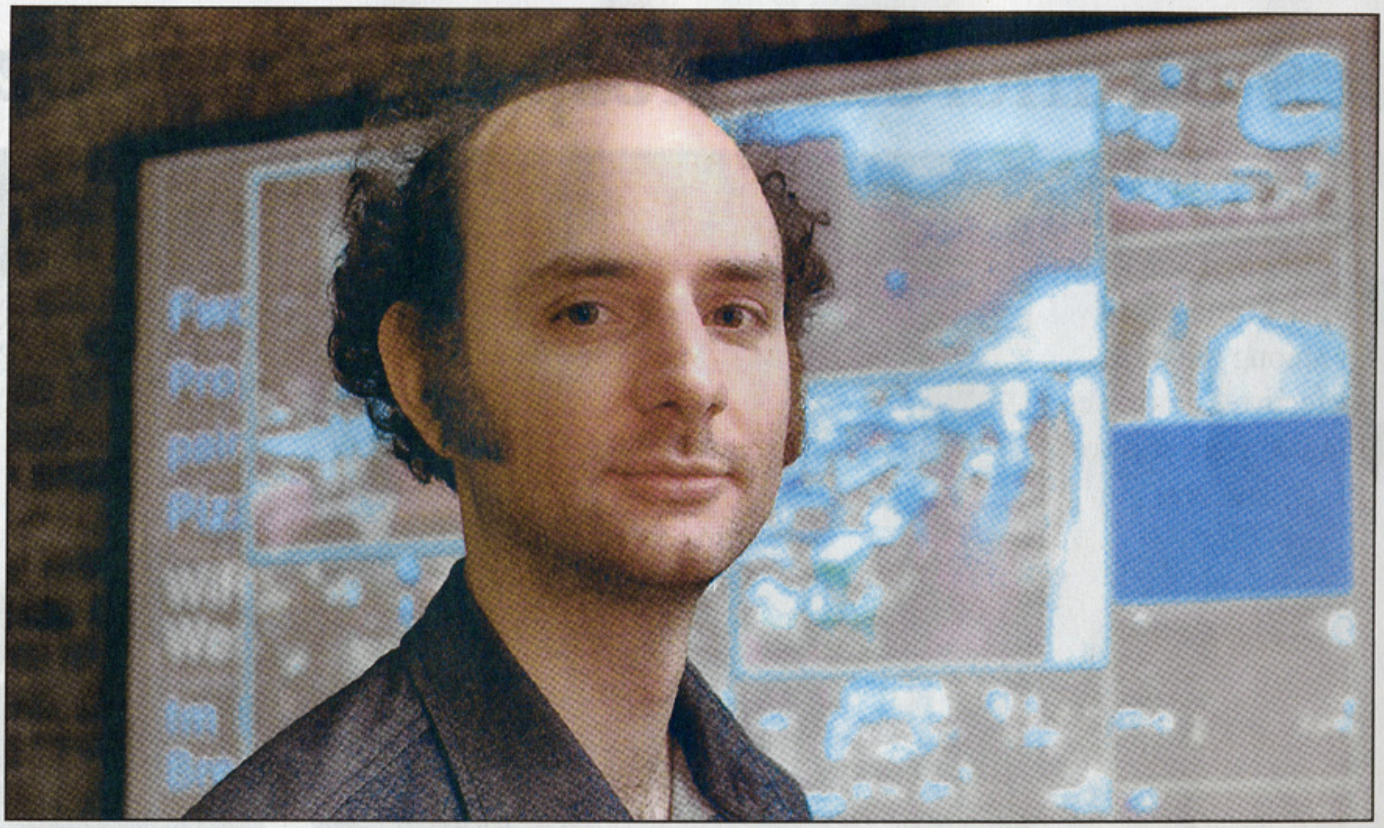

Stefan Agamanolis, of the human connectedness group at Media Lab Europe.

Household goods furnished with technology of the future

Berni Dwan says experimental modes of communication have been built into everyday objects by Media Lab

WHAT MAKES ME think that Leonardo Da Vinci, Benjamin Franklin and Jacob Bronowski would be doing a stint at MIT's Media Lab if they were alive today? Their talents and gifts in science, technology, art, music, literature, and philosophy coupled with their sense of social awareness and concern for their fellow citizens would have been given free reign to create systems as multifaceted and complex as themselves, but simple and beautiful for people to use.

These three gentlemen would have found their niche perfectly in the Human Connectedness group at MIT's Media Lab Europe in Dublin. The Human Connectedness group is concerned with the future of human relationships and how they can be enhanced by technology, the main aspiration being to bring together people separated by great distances in as sensitive a way as possible.

Take the humble mouse that has really become a virtual extension of the Western arm. Jonah Brucker-Cohen explained to me how your mundane mouse usage can double up as a kind of cyber guardian angel, letting you know that your loved ones are alive and well even if they don't answer your e-mails. The project is called Desktop Subversibles — a collection of networked background awareness applications capturing the mouse movements, clicks, or cut and paste activity of people you want to retain connectivity with. "There are a lot of ways that we can keep in touch with each other but they require some effort, whereas this works in the background without you having to do anything to keep in contact with the other person," says Jonah. Habitat, a range of furniture that has some sensing and display built into it, is also a way of keeping in touch with remote family members or friends, explains Stefan Agamanolis, Director of the Human Connectedness Group. The current Habitat system comprises two geographically separate, networked coffee tables. When typical items are placed on one table, messages are sent to the remote table, which also displays a graphical representation of the objects. When they are removed their image fades slowly, so you will also get a picture of the most recent activity at the other site.

"This becomes more important as family members are living farther and farther apart. Elderly people benefit from having a sense of awareness of other family members while those family members also have a sense of what is going on with the elderly person. Having this kind of technology built into objects that are already naturally in the home is a nice way of doing this." Cian Cullinan enthusiastically demonstrates Reflexion, an interpersonal video communication system that operates like a 'magic mirror.' "It's a lot more relaxed and promotes easier dialogue than other commercially available systems where people appear in separate boxes. It's all very well and good that you can see and hear people but there is no sense of a shared space." Cian then physically disappeared to another Reflexion station and his reflection reappeared on the screen in front of me. Unlike Alice in Wonderland he did not disappear through the mirror, but walked to another one! Our reflections continued the conversation. A Reflexion station consists of a camera and video display connected to a computer. When you sit at the computer you see a reflection of yourself together with the reflections of other participants using Reflexion stations in remote locations. Active participants are rendered opaque and brought to the foreground, while other less-active participants appear slightly faded in the background.

Every participant sees exactly the same composition, enhancing the sense of inhabiting a 'shared space.' Future experiments will include scaling the system to work fluidly with large numbers and developing new techniques for other scenarios such as a distance learning or multi-user remote interactive theatre.

Stefan then showed me iCom, a 24-hour video portal that connects the MIT Media Lab to Media Lab Europe. A casual affair, you can look at the screen and see what's happening at the remote location. You might even see someone you know and decide to have a chat over lunch. Stefan demonstrated it for me. "Hello Boston," he said into the microphone. Wayne responded from Boston, "What's up?" "To have that available where you don't have to dial a phone or organise a video conference or send e-mail is perfect for informal, social interactions. It builds a sense of community between the two labs." One can see how perfect this would be for old people living alone.

"We are working on the commercial Internet here. We don't have a special direct line to Boston, so getting something like this to work in a congested network is part of our research.

"Another part of the research is understanding how this would work in the architecture of the home, even more important than the interface design. Getting the audio and video working between two locations is fine but you want to make it feel like it's just a window on the wall. Homes are certainly the next place that something like this could go into. Part of what we do at the Media Lab is to think about applications that aren't possible now in the current infrastructures but might be really interesting and might even drive the development of broadband into homes".